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National Development Fund as a mechanism of responsible use of natural and financial resources

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Disclaimer:

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FOREWORD

2013-2015 have become a next period to challenge viability of Ukraine as a state and Ukrainians as makers of own fortune. In energy sector, large scale production projects from unconventional energy sources have given place to tendencies of reducing energy consumption and urgent necessity to start qualitative modernization of industries, public services, to reduce impact on environment. “Shale revolution” in Ukraine has been replaced by priorities of energy savings and energy efficiency, necessity to change consumer convictions, to return to traditional Ukrainian thrift and frugality, careful attitude to the nature environment and wealth fare of next generations.

Our two years Project has also passed together with our country through highly turbulent times, lost territories and personal. Oleksandr Sergiyovych Todiychuk – one of the most talented and selfless power engineering specialists, who prevented collapse of energy supply in 2014-2015, has given his life. Russian aggression and annexation of Crimea forced us to close our Sevastopol based office.

However, we continued with the Project implementation and it has confirmed estimations of our team about necessity to work further on higher transparency of energy sector, in particular of respective state institutions and organizations, on establishment of effective control over collection of resources and finances and their spending, creation of working mechanisms for implementation of socially important projects, while ensuring their accountability and liability.

Numerous meetings with representatives from central authorities, local self-governance, analytical research of the gas sector, statistical and investment indicators, law-processing with regard to budget and corporate sectors, financial evaluation of state budget incomes and expenditures have made evident, that Ukraine has to reconsider approaches toward collection and utilization of soil resources, given by the nature as well as other resource potentials.

Within one of former Center “Nomos” projects (“MethaneSphere”) we have concluded back in 2012, even before the first large scale production sharing agreement on development of tight gas formations was signed, that it is highly needed to reconsider approaches toward utilization of revenues from state part of hydrocarbons. Usually, it should go to the budget. However, we have proposed according to experience of numerous countries, that we have to think about future generations too. In order to avoid “guzzling” of bonuses and state part of revenues for covering ongoing budget expenditures and opaque disposal (theft) of these funds, coming from foreign investors, as well as taking into account best world experience of socially responsible management of revenues from hydrocarbons production, belonging to all citizens, we consider to necessary to create a special sovereign fund. It could accumulate respective revenues or a part of them and further manage their distribution to the benefit of all citizens of the state and local communities. Herewith we came to the idea of a National Development

Fund, initially supported by the International Renaissance Foundation and developed in multidimensional way under this Action, including conceptual approaches and principles.

We realized that developed by our Expert Team conception and draft law "On Creation of a National Development Fund" became actual both for oil and gas industries, and for other sectors, which generate significant resource and financial flows. Moreover, the Fund could become an instrument to accumulate international financial support, return of misappropriated and sent outside Ukraine money, confiscated assets etc. Based on transparent management and control from citizens via representatives at supervisory board, annually reporting and professional management, such Fund might become important source for financing modernization of national economy, increase of energy efficiency and energy savings from available financial means.

We have also concluded that it is time for the state for self-determination, namely what is the main priority – to ensure ongoing budget filling for any price with simultaneous rendering lifeless gas production or stimulation of investments into exploration and exploitation, which will bring more gas and correspondently increase of budget incomes?

Without such self-determination, it will be impossible to go on.

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I. GAS PRODUCING SECTOR: CURRENT STATE AND TRENDS

1.1. Gas producing sector – current state

Events associated with the aggression of Russia against Ukraine, unprecedented political and economic pressure upon Ukraine have proved anew that the gas sector is a key to energy security of the state and needs urgent reforming. It should be kept in mind that the interdependence of the country's economic development and its energy sector determines the need for unambiguous mutual agreement on economic and energy development priorities.

Currently there are few persons, which remember about well-known fact, that Ukraine in 70th had produced annually over 60 bcm of natural gas, (peak production – 68,11 bcm in 1975), which had made in average ¼ of gas production in the former Soviet Union. Before Siberian gas have gone to Europe, Ukraine has supplied gas to Poland, Czechoslovakia, Hungary and Bulgaria. In for decades, Ukraine could gain a chance to return to a status of a country with big gas production and all its obvious pros and covered cons.

Domestic production of gas in the current decade has been quite stable within the range from 20 to 21 billion cubic meters per year since 2004. The consumption is characterized by a rather serious reduction. While in the middle of the last decade it reached 75-76 billion cubic meters per year, and during the 2008-2009 economic crisis fell down to over 50 billion cubic meters, in 2014 it was barely more than 40 billion cubic meters. Clearly, this is mainly a result of a decline in industrial production due to the economic crisis and the military aggression of Russia. The production remains quite stable, yet without proper investment it may fall down significantly. Low domestic gas prices for public companies do not contribute to its growth.

Key factors	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Annual consumption volume, *bcm*	63,459	50,144	55,923	59,305	54,775	50,358	42,6	33,9
Annual production output, *bcm.*	21,444	21,505	20,521	20,614	20,191	20,998	20,5	19,9

Source: official data provided by the State Statistics Service, the Ministry of Energy and Coal Industry of Ukraine

It should be noted, that NAK "Naftogaz of Ukraine" enterprises ensure 80% of natural gas production, 96% of prospect drilling, providing up to 99% of growth in explored reserves of hydrocarbons. Hereby the share of private companies is going up. If in the beginning of 2000th their share was at the level of 3%, in 2013 they produced around 11% of gas, in 2014 – 16% and in 2015 – 19,6%.

Gas production (oil and natural), mln. m³	For 12 months in 2014
Total	20 510,00
NAK “Naftogaz of Ukraine”	17 195,00
SC “Ukrgasvydobuvania”	15 115,00
PJSC “Ukrnafta”	1 740,00
SJSC “Chornomornaftogaz”	340,00
Other enterprises, private, mln. m³	3 315,00
Poltava gas and oil company	247,00
“UkrKarpatOil”	28,00
SUKP “Delta”	5,00
“Ukrnaftoburinnia”	170,00
“Plast”	49,00
Boryslav oil company	10,00
PARI	23,00
Sakhalinske	36,00
JSC «Sirius-1»	87,00
“Naftogazvydobuvannia”	752,00
“Tysa-Gaz ”	20,00
“Kub-Gaz ”	337,00
“Pryrodni resursy ”	253,00
“Promenergoproduct”	19,00
Skhidniy geologichniy souz	12,00
“Esko-Pivnich ”	585,00
PrAT Ukrgazvydobuvannia	120,00
Persha Ukrainska gas and oil company	76,00
ZAO «Devon»	43,00
“Regal Petroleum”	58,00
“Nadragaz”	8,00
Others	377,00

Over the last few years, there hasn’t been any significant increase in gas production in Ukraine.

On January 18, 2012, international consulting company IHS CERA has presented results of the research "Natural gas and energy future of Ukraine". During the presentation, it was stated that Ukraine possess geological resources of conditional and unconditional gas, which could give up to 60-70 bcm of annual gas production by 2030, given yearly investments into the sector at the level of 10 billion USD during the period of commercial development of unconventional gas fields.

According to IHS CERA experts, gas production after 2030 might exceed 73 bcm annually. Main part of natural gas might become available from unconventional sources and Black Sea shelf. Together with significant increase of investments and gas market reforming, D.Ergin indicated changes of laws, improvement of investment climate and taxation as other necessary conditions for appreciable increase in gas production. Here is a comparison of estimated natural gas production levels according to the project of renewed Energy Strategy of data of IHS CERA.

<table>
<tr><th rowspan="2"></th><th colspan="2">Estimated gas production up to 2030, bcm</th></tr>
<tr><th>Renewed Energy Strategy of Ukraine</th><th>Data of IHS CERA</th></tr>
<tr><td>Conditional sources</td><td>15-24</td><td rowspan="2">30-33</td></tr>
<tr><td>Deep-sea shelf of the Black Sea</td><td>7-9</td></tr>
<tr><td>Tight gas</td><td>7-9</td><td>15</td></tr>
<tr><td>Shale gas</td><td>6-11</td><td>25</td></tr>
<tr><td>Coal-bed methane</td><td>2-4</td><td></td></tr>
<tr><td>Total</td><td>30-47</td><td>70-73</td></tr>
</table>

Most of experts consider predicted data on gas production from IHS CERA as too optimistic even before Russian aggression against Ukraine, they could be taken into account only as theoretically possible for remote prospect.

USAID has made more reasonable forecasts. Given development of Ukrainian energy sector under current trends and governmental policy, moderate investments into gas production will increase conventional gas output up to 23,5 bcm by 2020 and 25,7 bcm by 2030.

However, presented by the USAID and renewed Energy Strategy forecasts seems to become outdated because of Russian aggression in the East of Ukraine and Crimea annexation, which makes nearly impossible significant progress in development of conventional offshore and unconventional gas in current decade.

1.2. Conventional gas production

According to NAK "Naftogaz of Ukraine" data, explored (prospected) reserves of natural gas in Ukraine make 1094 bcm, inferred resources – 4292 bcm. In Azov and Black seas within exclusive economic zone of Ukraine explored reserves are estimated at 48 bcm, inferred resources – 1751 bcm. Currently on the territory of Ukraine in three oil-and-gas bearing regions – Eastern (Dnieper-Donetsk depression and northern-western part of Donbass), Western (Volyn-Podillya plate, Precarpathian, Carpathian and Trans Carpathian regions), and Southern (Black Sea Lowland, Crimea and Black Sea and Azov Sea shelf) over 120 natural gas fields are opened.

The Eastern region possesses over 80% of gas reserves and around 90% of gas production. The Western region has 13% of gas reserves and 6% of gas production. In the Southern region, gas is produced both onshore and offshore in the shallow waters of Azov and Black seas. Production accounts here to 5% from total data for the country and gas reserves to 6%. However, currently they are rather unavailable because of Russian annexation of Crimea.

Nearly a half of non-explored reserves is located in Dnieper-Donetsk depression. It is estimated, that at least 5 big, 20 medium and over 500 small gas fields will be opened there.

It is as well to remember that the current official estimate of potential hydrocarbon resources of Ukraine was made as of 01.01.2005, therefore it is outdated and does not correspond with the current state of geological knowledge and subsoil exploration.

There are alternative estimates of the resource base of conventional gas in Ukraine. So, for example according to IHS CERA, the proven reserves of conventional gas make about 700 billion cubic meters, and the potential initially-in-place reserves and resources amount to 2,88 trillion cubic meters.

Conventional gas production in Ukraine remains during current decade within 20-21 bcm per year framework with little changes. Absence of significant progress is explained by low gas tariffs, which make impossible to cover expenses of producing companies in the whole amount, in particular, to invest into exploration and development. Even growing gas prices, set up by the national energy regulator for state owned Ukrgazvydobuvania in 2015, have no expected impact on investments into exploration drilling and production increase, because simultaneously rent fees goes up to 70%. Altogether, the price on the level of 1590 UAH brings for the enterprise only 93,9 UAH of net profit for each 1000 cm of produced gas, which in turn exists mostly only on the paper.

Other factor, which negatively effects dynamics of gas production, is downturn of prospect and production drilling.

Today 70% of prospect drilling is conducted by NAK "Naftogaz of Ukraine" subsidiaries.

Table. Prospect drilling volumes of NAK "Naftogaz of Ukraine" subsidiaries, thousand meters

2005	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*
195,1	*180,5*	*174,4*	*168,6*	*154,4*	*151,8*	*159,7*	*177,7*	*119,1*	*97,2*

Table. Production drilling volumes of NAK "Naftogaz of Ukraine" subsidiaries, thousand meters

2005	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*
251,4	*253,7*	*246,0*	*206,6*	*177,9*	*142,9*	*146,0*	*149,6*	*126,9*	*113,4*

As a result, during recent 10 years annual gas stock addition has only just substitute its production, and substitution factor of produced gas in comparison to new reserves is under 100% during recent 20 years.

Structural analysis of the resource base of natural gas in Ukraine shows that reasonably assured reserves in the fields identified to date do not allow for a stable growth of gas production. The main reasons for this are the following:

- gas fields identified in Ukraine are chiefly characterized by insignificant reserves with 75% of them having initially-in-place reserves of less than 10 billion cubic meters;
- principal gas fields in Ukraine have been developed for 40-60 years and are largely depleted. Ukraine has already produced 2/3 of the initially-in-place gas reserves
- according to the criteria of reserve depletion and porosity and permeability of rocks, over 15% of reasonably assured gas reserves in Ukraine fall into the category of hard-to-recover ones, whose production requires the use of specific knowledge-intensive and high-cost advanced technology and equipment;
- prospect gas fields are located on significant occurrence depth, average drilling depth for gas production is around 3500 m with maximum depth already over 6000 m.
- deployment of outdated technologies for stimulation of gas production results in final average recovery factor at 0,85 of the initial gas field reserves. According to some other data, this factor is even lower. NAK "Naftogaz of Ukraine" has on balance around 2,3 thousand of gas wells, which are not used despite the fact, that there are no technical or technological obstacles to put them into operation.

nefficient legislation on subsoil resources development, land laws in their part, that regulates obtaining of documents for utilization of ground areas, overstated rate fees and lack of differentiated approach by their determination according to the level of field exhaustion obstruct to increase gas production in Ukraine.

In 2014, a decision to increase taxation of producing companies was passed. In particular, the law, enacted on July 31, 2014, has increased rent fee for gas, produced from wells above 5000 m from 28% up to 55%, for wells over 5000 m – from 15%

up to 28%. A decreasing factor of the rent fee for gas was introduced, produced from wells, which were putted into operation after August 1, 2014. It should be valid during next two years from the date of such wells registration at the level of 55%.

A separate rent fee was introduced for gas, produced under joint venture agreements respectively at the level of 60% for the first and 65% for the second quarter of 2015 and 70% for next period of time in operation. Rent fees increase was announced as a temporary measure, but the government prolonged it for 2015.

During 2015, a discussion about necessity to lower rent fees was hold. On July 14, 2015, the Government of Ukraine submitted to the Verkhovna Rada a draft Law No.2352a “On amendments to the Tax Code of Ukraine on taxation of market participant, which produce natural gas”, providing for reduction of rent fees for private companies. However, on October 1, 2015, there was no reduction of rent fees.

Long debates on the level of expert community, business, government and parliament resulted at the end of the year in agreements to lower rent fees in 2016 in order to create incentives for gas production increase.

The decision about increase of rent fees was considered with ambiguity both between producing companies, scientific and expert communities. Acting that way, the state has tried to solve rather fiscal than stimulating function. The general taxation rate in Ukraine came closer to countries with significant volumes of energy exports, most advanced technologies and powerful production complex. At the same time, Ukraine’s competitor in the region, which have energy deficits, propose much more advantages in terms of investment conditions and taxation. Reduction of rent fees after stabilization of macroeconomic indicators in Ukraine in 2015 should become one of the most important instruments to bring back investors into the gas production and to create preconditions for production growth, starting from 2016.

In 2014, immediately the fall-down of production growth rate occurred. In 2015 production went down from 20,5 bcm in 2014 to 19,9 bcm (without gas production on the shelf).

Instability of taxation legislation has anyway damaged investment climate of the gas production sector. Medium and small investors will consider it further as a risky one. Investment climate worsening was among main reasons (together with military and political, fall-down of world oil prices) for cancelation of unconventional hydrocarbon production projects and withdrawal of such international mayors as Shell and Chevron.

Given peculiarities of conventional gas reserves, it is estimated that up to 2035, conventional gas production will prevail, including economically reasonable low-debit, small and very small deposits. Increase in gas production will be achieved by deployment of modern technologies for exploration, well drilling (including deviating, horizontal and simultaneous wells, drilling on deep horizons) and production stimulation, construction of new separator pump units, introduction of nitrogen instead of natural gas by cycling-process, well-workover operations, facilitation of production through prevention and elimination of complications during wells’ operation.

During recent years it was scientifically proven and practically nearly confirmed, that oil and gas fields are complex systems, which are constantly in development. Therefore, highly exhausted fields are keen to increase hydrocarbon deposits. According to preliminary data, annual growth of reserves may make from 3 up to 5 bcm.

1.3. Prognosis of unconventional gas production

Regarding unconventional gas in the general sense, its resources are accumulated in less permeable rocks than those of traditional natural gas, but over larger areas. We can distinguish between the following main types of unconventional gas:

- shale gas – is mainly accumulated in the pores of clay shale, although in practice this term refers to several types of gas bearing systems, as will be discussed later;
- coal bed methane – is accumulated in coal beds and enclosing rocks;
- tight sands gas - which is also called the tight gas – is accumulated in poor-porous and low-permeable sands in the central immersed parts of oil and gas basins.

Deposits of unconventional gas in Ukraine are concentrated in two traditional energy resources basins: Donetsk-Dnieper (DDB) in the east of the country, and Lviv-Volyn (LVB) in the west. Shale gas resources are concentrated in the west, and tight sands gas and coal bed methane (CBM) - mainly in the east. According to preliminary estimates, tight sands gas is the most promising kind of unconventional gas. Its resources are estimated within a rather wide range between 2 and 8 trillion cubic meters with the depth of occurrence 4-5 km. Shale gas resources are concentrated in LVB and in DDB and are estimated at 5-8 trillion cubic meters. Potential resources of CBM are estimated within the range between 12 and 25 trillion cubic meters, and concentrated mainly in DDB although they are also available in LVB. However, a major problem is that coal beds in Ukraine occur at considerable depths of 0,5-5 km and have small thickness - 0,5 – 2 m, which makes their development cost-intensive.

At present field infrastructure development is planned for two main fields: Yuzivska in DDB and Oles'ka in LVB. Yuzivska field is a promising area of tight sands gas deposits on the territory of Kharkiv and Donetsk regions, which should be developed by Shell Exploration and Production Ukraine Investments (IV) BV. Land area of the contractual area is 7886 square km. It comprises all the sedimentary deposits (gaseous and liquid hydrocarbons) located within its perimeter and limited in terms of the depth of oil and gas activity by 10 000 meters below the surface or else by the geological foundation (depending on what will be reached first).

Prospective reserves of Yuzivska field are estimated at 4,054 trillion cubic meters of gas.

Oles'ka field is a promising area of shale gas deposits in Lviv and Ivano-Frankivsk regions of Ukraine, which was intended to be developed by Chevron. The total area makes 6324 square km. Project environment is similar to that of Yuzivska field. According to preliminary estimates, prospective reserves of shale gas amount to 2,98 trillion cubic meters of gas.

The main issue of implementation of the projects on exploration and production of new types of gas is their economic payback. The profitability of production will depend mainly on the opportunity cost of gas, i.e. on the potential import replacement price. If the opportunity cost of imported gas is significantly and consistently higher than the cost of developing a certain type of deposits, then the production is deemed cost-effective and economically feasible.

Tight sands gas is also called the tight gas because it is associated mainly with tight sands (poor-porous and low-permeable) in the central immersed parts of sedimentary basins. The scientists of Kyiv National Taras Shevchenko University estimate tight sands gas reserves in Ukraine at 4-6 trillion cubic meters, including 3-4 trillion cubic meters in the Eastern region, and 1-2 trillion cubic meters in the Western one. According to Chernihiv branch of Ukrainian State Geological Institute, recoverable resources of tight sands gas (tight gas) in the Dnieper-Donets cavity with a 0,28 recovery ratio are estimated at about 8.5 trillion cubic meters, of which the fair share (over 7 trillion cubic meters, i.e. 83%) is associated with the upper productive complexes of Paleozoic Sedimentary cover (Lower-Permian-Upper-Carboniferous, Middle- Carboniferous and the Serpukhovian). Specialists of Chernihiv branch of Ukrainian State Geological Institute have identified potentially productive systems of tight gas, zones and priority areas for planning target exploration works.

Coal bed methane is also called coal mine methane, although it is produced not only in the mines - on the contrary, the main gas output in the US is delivered by the downhole method in coal fields where coal is not produced. Some convention is seen in the terms “coal methane” and “coal mine methane” because most of the gas is trapped not in coal but in enclosing rocks (mainly sands). Therefore, in our opinion, the most appropriate term would be “coal bed methane” which should apply to methane trapped in:

- coal beds of operating mines;
- coal beds beyond the operating mine area;
- enclosing rocks.

Theoretical studies, tests and practical experience have proved that the production of coal bed methane by using conventional technologies applied in gas production is not possible due to the peculiarities of the bonds existing between methane and its native rock, coal. In fact, coal bed methane is found in three states. Its main volume resides in loose condition in the closed pores of coal. In addition, some part of methane is adsorbed by the surface of pores, and another part of it is dissolved in the organic matrix of coal substance. The choice of technology in favour of downhole bed drainage (directional drilling, thermal methods, hydraulic fracturing, etc.) is predetermined by the ratio of coal beds, rocks with scattered coal substance and gas bearing sands in the rock mass, i.e. by the state of the largest part of methane in the reservoir.

In Ukraine, coal bed methane resources are concentrated mainly in Donetsk and Lviv-Volyn coal basins. There are two main approaches to the extraction of coal bed methane:

- associated or outrunning methane drainage of beds in operating mines;
- preliminary methane drainage to prepare the beds for the secure work of the future mines (including the downhole extraction of methane from coal fields where construction of mines is not planned).

Our country has made some legislative steps toward the development of coal bed methane production. In 2009 the Verkhovna Rada of Ukraine adopted the Law "On gas (methane) of coal deposits" which provides for certain incentives for the geological exploration activity and extraction of this type of gas resources. In particular, the law envisages a relief until 01.01.2020 from taxation of profit resulting from economic activity associated with the production and use of coal bed methane.

A proper and reliable estimation of coal bed methane resources is complicated by various conditions of its occurrence in coal-bearing strata as well as by insufficient study of this associated mineral during the geological exploration of coal deposits. Besides, nowadays there are no approbated methods for determining the share of emission (recoverable) methane resources which can be extracted from the rock by means of drainage. In this regard, quantitative assessment of coal bed methane in Ukraine by different authors varies quite significantly from 1,8 to 12 trillion cubic meters according to the experts of the State Committee of Ukraine on the Mineral Reserves. It is noteworthy that at the time of Soviet Union specialists of Central Scientific Research Institute of Economy of Coal Industry (Moscow) estimated the total methane reserves in the rocks and coal beds in Donbass at 22,2 trillion cubic meters, of which industrial reserves at 11,5 trillion cubic meters, including recoverable reserves at 3-3,7 trillion cubic meters. According to the International Energy Agency (IEA), the potential reserves of coal bed methane in Ukraine are more than 3 trillion cubic meters.

Potential reserves of coal bed methane in Ukraine are estimated by various authors in a wide range – from 12 to 25 trillion cubic meters, but technical possibility to extract a large part of these reserves is questionable since coal beds in Ukraine occur at considerable depths (from 500 to 5000 m) and are mainly of small thickness (2 m). The production cost of independent production of coal bed methane is projected in the range from 2300 to 3300 UAH per 1 thousand cubic meters (by exchange rate □/$=~8,0).

1.4. Organizational, financial and economic measures to increase gas production

To achieve results, set up in prognoses of the draft “Energy strategy of Ukraine until 2035”, developed by the National Institute for Strategic Studies by the President of Ukraine, 2-10 billion of UAH should come annually as investments into gas exploration and production. On competitive gas market, producing companies can provide part of investments from own sources. Given availability of these finances, Ukraine can cover by 2030 around 90% of gas demand from domestic production and by 2035 to 100%. Total investments for development of the sector and achievement of indicated production are considered at the level of 65 billion UAH by 2020, 280 billion UAH in 2020-2030 and 150 billion UAH in 2030-2035. For successful involvement of foreign companies and investments the terms of doing business in gas sector should be stabilised, in particular:

1. *until the end of 2016 a competitive gas market should be created, namely:*
   - ensure independence of National energy regulator through enactment of a respective law;
   - provide unbundling of gas transportation system operators, free access to networks for third parties;
   - free access to the gas market;
   - unlimited choice and exchange of gas supplier by gas consumer;
   - protection of consumers;
   - further reduction of price regulation with introduction of a marked based price for all consumers.
2. *ensure implementation in Ukraine of effective price, fiscal and investment policies, namely:*
   - optimize tax load on gas producing companies, consider rational rent fees level;
   - create mechanisms, which will make impossible to use provisions for exploration work for other than the purpose specified;
   - introduce measures for improvement of provisions on issuing special permissions on exploration and exploitation of hydrocarbon deposits through open electronic tenders;
   - introduce incentives for innovative technologies for gas producing enterprises, based on tax and custom facilitation;
   - introduce “single window” by documentation processing.
3. *work out transparent and predictable legislative basis for gas exploration and exploitation, licensing provisions, taxation and regulation requirements;*
4. *introduce procedures to protect interests of the state in cases, where foreign companies are invited to gas exploration and production.*

Increase of conventional gas production should be based on following measures:

1. inventorying and second certification of operational wells and deposits, free access to this information;
2. Exploration of decommissioned deposits in order to calculate increase of reserves and rationality of further gas production;
3. Development of optimal balanced production modes on deposits in order to prolong their operation, given trends of hydrocarbon regeneration;
4. Promotion of modern technologies and methods for stimulating natural gas production from operational wells.

If domestic companies can ensure natural gas production from conventional fields onshore and in shallow water, geological exploration and production on deep horizons and deep-water shelf of the Black Sea is rather impossible without foreign investments and technologies of international companies.

It is estimated that based on implementation of above mentioned measures, conventional gas production can increase in two decades up to 30 bcm.

It should be noted that by development of tight sand formations and concluding production sharing agreements according to Ukrainian geologists, deposits of Donetsk-Dnipro depression can include both methane and liquefied hydrocarbon gases, other expensive supporting products, which can be created in geological bed conditions – different high-molecular compositions, rare earth elements etc. They have significantly higher market price. The difference in price between dry gas and gas liquids give additional revenues to American companies, which produce shale gas and allow effective work in conditions, when cost price of shale gas is higher than average price on the US gas market. If planning tight gas production, one should also foresee construction of gas processing and chemical plants near production areas.

It is estimated that gas production will go on the shelf of the Black and Azov seas. However, due to temporary occupation of Crimean Peninsula by Russia, foreign companies will refuse to participate at gas production on the Black Sea shelf. According to experts' estimations, the exploration well up to 5000 m can cost from 5 to 50 million USD, offshore gas deposits have average pay back period of 7-15 years. Therefore, it is rather impossible to increase in nearest period of time gas production from deep-water shelf deposits.

Tight gas is one of the most promising unconventional source for Ukraine, because it is quite similar to the conventional one in methods of geological exploration and is quite known due to conducted regional researches on areas of occurrence. However, given that part of deposits is located on territories of Donetsk-Dnipro depression near to delimitation line with occupied areas and regular military clashes, return to their development might be possible only after 2020.

II. HYDROCARBON PRODUCTION IN UKRAINE: STATISTICAL EVALUATION AND EVALUATION OF STATISTICS

Correctness of statistical data is very important for energy sector. Starting from physical volumes of primary energy sources production, their equivalent in energy performance and finally determination of accompanying financial flows, all the above require very precise accounting and calculation.

1.1. Retrospective analysis of statistical data in hydrocarbon production in Ukraine for the period from 2010 to 2014.

According to the State Statistics Service and the Ministry of Energy and Coal Industry, oil production in Ukraine in 2007-2014 is characterized by a steady decline. Gas production has been determined by different tendencies – from some increase in 2007-2011 to decline in 2012 and second increase in 2013.

Annual output	2007	2008	2009	2010	2011	2012	2013	2014
Natural gas, billion cubic meters/year	21,104	21,444	21,505	20,521	20,614	20,191	20,998	19,8
Oil, (including condensate) **million tonnes/year**	3,3	3,2	2,9	2,6	2,4	2,2	2,1	2,01

As can be seen from the statistics, in 2014 oil production decreased by almost a third compared to 2007. It is noteworthy that oil and gas production in Ukraine reached its peak in the middle of the 1970s, and since then it has been on the decrease. Today most fields are in the final stage of development, depletion of reserves is at the rate of 85-95%. New oil fields that have been discovered over recent years are either insignificant in terms of reserves (0,2 - 0,3 million tonnes) or occur at great depths, and therefore are difficult for development. They make the basis for reserves increment[1]. In order to significantly increase oil and gas production in Ukraine, it is necessary to reveal larger deposits, which are located in poorly explored areas: deep-water shelf of the Black Sea, a part of which is now being found in the area of legal uncertainty due to the annexation of the Crimea by Russia, and deposits at considerable depths. Their development is impossible without major foreign investors, and consequently a favourable investment climate and security environment.

At the same time, according to JSC Nadra Group, resources and proven oil and gas reserves are indicative of the existing potential to increase the production:

[1] Pavlo Zagorodnyuk. Presentation «Natural gas from «conventional» and «unconventional» fields».

Million tonnes of oil equivalent	Resources	Reserves	Percentage of resources produced
Natural gas	7 254	820	53%
Oil	1 163	82	64%
In total	8 416	902	

Source: Pavlo Zagorodnyuk. Presentation «Natural gas from «conventional» and «unconventional» fields».

A decrease in oil production has led to reduced consumption, and accordingly there is a lack of market mechanisms that would stimulate the production growth. Between 2004 and 2011, oil consumption fell by almost 60% because of the reduction in oil refining industry and production of refined products by refining companies that are the main oil consumers. Traditionally, the demand for oil in Ukraine has been created by six major refineries: Kremenchug, Drohobych, Nadvirnyansky, Lisichansk (put out of commission), Kherson, and Odessa (arrested as of reporting date because of illegal trade with oil products). Oil industry is still on a decline and seems to have hit the bottom. In 2015 only one out of six refineries was remaining in operation, namely the Kremenchuk plant in Poltava region controlled by Privat Group. In August 2015 some preparatory work for a possible emergency stop of production was carried out for the first time in the plant's history, as well as repair work of a pipeline involving oil supply shut-off. Should the state lose the last one of the six refineries, this loss will have a negative effect on the aircraft refuelling capacity; according to preliminary forecasts, the cost of petroleum products might increase by 20%. Oil industry specialists warn against attempts to ruin the only domestic manufacturer of gasoline and saturate the market with imported fuel. Within the analysed period there was a tendency toward increasing imports of finished refined products and oil from abroad (Belarus, Russia, Lithuania, Romania). Currently, the percentage of oil imported to the domestic market is over 70%; such a significant dependence clearly demonstrates that the current tax regime and royalty rates make it cheaper to import than to produce oil.

For instance, the tax burden of JSC Ukrnafta involved with oil production increases disproportionately to the revenues from production, which has a negative effect on the development and is proved by production indicators. In particular, since August 2014 the ad valorem royalty rates have increased from 39% to 45% for production at depths up to 5000 meters and from 18 to 21% for production at depths over 5000 m. Since October 2015, some promising tendencies are observed in legislation improvements with regard to taxation.

Hydrocarbon production remains the most non-transparent industry in the country; it plays the main part in corruption schemes and deals. Such situation persists, inter alia, due to the non-transparent and imperfect system of energy resources accounting in the country. Statistical reports are a clear proof of this fact. For example, the data on oil, natural gas and gas condensate reserves in the regions of the country are still kept confidential, which hangs over from the Soviet past (see the Table below). State Statistics Service explains withdrawal of these data by the need to comply with the Law of Ukraine "On State Statistics" as regards confidentiality of information.

Data on oil and gas production by private enterprises is also considered as a confidential information.

However, 2014 seems to be the year of some positive changes to the issue of transparency: in August, the State Geological Information Fund of Ukraine published a list of companies that have special permits for mineral production in Ukraine. 108 individual companies became the holders of licenses for oil and gas production, which are granted by the State Service of Geology and Mineral Resources (Derzhgeonadra).

There was an attempt to perform a statistical analysis of oil and gas production by the state enterprises being the part of NJSC Naftogaz of Ukraine and other companies for the period from 2010 to 2014 on the basis of data provided by the Ministry of Energy and Coal Industry, the State Statistics Service and open media sources[2]. The analysis results are given in the table below:

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2 http://uaenergy.com.ua/post/17615/ukrgazvydobuvannya-v-2013-g-uvelichilo-proizvodstvo/
http://uaenergy.com.ua/post/17548/dobycha-gaza-v-2013-g-uvelichilas-na-4-do-21-mlrd-kub/
http://interfax.com.ua/news/economic/186341.html
http://uaenergy.com.ua/post/17532/dobycha-nefti-v-2013-g-sokratilas-na-45-do-216-mln-t/
http://interfax.com.ua/news/economic/135368.html
http://interfax.com.ua/news/economic/135488.html
http://oilnews.com.ua/a/news/Dobicha_nefti_i_gazovogo_kondensata_v_Ukraine_v_2011_g_sokratilas_bolee_chem_na_6/202193
http://bin.ua/news/economics/faec/125314-ukrnafta-v-2011g-sokratila-dobychu-nefti-na-62.html
http://rus.newsru.ua/finance/12jan2011/neft.html

Natural gas production in Ukraine from 2010 to 2013, million cubic meters (MCM)*

Enterprise	2014	Until 2013	2013	Until 2012	2012	Until 2011	2011	Until 2010	2010
«Naftogaz Ukraine» NJSC	**16 850,0**	**99,0**	**18 029,2**	**+2,8% (by 497,8 MCM)**	**17 531,5**	**+0,5% (92 MCM)**	**18 112.2**	**-1,1%**	**18328,6**
- "Ukrgazvydobuvannya" PJSC	15 112,9	100	14 893,91	+0,9%	14 762,12	+0,2%	14 909,5	1%	14 832,9
- "Ukrnafta" PJSC	1737,09	91,3	1 484,56	-5,3%	1 594,94	-3,7%,	2 146,6	-14%	2 445,2
- «Chornomornaftogaz» SJSC			1 650,74	+40,6%	1 174,46	+11,2%	1 056,1	1%	1 050,5
Other companies	**2957,77**	**126,7**	**2 230,63**	**+ 18,7% (by 350,7 MCM)**	**1 864,36**	**+1,6% (29,47 MCM)**	**2 031,1**	**15%**	**1 720,7**
"Naftogazvydobuvannya" PJSC	750,498	148,4	505,712	(-21,6%)	645,227	-16,6%	773,2	18%	637,5
"Energy service company "Esco-Pivnich" LLC	584,935	135,0	433,233	2,3 times	185,301	+15,5%	160,4	41%	95,1
"Pryrodni resursy" PJSC	252,748	85,9	291,919	+41,3%	207,588	-8,1%	252,3	35%	165,1
"Cub-Gaz" LLC	336,047	119,1	282,137	+40,9%	222,464	2,5 times	88,2	35%	57,6
"Poltava gas and oil company" JV	248,544	111,7	222,487	-15,9%	306,36	-16,2%	395,5	-5%	414,1
"Ukrnaftoburinnya" CJSC	170,146	124,6	136,553	+17,6%	116,077	-8%	126,2	7%	79,1
"Ukrgazvydobutok" CJSC	116,202	119,0	97,63	+18,9%					
Representative office "Regal Petroleum"	57,697	83,3	69,261	-7,1%	74,535	2,1 times	35,9	-136%	84,9
"Devon" CJSC	42,739	91,4	46,736	+1,8					
"Sirius" LLC	87,175	194,8	44,743	+100%					
"Plast" CJSC	48,949	124,9	39,182	+0,9%	38,816	-2,1%	39,6	2%	39,0
"UkrKarpatOil" JV	29,232	96,9	30,168	+1,8%	29,641	5,1%	31,2	38%	19,2
"Nadra Ukraine" NJSC	10,832	44,5	24,108	-21,4%	30,385	-33,7%	45,8	-4%	47,8
"Sakhalinske" LLC	35,990	169,3	21,256	+100%					
"Prom-energo produkt" LLC	18,806	92,1	20,42	+24,2%	16,438	+4,6%	15,7	6%	14,7
"Pari" LLC	23,419	144,5	16,207	-3,6%	16,837	+27,9%	13,2	33%	8,8
"Eastern geological union" LLC	11,868	92,7	15,096	+16,2%	13,073	-22,9%	17,6	-5%	18,5
"Boryslav oil company" JV	10,048	91,7	10,096	-6,9%	11,771	-2,9%	12,1	6%	11,4
"Nadragaz" LLC	7,712	96,3	8,006	-1%	8,088	1,9 times	4,3	100%	0,0
"Tiszagaz" CJSC			7,761	+52,3%	5,098	+51,7%	3,4	0%	3,4
"Delta" JV	5,099	98,7	5,167	-29,4%	6,962	- 4,8%	7,3	-10%	8,0
"Kashtan Petroleum Ltd"	3,005	98,9	3,039	+5,4%	2,883	3,7 times	0,8	-100%	1,6
"First Ukrainian gas and oil company" LLC	75,480	3351,7	2,252	+31%					

***All data in the table have been derived from public sources, so they are not intended to be ultimate truth but demonstrate the general trends;**

The red colour highlights production figures adopted from public sources with striking discrepancies revealed by the analysis.

Empty cells stand for data not available in open sources.

Industrial production index before 2010 is based on authors' calculations.

Oil and gas condensate production in Ukraine from 2010 to 2014, th. tones *

Company	2014	Until 2013	2013	Until 2012	2012	Until 2011	2011	Until 2010	2010
«Naftogaz Ukraine» NJSC	**2421,1**	**90,6**	**2 006,4**	**-4,6% (95,7 th. tones)**	**2 203**	- 2,1% (47,5)	**2250,8**	**-5,4% (127,4)**	**2 378**
- "Ukrgazvydobuvannya" PJSC	1887,89	93,0	1 850,71	-4,2%	2033,8	-2,2%	2 000,2	-8,8%	2 215,0
- "Ukrnafta" PJSC	533,25	82,7	147,2	-8,3%	160,3	-1,8	163,2	+6,1	153,6
- "Chornomornaftogaz" SJSC			8,47	- 5,2%	8,92	+1,7%	8,8	+1,1%	8,7
Other companies, including gas condensate producers	**307,78**	**101,8**	**151,72**	**-3,5%**	**166,75**	**+9% (13,83 th. tones)**	**157,72**	**-17,4% (33,18)**	**190,95**
"Poltava Petroleum Company" JV	42,903	71,5	60,04	-10,1%	77,572	-14,4%	98,28	-25,5%	120,547
"UkrCarpatOil Ltd" JV	51,690	96,2	53,721	-2%	54,84	-2,5%	56,23	+78,2%	31,562
"Pryrodni resursy" PJSC	52,285	102,1	51,208	+2,9 times	17,941	-10,9	22,74	+37,5%	16,533
"Kashtan Petroleum Ltd" JV	36,070	98,9	36,487	+5,4%	34,607	+3,7 times	9,48	-50,5%	19,154
"Ukrnaftaburinnya" PJSC			27,66	-10,8%	31,015	-2,8%	31,92	+62,7%	17,033
"Naftogazvydobuvannya" PJSC	28,758	146,1	19,681	-32,2%	29,011	-15,2%	34,21	-1,5%	34,716
"Regal Petroleum"	14,373	124,6	11,533	-11,1%	12,97	+2,1 times	6,31	-54,7%	13,915
"Boryslav Oil Company" JV	10,460	92,8	11,277	+3,7%	11,87	-4%			11,905
"Cub-Gaz" LLC	5,571	76,8	7,255	-6,4%	8,43	+2,5 times			
"Devon" CJSC	6,252	88,2	7,09	+1,9 times					
"Ukrgazvydobutok" PJSC	3,903	126,5	3,085	+31%					
"Esco-Pivnich» LLC	4,425	153,8	2,877	+3,2 times					
"Eastern geological union" LLC	3,446	792,2	2,303	+2,6 times					
«Sirius" LLC	3,656	184,3	1,985	+100%					
"Krymtopenergoservice"			1,624	-7,9%					3,148
"Plast" PJSC	1,111	79,0	1,406	31%					
"Prom-energo produkt" LLC	1,292	93,2	1,387	+80,4%					
"Sakhalinske" LLC	1,905	143,4	1,328	+100%					
"Nadra Ukraine" NJSC	0,009	0,7	1,223	+7%	2,317	-27,9	3,21	-51,2%	3,99

***All data in the table have been derived from public sources, so they are not intended to be ultimate truth but demonstrate the general trends.** The red colour highlights production figures adopted from public sources with striking discrepancies revealed by the analysis. Empty cells stand for data not available in open sources.

The conducted analysis makes possible to understand general trend of hydrocarbon production in Ukraine. Retrospective analysis shows very clear tendency of declining oil production and stagnation of gas exploitation. Some positive dynamics for gas production is provided by private gas producers. However, private investments do not guarantee gas production increase. The case with Ukrnafta is more than evident example.

2.2. Analysis of statistical information on the industry for the year 2015. Modelling of the situation in the energy sector based on data for the first three quarters of 2015

In 2015, **public sector** oil and gas companies represented by monopolist companies PJSC Ukrgasvydobuvannya and PJSC Ukrnafta are experiencing a period of stagnation, since gas condensate and oil production decreases and situation in refining industry worsens. The main problems of UkrGasVydobuvannya were high taxes, 70% of rent and the Naftogaz of Ukraine failure to pay for consumed gas as its debt reached 8 billion. Hence the difficulties arise in regards to the financing of drilling projects, problems with enterprises working under a contract of joint activity, in particular with Karpatygaz.

Among positive developments, it should be noted about the opening by UkrGasVydobuvannya in the third quarter of 2015 the new deposits with reserves of approximately 1 billion cubic meters in the Carpathians.

Gas production by the company Ukrnafta has decreased as well. In September 2015 it produced 118 million cubic meters of gas, what is 16% less than figures for September 2014, while its oil production has fallen by 13%.

In the segment of oil and gas production by **private companies** there are positive developments. The volume of gas production has increased by 34% during September, while in the first six months it grew by about 9%. Breakthrough in production was made by the PJSC Naftogazvydobuvannia which is part of DTEK holding, and Burisma Holdings which includes four drilling companies. Due to these two companies' production of the private sector in September increased by 85 million cubic meters, or by 34%.

In September 2015 production of Naftogazvydobuvannia amounted to 130 million cubic meters of gas. The growth of production amounted to 60 million cubic meters, that is 85% compared to the last year, what allowed the company to take the second position in the market after the UkrGasVydobuvannya and to oust Ukrnafta. This success has happened due to the implementation of the program on six new wells drilling in Semyrenkivske field in Poltava region started in the first half of 2014, as well intensification of gas production at the wells of *Semyrenkivske* and Machukhske *fields*. In the first half of 2015 the company started drilling of three high rate wells, and also began conducting *3D wide-azimuth* survey in the Poltava region, what have been by now unprecedented development in Ukraine. In the present year the company has revised plans to drill three wells, but the implementation of these plans is complicated due to the blocking of the company's activities by criminal proceedings.

The second largest extraction private company, Burisma Holdings has reached a production level of 78 million cubic meters in September 2015, thus showing an increase by 45% to September 2014. The company explains good results with delayed completion of projects started before the tax increase in August 2014. For private gas extractors, debts to service companies remain a major problem.

Oil and Gas Condensate Production in Ukraine in September 2015 and for the January to September2015 (thousand tons)

Companies	2015 p.		2014 p.		September 2015 to September 2014	9 months 2015 to 9 months 2014, %
	September	Since the beginning of the year	September	Since the beginning of the yea		
Oil and Gas Condensate Production, thousand tons	193,400	1 846,800	218,200	2 040,400	88,600	90,500
NJSC Naftogaz	176,200	1 655,500	197,200	1 834,700	89,400	90,200
PJSC UkrGasVydobuvannya	42,190	383,030	42,500	402,400	99,200	95,200
PJSC Ukrnafta	133,990	1 272,510	154,600	1 432,200	86,700	88,800
Companies of NJSC “Nadra of Ukraine”	0,001	0,009	0,001	0,007	100,000	38,600
Other companies, thousand tons	17,240	191,250	21,090	205,780	81,700	92,900
PJSC Naftogazvydobuvannia	4,285	31,734	2,910	20,631	147,300	153,800
Geo-Alliance	3,964	38,677	4,067	43,303	97,500	89,300
CJSC Pryrodni Resursy	3,577	34,976	3,678	39,143	97,300	89,400
LLC “East Geological Union”	0,387	3,701	0,389	4,160	99,500	89,000
JV Poltava Petroleum Company	2,964	27,304	3,392	33,347	87,400	81,900
JSC Ukrnaftoburinnya	1,801	24,623	1,828	27,603	98,500	89,200
CJSC Smart-Holdin, including	1,349	12,869	1,507	14,870	89,500	86,500
Regal Petroleum PLC	0,944	9,001	1,141	10,969	82,700	82,100
Ukrgazvydobutok PJSC	0,241	2,783	0,282	2,918	85,500	95,400
Promenergoprodukt LLC	0,164	1,085	0,084	0,983	165,200	110,400
Boryslavska Oil Company LLC	0,910	8,580	0,935	7,637	97,300	112,300
Devon	0,708	5,314	0,488	4,708	145,100	112,900
Burisma Holdings, including	0,396	3,518	0,453	3,579	87,400	98,300
LLC Esco-Pivnich	0,352	3,011	0,403	3,329	87,300	90,400
First Ukrainian Oil and Gas Company	0,044	0,507	0,050	0,250	88,000	202,800
Cub-Gaz LLC	0,270	2,784	0,456	4,302	59,200	64,700
Sirius-1 LLC	0,244	2,361	0,280	2,788	87,100	84,700
Sakhalinske *LLC*	0,140	1,304	0,120	1,509	116,700	86,400
Systemoilengineering LLC	0,089	0,089	---	---	---	---
JV Plast	0,073	0,746	0,086	0,850	84,900	87,800
Rozhnyativnafta, LLC	0,041	0,348	0,030	0,398	136,700	87,400
SE EC “Techno-Resurs”	0,003	0,024	0,003	0,066	100,000	36,400
Ukrkarpatoil Ltd	-	28,835	4,301	38,681	-	74,500
VKF Dion LLC	-	1,782	0,236	1,309	-	136,100
Nadra-Geoinvest	-	0,354	-	0,188	---	----
Oil Production, thousand tons	140,900	1 352,700	163,900	1 508,200	85,900	89,700
NJSC Naftogaz	137,200	1 287,800	155,100	1 427,600	88,400	90,200
PJSC UkrGasVydobuvannya	9,700	88,700	9,300	92,800	104,700	95,600
PJSC Ukrnafta	127,440	1 199,010	145,810	1 334,820	87,400	89,800
Companies of NJSC “Nadra Ukrayny	0,001	0,003	0,001	0,007	100,000	38,600
Other companies, thousand tons	3,720	64,940	8,830	80,600	42,100	80,600
JV Poltava Petroleum Company	2,373	22,159	3,043	28,669	78,000	77,300

Ukrkarpatoil LTD	-	28,835	4,301	38,681	-	74,500
Rozhnyativnafta, LLC	0,041	0,348	0,030	0,398	136,700	87,400
Kashtan Petroleum Ltd. c						
Boryslavska Oil Company LLC	0,910	8,580	0,935	7,637	97,300	112,300
SE EC "Techno-Resurs"	0,003	0,024	0,003	0,066	100,000	36,400
Eastern Geological Union LLC	0,387	3,676	0,353	3,975	109,500	92,500
VKF Dion LLC	-	1,311	0,166	1,166	-	112,400

Source: Oil and Gas Consulting Center Newfolk LLC

Gas Production in Ukraine in September 2015 and for the January to September2015 (million cubic meters)

Companies	**2015 p.**		**2014 p.**		**September 2015 to September 2014**	**9 months 2015 to 9 months 2014, %**
	September	**Since the beginning of the year**	**September**	**Since the beginning of the yea**		
Gas Production, million cubic meters	1 648,40	14 805,00	1 630,40	15 094,90	101,10	98,10
NJSC Naftogaz	1 298,80	12 012,70	1 369,60	12 631,80	94,8	95,1
PJSC UkrGasVydobuvannya	1 180,30	10 871,20	1 228,80	11 316,40	96,10	96,10
PJSC Ukrnafta	118,50	1 141.5	140,80	1 315,50	84,1	86,8
Other companies, million cubic meters	349,50	2 792,40	260,80	2 463,10	134,00	113,40
PJSC Naftogazvydobuvannia	129,90	904,80	59,50	556,70	187	162,5
Burisma Holdings, including	77,80	568,80	53,50	494,40	145,20	115,10
LLC Esco-Pivnich	65,40	436,60	41,70	432,10	156,7	101,1
First Ukrainian Oil and Gas Company	9,90	103,30	9,30	41,20	106,20	250,30
LLC Pari	1,70	21,50	1,90	16,00	91,5	134,4
Nadragaz LLC	0,80	7,50	0,70	5,10	120,80	145,60
Cub Energy, including	20,10	192,70	33,10	264,10	50,8	72,9
Cub-Gaz LLC	19,30	179,90	31,70	250,10	60,60	71,90
Tysagaz LLC	0,90	12,80	1,30	14,10	64,6	90,7
Geo-Alliance, including	19,90	215,10	18,50	190,10	107,60	113,20
CJSC Pryrodni Resursy	19,60	210,00	17,60	180,40	111,2	116,4
LLC "East Geological Union"	0,30	5,10	0,90	9,70	33,00	52,90
JV Poltava Petroleum Company	16,90	159,50	18,90	189,80	89,6	84,1
JSC Ukrnaftoburinnya	16,70	180,50	9,90	124,90	168,40	144,50
CJSC Smart-Holdin, including	14,30	143,20	14,30	151,80	99,8	94,3
Regal Petroleum PLC	7,20	86,00	8,40	93,90	86,10	91,60
Ukrgazvydobutok PJSC	4,40	40,60	4,70	43,70	95,3	92,7
Promenergoprodukt LLC	2,60	16,60	1,20	14,10	211,50	117,40
Devon	10,60	60,30	3,50	32,00	306,3	188,3
Energiya-95 LLC (Gravelit-21 LLC)	8,30	91,90	10,30	131,30	80,30	70,00
Sirius-1 LLC	6,60	61,00	7,1	65,30	93,8	93,5
Systemoilengineering LLC	3,70	3,70	----	-----	0,00	0,00
PJSC Mine named after A.F.Zasyadko	3,30	25,20	----	----	0	0
Goryzonty Group, including	3,20	17,70	0,8	9,10	384,20	194,10
Goryzonty	1,10	6,30	0,4	3,90	265,2	162,7
Geological Bureau Lviv LLc. "	0,20	2,60	0,4	5,20	56,60	49,90

Zahidnadraservis LLC	1,60	7,60				
Prykarpatska Energy Company	0,20	1,10				
JSC Gaz-MDS (SE «*Chernigivnaftogazgeologiya*»)	3,10	17,10	0,5	5,40	592,2	315
Sakhalinske *LLC*	2,90	25,30	2,4	28,20	118,00	89,70
JV Plast	2,30	21,20	4,9	39,80	46,5	53,4
Arab Energy Alliance UA (previous Kuwait Energy Ukraine)	1,60	15,40	0,9	11,50	174,80	134,30
TNGK-RAZVITIE LTD	1,10	5,90	0,6	4,50	165,2	130,4
Boryslavska Oil Company LLC	1,00	8,20	0,8	7,30	123,80	112,70
Ukrnaftogazinvest LLC	0,70	7,50	1,1	10,00	67,6	75,1
Ukrainian Drilling Company LLC	0,60	3,60	0,8	7,40	74,40	47,80
CJSC Gazinvest	0,60	3,90	0,3	2,90	168,7	136
Bohorodchanynaftogaz	0,50	5,00	0,5	0,90	109,90	523,80
Maccom Group	0,50	5,40	0,3	2,50	163,1	215,9
Naftogazremont (Ukrnerudprom”)	0,50	4,40	0,6	5,50	80,90	80,00
JV Delta	0,40	3,60	0,4	3,80	101,5	95,1
Internaftogazbud	0,1	1,50	0,2	2,30	86,10	67,30
LLC Truboplast	0,10	0,90	0,1	1,10	101	80
CapitalOil	0,10	0,90	0,1	0,10	180,00	1 864,00
Ukrkarpatoil Ltd	0,00	15,80	0,5	20,00	0	78,9
EcoTechInform	0,00	0,20	0,1	0,60	0,00	44,00
Rozhnyativnafta, LLC	0,00	0,10			0	0

Source: Oil and Gas Consulting Center Newfolk LLC

In early October 2015 the Verkhovna Rada of Ukraine MPs voted in first reading the bill number 2835, which provides reduction of rent fees on the extraction of gas by 29% and 14% depending on the depth of developed resources: under or beyond 5 thousand meters.

The bill was introduced by the leader of the Batkivshchyna party Yulia Tymoshenko. Despite concerns that in such a way Ms. Tymoshenko may be seeking to achieve a more favourable tax regime for party sponsors among owners of gas producing companies, it should be noted that the bill may be an incentive for domestic gas production.

By some estimates, while reduction of gas consumption persists, in 2025 Ukraine will produce 30-32 billion cubic meters and get rid of imports. At the same time, the share of public companies that are part of NAK Naftogaz of Ukraine accounts for 4/5 of domestic gas production. Against the background of the catastrophic decrease of gas extraction in public sector, we can foresee that if the situation does not change, in 2020 production may be amounting only 14-15 billion cubic meters per year.

Immoderate state intervention in the functioning of the gas market leads to the destruction of the relationship between extracting companies and consumers what causes a sharp reduction of the production and freezing the drilling projects.

One of the main reasons for decrease in gas production by public companies is unfair and undervalued price under which companies have to sell extracted gas. It has not been reviewed for five years. It is estimated that in 2015 UkrGasVydobuvannya foresees the decrees in gas production by 2.6% compared to 2014: from 15.1 billion cubic meters to 14.7 billion. This is the quite eloquent opinion by the former UkrGasVydobuvannya

CEO Sergey Kostyuk: “I think it is impossible to keep production at 2014 level. Extraction with be decreasing. The question is to what extent.”[3] One reason for the decrease in production is also considered to be the loss of two fields in the Luhansk region, where annual production amounted to 50-70 million cubic meters.

Gas production in Ukraine, January –September 2015, million cubic meters*

January February March April May June July August September

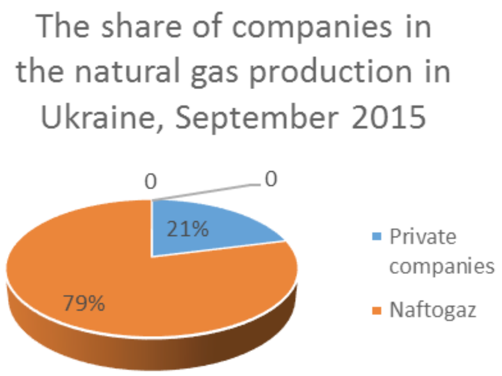
* *Source:* Oil and Gas Consulting Center Newfolk LLC

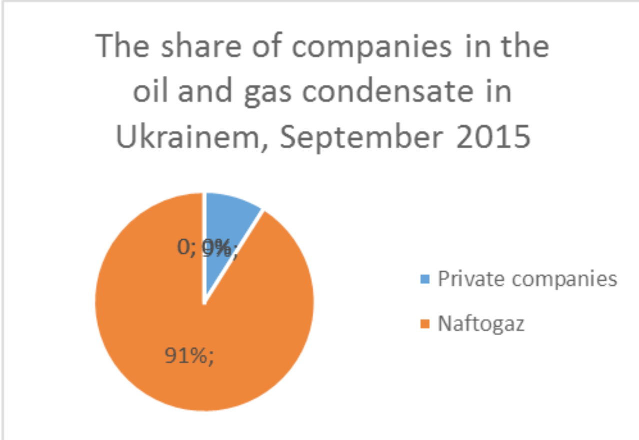
Oil and gas condensate production in Ukraine, January –September 2015, thousand tons*

January February March April May June July August September

* *Source:* Oil and Gas Consulting Center Newfolk LLC

3 http://www.day.kiev.ua/uk/article/ekonomika/vydobutok-gazu-y-nafty-v-ukrayini-mify-ta-realnist





Thus the main trends in the first three quarters of 2015 were as follows: the sharp decline in oil and gas extraction by public companies; the rapid growth of extraction in the private sector; and strengthening of the positions of PJSC Naftogazvydobuvannya and Burisma Holdings companies in the private sector. However, given that the state extracting companies that are part of Naftogaz occupy key positions in the market of gas and oil (see the charts above), and since they are experiencing difficult times, the total production of the country is catastrophically falling. In order to improve the extraction volumes, a reasonable legislative proposal is required: to revise the tax burden on companies and rental payments, as well as to revise norms on operation under a contracts of joint activity and sharing agreements that would encourage incoming investors, the next stage of gradual increase in gas prices for the population. Under these conditions and subject to the overall normalization of the political situation in the country, extraction of gas could reach 30-32 billion cubic meters by the end of 2020th.

2.3. Recommendations on changing and expanding national practice of energy statistics.

As a member of the Energy Community Ukraine has embarked on following some guidelines, in particular the Guideline 2008/92/EC «Concerning a Community procedure to improve the transparency of gas and electricity prices for industrial users», and Regulation 1099/2008 on energy statistics. These guidelines provide for the development of detailed statistical reporting by gas and electricity companies, uniform framework conditions for collection, communication, evaluation and propagation of energy statistics.

Currently, the process of implementing these regulations is not finished up, but there is some positive dynamics. For instance, in 2012, the State Statistics Service began to draw up the energy balance of Ukraine using data since 2010 by IEA and Eurostat methodology. Even though this advance can be regarded as the first positive step, yet the energy balances in Ukraine are drawn up within tight financial and human resource constraints. In particular, the number of persons working on consolidation and analysis of energy statistics in Ukraine in the central office of the State Statistics

Service is 5 employees, while in the regional and local offices the total number of the staff involved is 445 employees. In this context, it would be reasonable to:

- legislate general principles of developing regional, territorial and national statistics and drawing up energy balances for all types of energy resources, as well as to provide for the annual international audit in the energy sector.
- provide for the State Statistics Service of Ukraine to collect data on the prices for natural gas, oil, gas condensate for industrial users, which is currently the responsibility of the regulatory authority, and to publish the reports on an annual basis. Accordingly, it is necessary to ensure greater coordination between the State Statistics Service, regulatory authority and the Ministry of Energy and Coal Industry.
- enhance the institutional data collection and processing capacity of the State Statistics Service by means of international financial assistance;
- harmonize national energy statistics practices with common European requirements, including the transition to the unified system of energy measure units; develop reporting systems based on international standards.

Thus, lack of transparency in the oil and gas sector in Ukraine, the growing share of private companies in the market complicate the process of energy statistics consolidation. An access to publicly relevant information is difficult and sometimes completely blocked, although the law on access to public information is one of the most progressive ones. Large amounts of information not only are not processed consistently with the common European practice of running energy statistics but also require new approaches to reporting, including the energy resource accounting not only in terms of physical volume but also of energy equivalent. It would be reasonable to increase the reporting dynamics and to introduce a monthly and semi-annual format, which in turn will require enhancing the institutional capacity of the State Statistics Service, making changes to some legislative acts on data confidentiality, increasing data access for the general public, placing private companies under a binding obligation to disclose the indicators of production and sale of hydrocarbons.

Energy equivalent of commercial output should be considered as the basis for financial calculations and not a physical volume of produced energy source.

III. INVESTMENT CLIMATE IN THE ENERGY SECTOR

3.1. Investment climate in gas producing sector of Ukraine in 2010-2014

In 2010, new political forces came to power and started the next redistribution of gas market. Significant preferences went to business, which was familiar with authorities, including mining assets, shares in the gas companies, operating licenses and special permits. The above laid preconditions for further intensive development of gas production, primarily by private companies.

Gas production sector was regulated in 2010-2014 by following Laws of Ukraine "On Basic Principles of the Natural Gas Market Functioning", "On Oil and Gas", "On Pipeline Transport", "On Natural Monopolies", "On licensing certain types of activities". Investment attractiveness of the gas sector is negatively affected by so called "halfway effects" of legislation, its often changes, absence of clear rules, administrative overregulation and opaque decision making schemes by state institutions. The Law of Ukraine "On Basic Principles of the Natural Gas Market Functioning" had become in 2010 a positive factor on the way to more liberalized legislation and one of the steps of Ukraine toward European Energy Community. The Law provided for free choice of gas supplier, free access to gas transportation system, unbundling of production, transportation and supply by NAK "Naftogas of Ukraine".

In October 2013, the Cabinet of Ministers of Ukraine adopted the draft of the new edition of the Code of Ukraine on the Subsoil. The Code should introduce some progressive elements, including the principle of the "single window" for communication between the license owners and state authorities, cancellation of special permission on subsoil utilization. However, this draft Code had been not passed to consideration of the Verkhovna Rada.

Owners of private gas producing companies received guarantees for their business development and began to invest in their assets in order to stimulate production. In 2014, total volume of produced gas increased to 3,3 bcm or 16 %. Active increase of production by private companies was the result of significant investments into the gas sector in 2013-2014, application of modern technologies and equipment, new approaches to development of gas deposits. Main incentive for private companies to invest into gas production sector was connected with attractive prices on gas on the Ukrainian domestic market. According to unofficial data, margin of private companies in the first half of 2014 made from 30% to 50% from incomes. Altogether, it made gas production to one of the sectors with highest growing rates.

For instance, in 2014 capital investments of the PJSC "Naftogazvydobuvannya" into development of Semyrenkivske and Machukhske gas condensate fields made 940 million UAH, nearly eightfold higher in comparison to 2013 level. In 2014, this company became the biggest private gas producer in Ukraine, and started to develop gas deposits with the depth of occurrence beyond 5000 m (Annual report of DTEK, 2014).

It should be noted also, that in 2010-2014 nearly every big private gas producing company has attracted new investors. For instance, main stakeholder of the Cub-Gaz company has become Polish businessmen Jan Kulczyk. Energy holding DTEK has acquired 50% of “Naftogazvydobuvannya”. One of the biggest oil traders in the world Vitol has acquired 40% of Geo-Alliance group.

Private companies could increase gas production even more intensively, but in the middle of 2014, the Government initiated law amendments, which have challenges attractiveness and profitability of investments into gas production sector of Ukraine.

At the same time, the state gas extracting companies have started to get rid of the most promising areas and wells; they were strictly regulated by tariffs and prices, as well as took obligations to supply gas consumer groups, which belong to one with the lowest levels of payments for consumed energy (e.g., public utilities).

During 2010-2014, state owned companies have kept production level nearly at the same level without significant investments to increase output. In 2014, PJSC “Ukrgazvydobuvannya” production remained on the level of 2013 and made 15,1 bcm of natural gas. PJSC “Ukrnafta” confirmed trend to reduction of production in 2014 on 10,5% in comparison to 2013. It produced 1,7 bcm of gas. In 2013 gas production felt by 6,9% (according to Ministry of energy and coal industry of Ukraine).

Low financing of investment projects by state owned companies is caused by chronic deficit of funds. According to valid legislation, all companies with state stake of more than 50% should sell produced gas to private consumers for fixed prices, set up by national energy regulator. Gas prices for private consumers are determined by the national energy regulator, given cost price and accompanying costs. Companies revenues are set up on a minimum level or nearly to zero. Gas tariffs for private consumers were on the same level from August 2010 to April 2014 and made 725,4-2954,1 UAH for 1000 cubic meters of gas, taking into account volumes of consumption and availability of the gas metering equipment. Since Mai 2014, the regulator introduced new gas tariffs on the level of 1182 – 4011 UAH for 1000 cubic meters of gas. However, this price increase has not solved the low profitability of state owned companies, thus leaving them without resources for investments. It is evident, that low cost price for gas, produced by state owned companies, is formed via significant number of wells, drilled mostly during Soviet times. Their maintenance and sustenance in working conditions require moderate costs, but they have declining output because of lowering seam pressure. It should be noted that low cost price is kept only because of constant gas production decline.

The Government has made efforts to regain control over “Ukrnafta” in 2014, but all attempts to organize stakeholders meeting failed. The Government has not reached expected results.

Enactment of the Law of Ukraine “On joint-stock companies”, which should help the state to gain control over “Ukrnafta”, has also improved the situation not much, because during drafting of the law some important mistakes were made.

In 2014, some successful projects were implemented under joint venture agreements. Seven wells were drilled on Gnidentsivske field together with the “Gals-K” company. Two of them has indicated initial yield of 40 tons a day, others from 10 to 20 tons (according to information of the web site of the company.

Despite the fact that this oil field in in operation over 50 years, there is no decline of oil production so far. Four additional wells should be drilled during 2015, but it is one of few successful project, where "Ukrnafta" participates. On other fields, there are minimal drilling volumes, indicating one of the most evident reasons for declining production.

Low selling price, regulated by the state, is estimated to be the main obstacle for increase of gas production by state owned companies. Therefore, one cannot state that state owned enterprises are insufficient. Instead, given expected increase of gas prices, the state has to change attitude to these enterprises and regulate rather transparent financial management and effectiveness of funds utilization than selling prices. To increase production, state owned companies should invest into drilling of new wells, modern equipment, for instance, mobile drilling rigs, equipment for hydraulic fracturing, capital repair of wells etc.

Much of the respondents did not provide information about investments at the date of preparation of material for publication. This information will be specified.

Preliminary analysis of available information makes evident that given favourable conditions for activities, such as profitability of prices, stable tax load and simplified licensing procedures, reduced time for receipt of documentation in the coming years could significantly increase gas production in Ukraine.

It was also expected that gas sector received more investments from purchase of special permits to use oil and gas subsoil deposits. Derzhgeonadra had for to auction 25 units until the end of 2015. However, auction participants have claimed complexity of the procedure to receive special permits and regular changes, initiated by state authorities. In order to increase investment attractiveness, the state should systematize and update respective legislation.

3.2. Impact of 2014 events on investments into gas production

In 2014 Ukraine economy remained in deep recession, which had a direct impact on gas production. Economic crisis was caused by political implications, worsened by early parliamentary and presidential elections, annexation of Crimea by Russia and aggression against Ukraine on the territories of Lugansk and Donetsk regions. Respectively, gas consumption felt down by all groups of consumers.

The year 2014 was enormous difficult in terms of gas supply for Ukraine. Over six months Gazprom have not supplied gas, moreover, due to Crimea occupation in the spring 2014, the control over Chornomornaftogaz, which provided 8% of gas production, was lost.

It could be estimated as the biggest loss of 2014. NAK "Naftogaz of Ukraine" has spent significant funds to develop the company, two modern self-elevating floating drilling rigs. They deployment on Bezimenne and Odeske gas fields resulted in 40% increase of gas production of Chornomornaftogaz in 2013-2014. During the period of Crimea annexation, Chornomornaftogaz had the highest level of production growth (according to data of NAK "Naftogaz of Ukraine").

Under these conditions, in particular, gas imports from Europe have helped to cover the deficit. However, to ensure stable gas supply, Ukraine should increase domestic gas production.

In 2014, the new Government, formed after the Revolution of Dignity, initiated several amendments, which consequently had negatively affected regulatory environment of the gas market. They have changed significantly gas sector functioning.

In particular, in summer 2014, the parliament enacted the Law No.4309a, according to which rent fees for gas production on the debt under 5000m increased from 28% to 55% and for production on the debt beyond 5000m – from 15% to 28%.

Given the above, most of big private gas producers announced cancelation of investment plans, which resulted in abolition of exploration, drilling and development of new wells. Moreover, British JKX Oil & Gas submitted against Ukraine a case to the Stockholm arbitrage for 180 USD, claiming multiple increase of rent fees.

In a year, the Government recognized incorrectness of this decision, because during the appliance of rent fees on the level of 55% and 28% respectively, investments into production and payments to the budget went down. In summer 2015, the Government proposed to reduce tax load for operational projects and new developments should pay since 2016 respectively 20% and 10% - depending on the debt of gas occurrence. At the same time, additional increase of the income tax on the level of 30% will be introduced.

Given the above, according to the Government calculations, potential gas production will increase in 2016-2020 twofold or two and a half fold. Rent fee on the level of 70% remains so far for state owned company "Ukrgazvydobuvannya" and joint venture projects.

NAK "Naftogaz of Ukraine" has calculated at the beginning of 2015 an economically justified cost price for gas, produced by PJSC "Ukrgazvydobuvannya" on the level of 5430 UAH for 1000 cubic meters. However, NERC has set up the gas tariff for this company at the level of 1590,0 UAH for 1000 cubic meters. Given the above, state owned companies have no possibilities to invest in the proper amount, which negatively affects geological exploration and drilling of new wells.

In summer 2015, PJSC "Ukrgazvydobuvannya" has successfully completed geological exploration works and opened in Velykobrezniansky district of Transcarpathian region Lyutnianske gas field. According to preliminary estimations, prospect reserves of the field are 2,4 bcm and initial gas reserves from opened through the well deposit are 390 mcm.

Differentiated rent fees for state owned gas production companies are applied in many countries, but Ukraine has one of the highest tax load – the average level in the world is 7–17%. If additional tax on revenues will be introduced, general fiscal lad on the gas sector will change insufficient. Moreover, Ukrainian gas is facing growing competition from EU imports.

The Cabinet of Ministers of Ukraine obliged with the Resolution No. 596 and 59 of 7 and 9 November, as well as No. 647 of 26 November the main industrial enterprises of Ukraine to buy natural gas only by NAK “Naftogaz of Ukraine” until March 2015. Necessity of such actions was explained by the need to ensure payments to the budget and improvement of financial state of the national company through the change of market structure to its favour. However, these innovations faced critics from other market players and international organizations, as they considered it as a precondition for gas production downfall and worsening of country’s energy security in the long-run perspective. These steps have also slowed adaptation of Ukrainian legislation to the requirements of the third energy package of the EU in terms of the sector deregulation and abolishment of manual management mode.

In 2014, new top-managers of NAK “Naftogaz of Ukraine” started once again reform of public-private cooperation mechanisms within joint venture agreements. According to world experience, these kind of agreements makes possible to attract additional investments and correspondently increase gas production. However, no draft law appeared from those initiatives.

The new top-managers of PJSC Ukrgazvydobuvannya initiated in 2014 the review of joint venture cooperation with regard to delivery of produced gas to the company. After resolution of disputes, the company realized several important projects together with Carpatygaz on construction of booster compressor stations on gas fields in Poltava region. According to experts, compressor stations are the fastest way to increase gas production with payback period in some cases less than one year. Ukrgazvydobuvannya has several dozens of gas field on the final development stage, where compressor stations could become quite successful method of gas production stimulation. The company had no possibility to finance those construction projects and the joint venture with Carpatygaz helped to ensure investments.

Ukrgazvydobuvannya makes efforts to engage actively foreign companies into development and production of gas. In summer 2015, a memorandum of understanding was signed with Frontera during the Ukrainian-American forum in Washington. Both companies are going to cooperate under joint venture of production sharing agreements.

In 2015, Ukrgazvydobuvannya has planned to conduct operational audit of wells and deposits with the aim to provide information about production increase potential. As a result, the company is going to develop an investment programme. As of June 2015, the first phase of this technical audit has been implemented by Deloitte. However, the next phase will be possible only in the second quarter of 2016 due to financial reasons. The report on results of the first phase is expected in January 2016. Some preliminary conclusions indicate significant problems with inaccuracy of geological information on reserves, outdated equipment, as well as problems with managing company’s safety at work.

NAK “Naftogaz of Ukraine” continues to negotiate the matter of so called “Chinese” loan for the purposes both to buy drilling and well-workover rigs, coiled tubing units, geophysical and other equipment, requiring modernization.

In summer 2014, Royal Dutch Shell stopped exploration at Yuzivska tight gas field. In December 2014 American Chevron decided from own part to withdraw from

Oleska shale gas field. Both Shell and Chevron should produce gas together with Ukrainian partners – joint ventures between NAK "Nadra of Ukraine" (share 90%) and little known company "SPK-Geoservice" (10%). These two JV ("Nadra Yuzivska" and "Nadra Oleska") are parts of production sharing agreements with Shell and Chevron on Yuzivska and Oleska fields respectively. In July, Chevron Ukraine B.V. announced officially that it closes the representative office and its activities in Ukraine. Ukraine lost 350 million of USD investments, which the Chevron planned to spend during two-three years on exploration and well drilling.

Summarizing challenges of national gas production in 2010-2014, we can indicate following most crucial:

1 Overregulated gas sector with a number of laws and secondary legislation to regulate the sector, in particular:

- too long and complicated procedure of permission accordance and receipt;
- often changes to legislation: most issues are regulated not by the Code on Subsoil of Ukraine, but by CMU Directives, Derzhgeonadra orders;
- attempts to order private gas producing companies to pump 50% of gas into underground gas storages;
- opaque procedure of auctions on subsoil utilization, no auctions on prioritized, investment attractive gas fields;
- obligatory expertizes and monitoring, which in fact are illegal, conducted by closed circle of companies, the price for expertize and monitoring is contractual and very high.
- long, complicated and opaque procedure of land allotment. No possibility to conduct legal documentation of rights on land for purposes of oil and gas industry;
- opaque procedure of putting new constructed objects into operation (State inspection for architecture and construction);
- limited offers on operational service, in particular under large-scale production sharing agreements with Shell and Chevron.

2 Absence of real functional transparent gas market, in particular:

- high level of impact on the gas sector from NAK "Naftogaz of Ukraine" with regard to gas balance, gas sells for industry consumers, transportation and storage (costs of services, calculation of losses, quotas on export and import);
- absence of clear plans to create so called national gas market regulator – both NAK "Naftogaz of Ukraine" and NERC cannot become such a regulator in principle.
- bottlenecks in practical implementation of the Law of Ukraine "On principles of gas market functioning", in particular, free choice of gas suppliers;
- no practical possibilities to gas exports;

- no single gas price for all categories of consumers, set up in transparent way.

3 ***High level of corruption in the sector***

- some gas producers, for instance, Regal Petroleum and JSC "Naftogazvydobuvannya" faced pressure from state authorities and changed their owners;
- corrupted state officials, which are affiliated with certain oligarchic groups and work for their interests.

4 ***Significant obstacles by foreign economic operations with energy sources, restrictions by foreign currency and exchange policy, free operation with foreign currency accounts for foreign companies.***

5 ***No clear foreign policy direction, which hampered realization of long-term investment projects.***

6 ***No clear vision by the state, how to evaluate reserves on territories, which are subject to licensing. According to world experience, one should take loans and invite foreign companies to conduct seismic and other exploration activities to evaluate actual prospects of oil and gas fields in Ukraine.***

7 ***Opaque principles of government policy in oil and gas industry – given requirements of the third energy package, there are plans to unbundle NAK "Naftogaz of Ukraine", create independent oil and gas transportation companies, keep state owned PJSC "Ukrgasvydobuvannya" and PJSC "Ukrnafta". Hereby, gas transportation system was declared a national strategic asset on political level, while in fact it could go under control of single persons or financial groups, remaining de-jure state owned.***

In 2014, positive changes were achieved only in terms of geopolitical positioning. Other problems remained unresolved. Moreover, new problems appeared, in particular:

- loss of control over prospective in terms of gas and coal production fields in Donetsk and Lugansk regions because of their occupation by pro-Russian separatists;
- anti-terrorist operation in the East of Ukraine;
- national currency devaluation;
- high subsoil tax rates, raised in August 2014 nearly twofold;
- enactment of Cabinet of Ministers Decision No. 596, which provides for purchase of gas for industrial consumers only by NJSC «Naftogaz of Ukraine» and, therefore, limitation of other gas producing companies to use own gas;
- several presidential decrees, which may lead to further over-regulation of the gas sector;
- growing pressure on producing companies from supervisory state bodies.

3.3. Analysis of data on investment flows into and from the energy sector in 2015, perspectives and preconditions for investments in coming years

The first part of 2015 went with the background of significant decrease of gas production by private companies and wide debates on long-term solutions toward gas sector taxation. Representatives of the Verkhovna Rada from Committee for Fuel and Energy Sector, Nuclear Policy, and Nuclear Safety, Ministry of finance of Ukraine, Ministry of energy and coal industry of Ukraine, State fiscal service of Ukraine, gas sector and respective organizations were involved.

In March 2015, the Cabinet of Ministers of Ukraine adopted the Resolution No.375-p, which provided for the direction of energy sector reform, in particular, work out and submission to Verkhovna Rada draft legislation on subsoil use:

- changes to Tax Code on taxation of gas producing companies taking into account investment attractiveness;
- new edition of the Subsoil Code of Ukraine;
- comprehensive audit of private and state owned companies, which have licenses on oil and gas fields, analysis of their activities on licensed areas and annulation of special permissions for those of them, which didn't conduct works in the proper way.

One should emphasize that fiscal regime has had the most negative effect on gas production sector. Private companies, which used to increase their gas production by 35-40% per year until the rent fees growth in 2014, went up in 2015 only by around 10%. Even this increase was possible due to commissioning of wells, where drilling started before growth of rent fees. According to experts, planned by private companies' investments on exploration and production went down in 2015 by more than 411 million USD. Revision of investment programmes resulted in abandonment of drilling by 90% of planned wells. According to the Ministry of Energy and Coal Industry of Ukraine, gas production in Ukraine (without Crimea) decreased in January-August 2015 by 5% or 631 million cubic meters in comparison to the same period in 2014. According to forecasts, it will result in 2016 in further reduction of gas production by 1,5 bcm. The international consulting company IHS has been invited to develop essentially new taxation system for gas production sector. It has made detailed analysis of geological and economic gas production aspects in Ukraine [according to materials from the round table "Gas independence: legislative field and provisions"].

In the late 2015, a compromise was found about the gas sector reforms and taxation until 2018. Gas producing companies should pay lower rent fees until 31 December 2017 – 29% and 14% respectively for production depths until 5000 m and more than 5000 m. Since 1 January 2018, taxation based on marginal revenues will be introduced, which is a common worldwide practice and further reduction of rent fees to 20% and 10%. A new tax will be introduced – extra charge to income tax on the level of 15%, which will be paid only if companies will receive revenues and do not reinvest them into production.

Joint ventures agreements are left with the same taxation, because there are potential shadow schemes and they should further undergo examination to be balanced to the interests of the state. Ukrgasvydobuvannia will have separate timeframe for rent changes, because its tax payments are used by the state to subsidize according to government's decision citizens with low income rate.

The Ministry of energy and coal industry of Ukraine will develop a special investment programme for the SJSC Ukrgasvydobuvannia, taking into consideration modern drilling technologies, stimulation, development of unconventional gas resources. The programme includes increase of:

- prospect drilling from 10 000 m in 2015 to 102 000 m in 2020;
- production drilling from 10 000 m in 2015 to 68 000 m in 2020;
- gas production due to stimulation on running wells from 363 mln. m3 in 2015 to 645 mln. m3 in 2020;
- annually 15 new special permissions will allow to increase resources base for further increase of gas production[4].

Decrease of taxation load in form of rent fees should be completed by a special mechanism to calculate tax rate for each field according to different factors. It will increase investors' confidence and possibility to make calculations. Further the state should introduce new cooperation instruments, including private-public partnership within production sharing agreements. The draft law No. 3042 is registered in the Verkhovna Rada and provides for amendments to the Law on production sharing agreements to precise and reduce regulation load. According to world practice, gas production under PSA should include special tax incentives together with main risks, taken by the investor with regard to exploration work and production. Sharing results rather through hydrocarbons than through taxes is more progressive, and updated legislation will be a good instrument to attract investors.

Deregulation and simplification of land use will become another direction, which will increase investment attractiveness. Actual timeframes for companies, which conduct exploration works and can start with exploration drilling, exceed 4 months. In fact, the procedure of land siting can take 2-5 years. During the period of land siting, according to Ukrainian legislation, exploration company has to stop works on well drilling and equipment. Those problems can be solved by amendments to articles 66, 97, 98, 99, 102, 122, 141, 149 of the Land Code of Ukraine.

The legal status of oil and gas production objects has to be clarified. According to acting legislation (the Law of Ukraine "On regulation of urban design activities", other laws), oil and gas wells as well as surface equipment of those wells do not have a clear identification with regard to objects of urban design.

[4] http://mpe.kmu.gov.ua/minugol/doccatalog/document?id=245046072

3.4. Recommendations for improvement of investment climate in gas production

According to world experience, investments into gas and oil industries are usually made in following directions:

- purchase of licensed areas
- geological exploration, exploration drilling and production drilling
- introduction of innovative technologies.

Ukraine does not have investments from mentioned directions. Licensing of prospective fields have been conducted quite opaque without open information about financial flows.

Hereby, it is obvious that current governmental policy to maximize revenues from licensing means reduction of the same amount of financial resources into geological exploration. Further, sometimes the most prospective fields are sold to commercial entities, which have no production capacities for hydrocarbon exploitation. And finally, Ukrainian governments do not always fulfill obligations, undertaken by their predecessors.

Investments into capital assets with regard to 1 ton of produced oil are at least twofold lower in Ukraine then in other European countries. To ensure sustainable functioning of oil industry with annual output over 5 mln. tons of oil, Ukraine has to invest from $0,5 bln. to $1,0 bln. every year.

The key preconditions for investments should be created via reforms, demonopolization, transparency and improvement of legal and regulatory mechanisms. The state should invest a minimum, but create the most attractive investment climate. Main preconditions and sources of investments are de-offshorization of economics, introduction of incentive tax and regulatory legislation, economically reasonable tariffs and international investments. State direct investments should not exceed 5-10% for development of energy infrastructure. Total volume of investments from different sources is estimated at the level of 1300 bln.UAH (by exchange rate 22 UAH for 1 USD).

Attractive investment climate will be created, if further preconditions will be introducing, in particular, competitive markets, transparent regulations according to European rules, movement toward European energy systems in terms of technical approximation and management, supremacy of law and effective instruments of public-private partnership.

Ukraine should take efforts to eliminate investment and capital outflow abroad and to ensure return of offshore resources. In particular, the state should:

- introduce restrictions on offshore property with regard to assets in energy sphere, including transactions and payments of electricity and gas distribution companies (oblgas, oblenergo);

- develop mechanisms of capital amnesty to return financial resources, which were transferred from Ukraine's energy sector during recent two decades and accumulated on offshore accounts;
- improve mechanisms of public procurement;
- improve mechanisms of public-private partnership and transparent regulation for more attractive investment climate;
- introduce incentive-based tax legislation;
- give up the practice of support to natural monopolies via state budget financial mechanisms.

To improve investment climate in gas sector, following recommendations should be considered:

- decrease taxation load, in particular rent fees;
- resume rent fees for production sharing agreements on the level of December 2014, or 1,25%;
- continue with gas market liberalization, in particular, develop and introduce secondary legislation to the Law of Ukraine "On natural gas market" with regard to equal rights for all gas market participants, access to infrastructure, resources etc.;
- conduct numerous and transparent auctions of special permissions for gas deposits development;
- simplify land use for oil and gas production activities;
- cancel issuing an act of allocation of a land for mining purposes, which duplicate information of the special permission on subsoil use;
- decrease period of time to register rights on land and to commission constructed objects;
- finalize regulation on the legal status of oil and gas production objects;
- introduce "single window" approach for submission and receipt of permissions on hydrocarbon deposits development;
- introduce incentive taxation of investments into operations to increase oil and gas output, in particular, on exhausted fields;
- return to exploration on unconventional gas fields (shale and tight gas, coal-bed methane);
- cancel expertizes and monitoring, which were introduced by the Decision of the Cabinet of Ministers of Ukraine No. 615 of 30.05.2011;
- continue development and systematization of legislation in gas and oil sphere.

IV. ANALYSIS OF TAX AND BUDGET PROCEDURES TO MANAGE PROCEEDS FROM HYDROCARBON PRODUCTION

4.1. Special conditions of oil and gas production taxation

In 2014 there were significant changes in the Tax Code of Ukraine. The Law number 71-VIII of 12.28.2014 "On Amendments to the Tax Code of Ukraine and Certain Legislative Acts of Ukraine on Tax Reform" excluded from the Tax Code Ukraine (hereinafter - TCU) the Section X "Rental Price for Oil, Natural Gas and Gas Condensate Extracted in Ukraine" and Section XI "Fee for Use of Mineral Resources of the Tax Code of Ukraine (hereinafter - TCU) Law "On amending Tax Code of Ukraine and some other legislative acts of Ukraine on tax reform".

Instead, the Tax Code of Ukraine was updated with the Section XI "Rental Payments", which now regulates the matters pertaining to the rental payments collection for use of subsoil to extract minerals, including hydrocarbons.

Thus, according to the TCU in the edition from 25.10.2015, today the main source of revenues to Ukrainian budgets is the hydrocarbon extraction rental payments levied in the form of:

1) rental payments for the use of subsoil for mining;

2) rental payments for the use of subsoil for the purposes not related to mining.

Payers of the rental payments for the use of mineral resources for mineral production are economic entities, including Ukrainian citizens, foreigners and stateless persons, legally registered as entrepreneurs, which obtained the right to use the mineral resources facility (site) based on a special permit obtained for the use of mineral resources within the particular subsoil area for carrying out of business activity on mineral production, including geological survey (or geological survey with subsequent pilot commercial development) within mineral resources facilities (sites) specified in such special permit.

For tax purposes, payers of fee for the use of mineral resources for mineral production conduct separate (from other kinds of operating activity) bookkeeping and tax accounting of incomes and expenses for each mineral stock type, for each mineral resources facility, for which special permit was issued.

Taxable item of the rental payments for subsoil use with the purpose of extraction of minerals with regard to each provided for use subsoil area specified in a relevant special permit, is a volume of marketable products of a mining enterprise, i.e. minerals extracted (mineral raw materials) being the outcome of the economic activity on extraction of minerals during a tax (accounting) period, brought in line with the standard, provided for by industrial legislation.

The above refers to the volume of marketable products of a mining enterprise, i.e. commercial minerals extracted (mineral raw materials), being the outcome of the economic activity on extraction of commercial minerals out of subsoil in the territory of Ukraine, its continental shelf and exclusive (marine) economic zone, as well as the volume of marketable products of a mining enterprise, i.e. commercial minerals extracted (mineral raw materials), being the outcome of the economic activity on extraction of commercial minerals out of waste (losses, tailings, etc.) of a mining enterprise.

Taxable item of the rental payments for subsoil use with the purpose of extraction of minerals does not include some minerals. For instance, taxable item of the fee for subsoil use with the purpose of extraction of minerals excludes the volume of natural gas, declared recycled according to the TCU.

Tax base for of the rental payments for subsoil use with the purpose of extraction of minerals is value of volumes extracted during tax (accounting) period mineral resources (mineral stock), calculated separately for each type of mineral product (mineral stock) each subsoil area under basic delivery terms (finished products warehouse of mining enterprise).

The value of marketable products of a *hydrocarbons* mining enterprise during tax (accounting) period is calculated by the payer with regard to each subsoil area with regard to the actual prices of sales.

The actual price of sales for oil, condensate is set by the central executive authority responsible for the implementation of the state policy of economic development, with regard to a tax (accounting) period as the average price per one barrel of oil “Urals”, converted into hryvnias per ton at the currency rate of the National Bank of Ukraine as of the first day of the month following a tax (accounting) period, determined according to international agency (quotes Urals Mediterranean and Urals Rotterdam). For setting the actual price of sales for oil and condensate an average conversion rate is applied considering 1 ton of oil “Urals” equal to 7.28 barrels.

Actual selling price for natural gas is considered as follows:

for natural gas, which meets the requirements specified in the clause 252.24 of the TCU, purchase price, determined by national commission responsible for the implementation of government power industry regulation, for each economic entity, which corresponds the criteria defined by the Article 10 of the Law of Ukraine “On Principles of Natural Gas Market Performance”;

Reference: 252.24. The payer of fee for the use of mineral resources for mineral production or authorized person, which during the tax (accounting) period extracted natural gas (including associated petroleum gas) and sold it to the entity, authorized by the Cabinet of Ministers of Ukraine for forming of natural gas resources (including associated petroleum gas), which were used for residents’ needs.

for other natural gas, price equal to the extreme (maximum) price level of natural gas sold to industrial customers that is being established by national commission responsible for the implementation of government power industry regulation.

Central executive authority, responsible for the implementation of national development policy, not later than the 10th day of the month following the tax (accounting) period, publishes determined selling price of appropriate crude hydrocarbons in its official web-site in special section and provides a notice to central executive authority, responsible for the formation and implementation of national tax and customs policy.

The value of the item of each type of marketable products of a mining enterprise (i.e. minerals (mineral raw materials) extracted) is calculated as the ratio of the amount of revenues obtained by a payer from sales of a relevant type of marketable products of a mining enterprise (i.e. minerals (mineral raw materials) extracted), to the volume (quantity) of a relevant type of sold marketable products of a mining enterprise, i.e. minerals (mineral raw materials) extracted, determined basing on the data of the stock accounting of a payer's finished goods.

The rates of the rental payments for subsoil use with the purpose of extraction of hydrocarbons

Name of groups of minerals provided for subsoil use to a mining enterprise	**Rate, per cent out of the value of marketable products of a mining enterprise**	
	Before 01.01.2015	**since 01.01.2015**
Hydrocarbons:		
oil:		
from deposits lying partly or fully at the depth under 5000 meters	39,00	45,00
from deposits lying fully at the depth over 5000 meters	18,00	21,00
Condensate		
from deposits lying partly or fully at the depth under 5000 meters	42,00	45,00
from deposits lying fully at the depth over 5000 meters	18,00	21,00
Natural gas (of any origin):		
natural gas corresponding to the requirement specified in the clause 252.24, extracted from deposits under 5,000 meters	20,00	70,00
natural gas corresponding to the requirement specified in the clause 252.24, extracted from deposits over 5,000 meters	14,00	14,00
from deposits in subsoil areas (fields) within the continental shelf and/or exclusive (marine) economic zone of Ukraine	11,00	11,00
Natural gas extracted under the joint activities agreements:	-	70,00
from deposits lying partly or fully at the depth under 5000 meters	28,00	55,00
from deposits lying fully at the depth over 5000 meters	15,00	28,00

As we see the rates of the rental payments for subsoil use with the purpose of extraction of hydrocarbons has been increased since January 1, 2015, particularly regarding natural gas extracted from deposits of up to 5,000 meters (from 20% to 70%), as well as a new rate of 70% for natural gas extracted under the joint activities agreements has been introduced.

The Tax Code also established preferential tax treatment for additional volumes of crude hydrocarbons, extracted as a result of current or new investment projects (programs, contracts) implementation in areas of subsoil (deposits, fields), characterized by deteriorated mining and geological conditions (difficult to access) or depleted during development in previous periods, as well as new wells or type wells, located on such subsoil areas.

In this case, additional volume of extracted crude hydrocarbons taxed at a rate of 2 percent of the cost.

Procedure of selection and approval of new investment projects (programs, contracts), which provide production gain of crude hydrocarbons, procedure of additional volumes of crude hydrocarbons determination, and control procedure of such investment projects (programs) implementation, are determined by the Cabinet of Ministers of Ukraine upon submission to central executive authority, responsible for the formation and implementation of national economic development policy.

List of subsoil areas and/or facilities, where new investment projects (programs, contracts) are implemented, is determined by central executive authority, responsible for the formation and implementation of national policy in oil and gas complex.

Simultaneously, these provisions are applied only to enterprises, where the state share makes 25 percent and more of the capital stock, as well as to:

economic entities, which share of 25 percent and more is in capital stocks of other economic entities, where the majority interest is owned by a state;

subsidiary enterprises, agencies and affiliates of such enterprises and companies;

the parties of joint action agreements, under which the value of contribution of enterprises, the state share in the authorized capital of which is 25 per cent and more, or corporations with 25 percent or more of shares (stocks) in the authorized capitals of other corporations where the controlling block of shares is owned by the state, as well as subsidiaries, representative offices or branches of these enterprises and corporations, makes 25 percent and more of total value of a contribution of the parties of joint activities agreements.

The rates of rental payments for the use of mineral resources extraction (article 252.22 of the TCU) are subject to adjusting multipliers determined on the basis of the type of mineral (raw mineral) and conditions of its extraction. In the new edition of the TCU the number of adjusting multipliers has been increased from 7 to 11 (Table below):

Adjusting multipliers applied to rates of rental payments for the use of subsoil with the purpose of extraction of hydrocarbons

Criteria of multiplier application	Multiplier value
Extraction of off-balance mineral reserves that meet the conditions set out in the clause 252.24 of the TCU	0,79
Extraction of off-balance natural gas reserves from the deposits in areas of subsoil (deposits) on the continental shelf and/or the exclusive (maritime) economic zone of Ukraine, corresponding to the condition set out in the clause 252.24 of the TCU	0,61
Extraction of off-balance natural gas reserve, that does not meet the provisions specified in the clause 252.24 of the CTU	0,96
Extraction of off-balance oil and condensate reserves	0,95
Extraction of mineral reserves (resources) from technogenic deposits	0,50
Extraction of mineral reserves, which were declared subsidized reserves, as provided by applicable law	0,01
Extraction of mineral reserves from subsoil areas approved by state expertise based on geological survey reports, conducted by payer of rental payments at its own expense	0,88
Extraction of natural gas reserves from mineral reserves from subsoil areas (deposits) within the boundaries continental shelf and/or exclusive economic zone of Ukraine, corresponding to the condition set out in the clause 252.24 of the TCU, subsoil approved by state expertise based on geological survey reports, conducted by payer of rental payments at its own expense	0,77
Extraction of natural gas reserves, that do not correspond to the condition set out in the clause 252.24 of the TCU, subsoil approved by state expertise based on geological survey reports, conducted by payer of rental payments at its own expense	0,97
Extraction of oil and condensate reserves, subsoil areas approved by state expertise based on geological survey reports, conducted by payer of rental payments at its own expense	0,96
Extraction of natural gas reserves, that do not correspond to the condition set out in the clause 252.24 of the TCU from wells, including the period of pilot operation (geological studies), which included in the State Register of oil and gas wells after 1 August 2014 (during the two years from the date of entering these wells to the mentioned Register)	0,55

The value of the adjustment coefficient is calculated in the form of a decimal fraction accurate to fourth decimal point in accordance with the acts of legislation on carrying out the statistical survey of the fluctuations of prices (rates) of consumer goods (services) and the calculation of the index of consumer prices.

The payer of rental payments pays tax liabilities at the subsoil area location, from which mineral resources were extracted within the territory of Ukraine or at tax registration location of such payer in case the subsoil area location where the minerals were extracted lays within the continental shelf and/or the exclusive (maritime) economic zone of Ukraine.

Regarding rental payments for use of subsoil for purposes not associated with minerals extraction, its payers are legal and physical persons - business entities that use within the territory of Ukraine subsoil storage of natural gas, oil and other liquid gases oil. The object of taxation rent for use of subsoil for the purposes not related to mining, underground space is the amount of (land) mineral resources:

For storage of natural gas and gaseous products - the active volume of the gas storage in porous or fractured geological formations (reservoir);

For storage of oil and other liquid petroleum products - volume of specially created and existing mine workings (developed and adapted) and natural cavities (caves);

Rental payments for use of subsoil for purposes not associated with minerals extraction is not charged for use of underground facilities at depth maximum 20 meters, built open-cut without backfilling or with further backfilling.

Rates of rental payments for use of subsoil for purposes not associated with minerals extraction are established separately for each type of use of mineral resources, in UAH per unit of measurement depending on useful properties of mineral resources and degree of environmental safety during their use. In the new version the TCU they remained unchanged (Table below).

The rates of rental payments for use of subsoil for the purposes not associated with minerals extraction

Character of use of subsoil	**Type of use of subsoil**	**Unit of measurement**	**Rate of rental payments for the use of subsoil for purposes not associated with minerals extraction, per unit of capacity of subsoil use, UAH per year**
Use of subsurface space of subsoil area, fractured porous geological formations (reservoir beds)	storage of natural gas and light-end products	cub. m of effective capacity	0,3
Use of subsurface space of subsoil area — specially created and existing mine workings (developed and adapted), and natural vacuities (caves)	storage of oil and other liquid oil products	cub. m	0,3

Basic tax (reporting) period for rent payments is a calendar quarter. Herewith, the payer is responsible for accuracy of calculation of fee for the use of mineral resources for purposes not associated with mineral production, completeness and timeliness of its payment to the budget, as well as for the timeliness of submission to the regulatory authorities of the respective tax declarations according to the provisions of the TCU and other laws of Ukraine. Control over the accuracy of calculation, timeliness and completeness of rental payments submission is carried out by the regulatory authorities.

Rental payments refer to national taxes and duties (the TCU, Art. 9). This means that all funds received from their collection are contributing exclusively to general or special funds of the State Budget of Ukraine and may not flow to local budgets.

Thus, unlike the rental payments for use of subsoil for the extraction of other minerals, funds of rental payments for use of subsoil for the extraction of oil, natural gas and gas condensate in full and solely enrolled to the general fund of the State Budget of Ukraine. This situation existed before the 1 January 2015 and sustained further, as far as it is defined in paragraph 5 of Article 29 of the new version of the Budget Code of Ukraine from 10.25.2015.

Ukrainian budgets revenues classification (Budget classification) as amended on 25.10.2015 establishes the directions of budget revenues associated with the rental fee for use of subsoil in connection with the extraction of hydrocarbons, and assigns them specific names and codes.

To compare with the previous edition of Budget classification, changes related to the payment title and definition of a separate code for rental payments for use of subsoil for the extraction of amber (Table below).

The classification of revenues associated with minerals extraction

Code	**Item of budget revenue**
13030000	Rental payments for use of subsoil
13030100	Rental payments for use of subsoil for minerals extraction of national importance
13030200	Rental payments for use of subsoil for minerals extraction of local importance
13030400	Rental payments fee for use of the continental shelf and within the exclusive (maritime) economic zone
13030500	Receipts of amounts of restructured debt from payments for use of mineral resources
13030600	Rental payments for use of subsoil for the purposes not associated with minerals extraction
13030700	Rental payments for use of subsoil for oil extraction
13030800	Rental payments for use of subsoil for natural gas extraction
13030900	Rental payments for use of subsoil for gas condensate extraction
13031000	Rental payments for use of subsoil for amber mining

As can be seen from Table 4, the revenues of the State Budget of Ukraine from the subsoil use rental payments for hydrocarbon production have the following names and codes:

Rental payments for use of subsoil for oil extraction - code 13030700;

Rental payments for use of subsoil for natural gas extraction - code 13030800;

Rental payments for use of subsoil for gas condensate extraction – 13030900

Since January 1, 2013, these codes are used for treasury accounting of revenues and savings of the State Budget revenues collected from business entities engaged into hydrocarbons extraction, formation and execution of the revenues chapter of the State Budget Ukraine. This enables us to carry out the comparative analysis of the State Budget revenues collection from hydrocarbons extraction for the period of 2013-2016 (using data for 9 months of the year 2015 and the draft State Budget 2016). In contrast, by January 1, 2013 the accounting of revenues and the accumulation of state budget receipts from business activities associated with use of subsoil for minerals extraction were performed aggregated only by three directions and codes: 13030000 Rental payments for use of subsoil; 13030100 Rental payments for use of subsoil; 13030400 Rental payments fee for use of the continental shelf and within the exclusive (maritime) economic zone, which makes it impossible to study over the situation during this period.

In 2013, the State Budget received revenue under the code 13030000 “Rental payments for use of subsoil” amounted to 13,012 million UAH, including the rental payments for subsoil use for hydrocarbons extraction (codes 13030700, 13030800, 13030900) in the amount of 12 million UAH, of the all revenues from rental payments for use of subsoil. This constitutes 4,1% of the State Budget General Fund.

The State Budget of Ukraine for 2014 revenues totaled in amount of 18199 million UAH of revenues from hydrocarbons extraction, including the rental payments for subsoil use for hydrocarbons extraction (codes 13030700, 13030800, 13030900) in the amount of 16 909 million UAH. This is less than established by the Law on State Budget for 2014, respectively, by 2.1 million UAH (total) and 1.8 million UAH (hydrocarbons). However, this represents 92.3% of the total rental payments for subsoil use.

The State Budget of Ukraine for 2015, as amended by 25.10.2015, foresees a significant increase of revenues under the code 13030000 “Rental payments for use of subsoil” up to 42 049 million UAH (23 850 million UAH more in comparison to 2014). At the same rental payments for use of subsoil for hydrocarbons extraction (codes 13030700, 13030800, 13030900) should be received 38,898 million UAH, or 92.5% of the total amount.

During 9 months of 2015, only 19 733 million UAH of 42 049 million UAH were received by the State budget under the code 13030000 “Rental payments for use of subsoil”, including rental payments for use of subsoil for hydrocarbons extraction (codes 13030700, 13030800, 13030900) totaling 17,650 million UAH or 89.4% of the total amount.

The draft law on the State Budget of Ukraine for 2016 submitted by the Cabinet of Ministers to the Parliament on September 15, 2015 (and on September 16, 2015 withdrawn back to the Cabinet) foresees 53 895 millions of UAH of revenues under the code 13030000 “Rental payments for use of subsoil”, that is 11 846 million UAH more than forseen under this code for the year 2015. We believe that figure is unrealistic, given the results of the State Budget for 2015 (Table below).

Revenues of the State Budget of Ukraine for 2013 - 2016 under the line «Rental payments for use of subsoil», billion UAH

Budget classification code	I T E M S	2013 actual	2014 actual	2015, year planned	2015, 9 months	2016, year planned
1	2		4			
13030000	Rental payments for use of subsoil, Total	13, 012	18,199	42,049	19,733	53,895
13030100	Rental payments for use of subsoil for minerals extraction of national importance	0,913	1,284	3,151	2,083	3,397
13030400	Rental payments fee for use of the continental shelf and within the exclusive (maritime) economic zone	0,099	0,006	0,0	0,00005	0,0
13030500	Receipts of amounts of restructured debt from payments for use of mineral resources				0,0	0,0
13030700	Rental payments for use of subsoil for oil extraction	5,479	5,948	5,905	1,581	7,796
13030800	Rental payments for use of subsoil for natural gas extraction	4,392	8,656	30,766	14,428	38,902
13030900	Rental payments for use of subsoil for gas condensate extraction	2,128	2,305	2,227	1,642	2,400
13031000	Rental payments for use of subsoil for amber mining	0,0	0,0	0,0	0,0	1,400

Thus, rental payments for subsoil use are foreseen in the amount of 53,895 million UAH for the year 2016, or 28% more than the plan for 2015 – in spite the fact that the plan for 2015 was also higher by 58%. There was foreseen a significant increase which, as we believe, is unreal, since the budget performance for the first nine months of 2015 was only 47% whereas it had to be within 73-75%.

With regard to the period by January 1, 2013 (2010 - 2012) , as we have noted, the budget classification did not envisaged the separate codes for accounting and collection of the economic agents payments associated with hydrocarbons extraction. Instead, the funds were received by the State Treasury under a single code 13030100 “Rental payments for use of subsoil for minerals extraction of national importance”, as it is presented in Table below.

Revenues of the State Budget of Ukraine received during 2010 - 2014 and envisaged in the draft state budgets for 2015 and 2016 under the line "Rental payments for use of subsoil", million UAH

Code	**Item**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015p**	**2016p**
13030000	Rental payments for use of subsoil, Total	1302	1239	1520	13020	18199	42049	53895
13030100	Rental payments for use of subsoil for minerals extraction of national importance	1290	1202	1465	961	1284	3151	3397
13030400	Rental payments fee for use of the continental shelf and within the exclusive (maritime) economic zone	11,1	36,8	55,8	262,0	6,5	0,0	0,0
13030700	Rental payments for use of subsoil for oil extraction	n.a.	n.a.	n.a.	4802	5948	1581	7796
13030800	Rental payments for use of subsoil for natural gas extraction	n.a.	n.a.	n.a.	5167	8656	14428	38902
13030900	Rental payments for use of subsoil for gas condensate extraction	n.a.	n.a.	n.a.	1828	2305	1642	1400
13031000	Rental payments for use of subsoil for amber mining	0,0	0,0	0,0	0,0	0,0	0,0	1400

4.2. Spending of incomes from oil and gas production

Regarding the use of funds received by the State Budget of Ukraine as payment for subsoil use for hydrocarbons extraction. These funds are credited to the state budget general fund. Its resources have the status of "unbound", i.e. when credited to the budget they are being fully distributed between all spending items on the state budget. Thus, funds credited to the state budget as rental payments for subsoil use for hydrocarbons extraction are not "tied" to any specific budget expenditures, and are allocated in full along the whole "matrix" of the state budget expenditures approved by particular law for the relevant year.

That means that funds credited and accumulated at the accounts of the State Treasury under the budget revenue codes 13030700; 13030800; 13030900 (rental payments for subsoil use for hydrocarbons extraction) are allocated in full between all spending items on the state budget while losing any binding to the revenues sources.

The fee for the special permits for subsoil use issue and funds provided by the sale of these permits (budget classification code: 22012100) are the other sources of income to the State budget. In 2014 this source provided the state budget with 509 million UAH while there were foreseen only 260 million. However, these revenues are directed to the state budget without breakdown by type of industry permits and therefore there is no way to identify the particular amounts corresponding, for instance, to hydrocarbons extraction or iron ore.

4.3. Findings on utilization of revenues from hydrocarbons production

There were significant changes in the Tax Code in 2014 that can be classified as formal (introduction of "Rental payments for use of subsoil" instead of "Payments for use of subsoil") and substantial (increased rates of rental payments). Simultaneously, Government significantly increased the planned amount of revenues that would be received in the budget as rental payments for use of subsoil for hydrocarbons extraction. As it was demonstrated in 2015 by budget performance during nine months, these figures are not justified. Unfortunately, the same situation is occurring again in 2016.

With regard to tax and budget management procedures on funds received from hydrocarbons extraction, they remained unchanged. The main issue persists: funds received by the State Budget of Ukraine as rental payment for subsoil use for hydrocarbons extraction are being fully distributed between all spending items ok the state budget, resources of which have the status of "unbound" i.e. when credited to the budget they are being fully distributed between all spending items on the state budget. Thus, funds credited to the state budget as rental payments for subsoil use for hydrocarbons extraction are not "tied" to any specific budget expenditures, and are allocated in full along the whole "matrix" of the state budget expenditures approved by particular law for the relevant year.

V. EVALUATION OF INVESTMENT MANAGEMENT EFFICIENCY WITH REGARD TO BUDGET PROCEDURES FOR MANAGING FINANCIAL REVENUES FROM HYDROCARBONS PRODUCTION AND THEIR SPENDING

5.1. Evaluation of macroeconomic budget indicators related to hydrocarbon production; reasons, procedure and specifics of the use of revenues

It is noteworthy that unlike the royalties, the fee for the use of subsoil for the purposes of oil and gas production did not appear as a separate item of budget revenue until 2013. Therefore, its contribution to the budget can be evaluated only within total volume of payments for the subsoil use in the country.

Yet the fiscal performance in 2013-2014 demonstrates that it was the fee for the subsoil use for the purposes of oil and gas production that made up the bulk of the contribution of these sectors to the budget. For instance, in 2013, it amounted to almost UAH 12 billion thus providing up to 3% of all budget revenues of the country, and in 2014 these payments amounted to nearly UAH 17 billion providing 4% of budget revenues.

On the whole, the fair share of budget revenues from production of energy resources of national importance is used to replenish the State Budget General Fund. Therefrom they are spent mainly on addressing current needs and re-financing the State Budget's deficit.

During the period from 2007 to 2013, according to rough estimates only 0,1% of fees for the use of Ukraine's subsoil were allocated to the special fund of the State Budget.

Distribution of fees for the subsoil use within the State Budget of Ukraine, billion UAH.

Billion UAH	General fund	Special fund	Total
2007	0.6	0	0.6
2008	1.2	0.005	1.2
2009	1.3	0	1.3
2010	1.5	0	1.5
2011	2.7	0	2.7
2012	3.3	0	3.3
2013	14.2	0	14.2
Incl. oil and gas in 2013	11.2	0	11.2
2014	19.6	0	19.6
Incl. oil and gas in 2014	16.9	0	16.9
2010-2014	41.2	0.0	41.2
2010-2014, % of the total period	100%	0%	100%

According to the State Treasury of Ukraine

Within the same period, less than 1% of royalty payments for oil, gas and gas condensate production were allocated to the special fund of the State Budget.

5.2 Financial flow in the field of hydrocarbon production

Oil and gas industry is a truly infernal part of Ukrainian socio-political and economic life. There was a clear intertwinement of conflicting geo-economic, internal political, financial, economic and criminal interests. Moreover, the inability to address the problems in this area became a burden for the whole country.

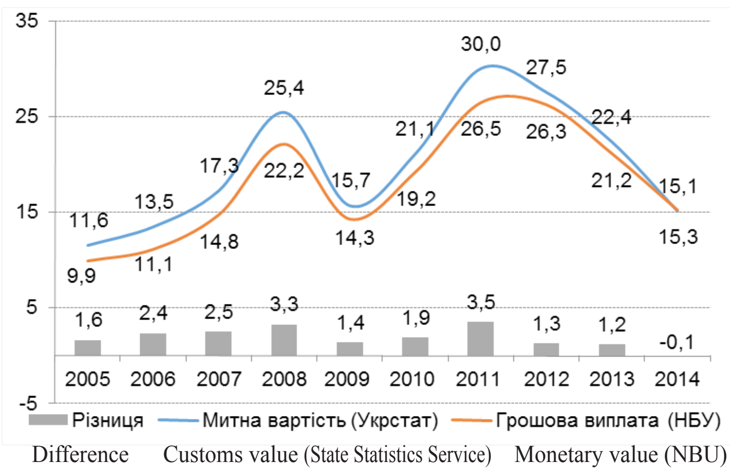
Statistics (including financial one) referring to the oil and gas industry has been long hidden behind the general classification of "minerals and petroleum resources" and "mineral products". Some progress in disclosing the information on the financial performance of the oil and gas industry was achieved no earlier than in 2013.

The non-transparency and distortion of the country's energy raw materials market, is proved, inter alia, by the asynchronous dynamics of financial indicators of these commodity groups in 2010-2012. In particular, the financial statements for the groups "energy resources" and "mineral products" (which includes oil and gas) for this period demonstrate that the companies engaged in these spheres made profit primarily due to the non-transparent accounting of both domestic production and imports.

Thus, despite the economic and production downturn in 2010-2013, gas imports increased by 44% in monetary terms, from \$8 billion in 2009 to \$14,5 billion in 2013, and even to \$57 billion in 2014; at the same time, gas imports have increased by 4% in physical terms from 27 billion cubic meters in 2009 to 28 billion cubic meters in 2012 according to Naftogaz Ukraine.

Apparently, the generation of enormous shadow profits in this sector begins as early as at the stage of import into the country, in the form of the difference between the purchase cost of mineral products on the international market and their declared value when crossing the Ukrainian border. The gap between the reporting data of customs and banking statistics shows that the gain of almost \$8 billion was generated in the period between 2010 and 2013 (Fig. 1). Yet with the tightening of control over the traffic of oil and gas resources, due to both the complication of trade and economic relations with Russia, and the intensification of fight against the shadow economy and corruption in the oil and gas sector after the power shift in Ukraine in 2014, this difference had been virtually nullified in 2014, and over seven months in 2015 it amounted to about USD 200 million.

Monetary value of mineral resources imports, \$ billion



Monetary value of mineral resources imports, \$ billion

Difference — Customs value (State Service of Statistics)

Monetary value (NBU) — Difference

According to the National Security Service (NBU) and Statistic Service of Ukraine

At that time, gas production, for instance, increased by 0,5% according to Naftogaz Ukraine (versus about 2,5% according to the State Statistics Service). And the volume of gas consumption by main categories of consumers increased by 1,2% only in physical terms according to the National Commission that provides state regulation of energy and public utilities sector. At the same time the price of gas for main consumers increased by an average of 71%. However, the industry's enterprises recorded an 87% reduction in net profit over the period from 2010 to 2013. However, gas industry remained highly profitable. The average level of profitability of gas sector was about 10,4% in 2010-2013, while it was less than 3,6% for the industry on the whole, and 4,7% for the economy on the whole.

Equally questionable seems the attitude of these sectors to the national budget. On the one hand, royalty payments for production in Ukraine were the only item fixed in budget revenues. The percentage of revenues from the fees for subsoil use for oil and gas production appeared as an individual item of statements on budget revenues just in 2013. Overall, the fair share of budget revenues from production of energy resources of national importance is used to replenish the State Budget General Fund. Hence, they are spent mainly on addressing current needs and covering the budget deficit. At the same time, individual statements on the redistribution of revenues for local budgets in the regions of production of these resources are virtually absent. There are no reports on the use of budget revenues from the exploitation of hydrocarbon resources as well. During the period from 2007 to 2014, the special fund of the State Budget received less than 1% of royalty payments for oil, gas and gas condensate.

Budget revenues received as oil and gas royalty payments

Million UAH	General fund	Special fund	Total
2007	5468	0	5219
2008	7003	0	7003
2009	4174	492	4666
2010	6856	492	7349
2011	14286	0	14286
2012	10936	0	10936
2013	400	0	400
2014	212	0	2
2010-2014	32691	492	32973
% of the total period 2010-2014	99%	1%	100%

** Estimated data are based on reports on the State Budget execution by the Ministry of Economy and the State Treasury*

Data on the natural gas output and revenues from royalty payments for natural gas credited to the budget in 2010-2013 show that royalty payments for Ukrainian gas amounted to about 9% of the production revenues. During that period, the budget received about 33 billion UAH of royalties for estimated general amount of produced gas in money equivalent at 200 billion UAH (average gas price across economy at that time was about 2,5 thousand UAH per 1000 cubic meters of gas). Meanwhile, the average amount of payments could or should have been at around 22,5 %, according to the Tax Code of the country. Thus, according to the rough calculations given in the table below, in 2010-2013 the state revenues collections fell short of expectations by up to 30 billion UAH of royalty payments for the gas produced in Ukraine

Consequently, the transparency of financial flows is a key issue to improve the efficiency of oil and gas sector and to deal with a systematic waste of its resources. Budget figures show that oil and gas resources were actually squandered away. At the same time, investment projects in the sector had a common fault of non-transparency, overcharges and misappropriation of funds.

	2010	2011	2012	2013	2014
Gas production, calculated in natural equivalent, billion cubic meters	20.5	20.1	20.2	21	20.2
Gas production, in money equivalent, billion UAH	35	44	55	69	93.3
Oil production, billion tones	3.6	3.3	3.3	3	2.7
Imports of natural gas, in money equivalent, $ billion	9.4	14	14	12	6
Imports of oil, in money equivalent, $ billion	4.2	4.3	1.2*	0.6*	0.1*
Sales of oil and gas industry products, billion UAH	30.4	47.4	38.2	40.2	31.1
Net profit of oil and gas industry, billion UAH	4.6	7.7	2.7	0.6	-
Oil and gas royalty payments, billion UAH	7	14	11	0.363	0
Gas royalty payments, billion UAH	3.8	6.0	5.6	0.317	0
Gas royalty payments, % of production	11	13	10	0	0
Overall profitability of the oil and gas companies, %	12.7	18.7	8.9	1.4	-
Estimated gas price, thousand UAH/1000 cubic meters (for all consumer categories)	*1.7*	*2.2*	*2.8*	*3.3*	*4.6*
The rate of royalty payments as stipulated by the Tax Code, % (average for wells up to 5 thousand meters)	*22.5*	*22.5*	*22.5*	*22.5*	*22.5*
The estimated amount of the shortfall in gas royalty payments, total per year, billion UAH	*4*	*4*	*7*	*15*	*21*

** not including temporarily occupied territory of ARC and city of Sevastopol*
Sources: *State Statistics Service of Ukraine; State Treasury Service of Ukraine; National Bank of Ukraine; Ministry of Energy and Coal Industry of Ukraine; National Commission for Energy Regulation of Ukraine; NJSC Naftogaz of Ukraine*

5.3. Anticipated changes in investment climate associated with political transformations, role of international energy companies in the improvement of the country's and regions' investment attractiveness

Major changes in the investment policy of Ukraine's energy sector in recent years have been related to a number of factors. In particular, the need to limit the negative impact of gas prices increase on the economy; the need to improve the competitiveness of Ukrainian companies by reducing the energy intensity of production; as well as the need to overcome the energy pressure and extortion on the part of Russia in political relations between the two countries. This policy direction should be strongly promoted in view of the process of Ukraine's integration into the European Union and the European market.

However, these policies are more related to economic reforms and technological re-equipment rather than to the rational use of revenues and investment potential of oil and gas industry.

Yet the integration of the country into Europe will result in quite different modalities of management, regulation, and running business in this area. In particular, this implies increased transparency, the development of market relations and restructuring of management and organization of the industry. Special focus will be laid on the privatization of strategic objects of the industry and attraction of foreign investors. A major step in this direction was the adoption of the Law on the natural gas market, which opens the way for the integration of the country's oil and gas system to the European space and liberalizes the game rules in this sphere. After the adoption of the law, a number of international companies have voiced their willingness to invest in various sectors of the oil and gas industry including production, import, domestic supplies and others in spite of the difficulties arising from situation in the east of the country. International energy companies entering the industry are bound to bring about sustainable economic, technological, financial and market solutions as well as to raise the level of management.

In this context, the advanced global experience suggests that a more efficient and sustainable management of oil and gas revenues can be achieved by their consolidation within a special national fund of long-term savings. Such funds are known by different names in different countries. Yet the thing that they have in common is the intended use of a part of revenues from exclusive natural wealth and resources aimed at supporting and developing the strategic areas of socio-economic system.

5.4. Assessment of social component in energy companies' activities, success-stories of social projects implemented in various countries, social investment proposals.

Apart from fostering or participating in the establishment of such funds, energy companies producing energy resources are also directly involved in the facilitation and support of social development of the countries where they operate. In general, there are three components of the contribution of energy companies, including transnational ones, to the social development. These are the development of local content, social investment and the development of subcontracting relations.

The contribution of companies to the development of local content is associated with the creation of new jobs, local entrepreneurship development, knowledge and technology transfer to local communities. Nearly all the world's leading oil and gas companies support such programs all across the globe, regardless of socio-economic development of the country of operation.

By some estimates, oil and gas companies annually allocate up to USD 500 million of their revenues for the development of local communities around the world. And this is just the top of the iceberg. According to some reports, social investment of Top 12 global oil and producer companies has increased fivefold over the period of 2001-2011 years and reached $ 2.4 billion.

Social investment of oil companies, Mio. USD	BP	Exxon Mobil	Halliburton	Petrobras	Shell	Total
	103.7	278.4	5	227.2	125	380.8

Source: Corporate Direct Social Expenditures: A Monitoring Guide for Civil Society Organizations. Rocio Moreno Lopez. – Revenue Watch Institute. – January 2013.

Oil and gas companies participate in a variety of schemes and programs focusing on the development of local population. This is, in particular, promotion of projects in the field of secondary education, health care, entrepreneurial development, microcredit.

According to a survey by the international organization OXFAM, virtually all transnational corporations in the petroleum sector adhere to international standards of interaction with the local population in the process of their investment activities. The following table shows the areas of the local population development being in the focus of companies' activity, as well as the standards of reference.

Social obligations of international oil and gas companies:

				Public Policy Support		**Applicable International Agreements/Standards**		
Company	Agreement on local community support	Support of indigenous peoples' rights	Support of Gender and Communal Policy	Support of Human Rights Policy	Support of Public Relations	Support for UN Declaration on the Rights of Indigenous Peoples	Support of ILO Convention 169	Support of standards of International Financial Corporation
BP	+	+		+				
Chevron	+	+		+				+
Conoco Phillips		+			+	+		
Eni	+	+			+		+	
Exxon Mobil	+	+		+			+	
Glencore		+			+			+
Petrobras								
Petro China	+							
Repsol		+	+		+		+	
Rio Tinto		+	+		+	+	+	
Shell		+		+				
Statoil	+	+		+				+

Source: COMMUNITY CONSENT INDEX 2015, OXFAM BRIEFING PAPER 23 JULY 2015

VI. LEGAL ANALYSIS OF THE BUDGET, FINANCIAL LEGISLATION AND LEGISLATION ON MINERALS PRODUCTION

6.1. Summary of the analysis of the Budget Code of Ukraine in the context of regulation of financial revenues and spending in hydrocarbon production

6.1.1. Pursuant to Article 5 of the Budget Code of Ukraine, the budgetary system of Ukraine is comprised of the **State Budget and local budgets**. Local budgets include the *budget of the Autonomous Republic of Crimea, regional and district budgets and budgets of local governments*. Local government budgets are the budgets of *territorial communities of villages and their associations, towns and cities* (*including urban districts*). Part 1 of the Article 13 of the Budget Code of Ukraine foresees that the budget can **consist of general and special funds**.

Pursuant to Article 6 of the Subsoil Code of Ukraine, mineral resources are rated according to their importance as:

- *Mineral resources of national importance* (this category includes, but is not limited to, all kinds of hydrocarbons, in particular oil, natural gas and gas condensate) and
- *Mineral resources of local importance* (this category does not include any kind of hydrocarbons and is virtually limited to such minerals as limestone, gypsum, chalk, sand, loam).

The Budget Code of Ukraine refers to the same categories while establishing a different procedure for using the revenues from production, depending on which of the above categories the relevant mineral resources fall into.

6.1.2. The rent fee for subsoil use on hydrocarbon production and the fee for the issuance of special permits for subsoil use are credited *in full* as revenues to the General Fund of the State Budget of Ukraine.

The difference between the aforementioned rent fee and rent fees for production of other (non-hydrocarbon) mineral resources of national importance is that the latter are distributed equally between the State Budget and local budgets:

(i) 75% are credited to the General Fund of the State Budget of Ukraine;

(ii) the remaining 25% go to “high-level” local budgets, that is municipal budgets of Kyiv and Sevastopol, the Crimea budget and regional budgets (however, local “low-level” budgets, that is district budgets and local government budgets do not receive any direct revenue from charging for the use of subsoil for production of mineral resources of national importance.

Local “low-level” budgets, that are local government budgets, receive direct revenues in the form of fees for the use of subsoil for production of local mineral resources (which, however, do not include hydrocarbons).

6.1.3. The Budget Law of Ukraine provides for a special procedure for the distribution of revenues from the sale of the state share of production (which includes hydrocarbons) in accordance with the production-sharing agreements (“PSAs”):

(i) If a PSA's subject matter are hydrocarbons produced in the continental shelf and the exclusive (maritime) economic zone of Ukraine, the corresponding revenues are credited in full to the General Fund of the State Budget;

(ii) if a PSA's subject matter are hydrocarbons produced in the inland area, the corresponding revenues are distributed as follows:

- 90% are credited to the General Fund of the State Budget;
- 10% are credited to the Special Fund of local budgets (of which: 5% go to the budget of the ARC or a regional budget, 3,5% - to the district budget; 1,5% - to the village, town or city budget).

If subsoil licensed area is located on territories of several administrative units, revenues are distributed among budgets of these units according to agreed correlations and regulation of the Cabinet of Ministers of Ukraine (as on September 2015 this regulation was not set up).

6.1.4. The fee for the issuance of special permits for subsoil use and revenues from the sale of such permits (*in full*), the rent fee for subsoil use for the purpose of hydrocarbon production (*in full*) and proceeds from the sale of the state share of hydrocarbons under a PSA (*in full* - if hydrocarbons are produced on the continental shelf, and in the *amount of 90%* - if hydrocarbons are produced on the inland area of subsoil) are credited to the General Fund of the State Budget of Ukraine and used to finance the fulfilment of the main functions and tasks of the state, which are to a certain degree generalized, and for transfers to local budgets (mainly as subventions and basic donations). Therefore, there is no provision for the target use of these revenues to the State Budget of Ukraine.

6.1.5. Among other obligatory payments for subsoil use (in particular, hydrocarbons) to the state budget we can indicate (i) revenues, received for use of geological information, which belongs to the state, or for its selling and (ii) a price for a package of auction documentation by selling of special permits for subsoil use on the auction. These revenues are credited to the special fund of the State Budget under the code of budget classification 25010100 "Payment for services, provided by budget institutions according to their main activities".

The above mentioned revenues (considered as "own incomes of budget institutions") are used by the State Service of Geology and Mineral Resources of Ukraine (Derzhgeonadra) to cover "expenses for organizing and providing services by budget institutions according to their main activities" with regard to the Regulation of the Cabinet of Ministers of Ukraine of June 25, 2001 No.702 (respective revenues should be credited on the special registration account, opened by Derzhgeonadra at the State Treasury Service of Ukraine).

Hereby the following should be emphasized with regard to the Regulation of the Cabinet of Ministers of Ukraine of June 25, 2001 No.702:

(i) its legitimacy is questionable (in particular, given that legal basis for the Regulation of the Cabinet of Ministers of Ukraine of June 25, 2001 No.702 is the article 34 of the Law of Ukraine "On the State Budget of Ukraine for 2001"; and the Budget Code of Ukraine does not give a right to the Cabinet of Ministers of Ukraine to determine utilization of financial resources from the special fund of the state budget of Ukraine);

(ii) the Regulation is generally in line with paragraph 4 of the article 13 of the State Budget of Ukraine (at least, with regard to concrete definition of eligible costs based on revenues from use of geological information, owned by the state and from their sale);

(iii) the Regulation contradicts the paragraph 4 of the article 45 of the Budget Code of Ukraine, which sets up that all revenues to the state budget should be credited directly to a single treasury account (and does not allow a possibility to credit respective revenues to special registration accounts).

(iv) utilization of revenues from the sale of auction documentation package is being not regulated directly even by this Regulation.

6.1.6. As to the revenues from the hydrocarbon production, the local budgets of the administrative-territorial units where the relevant subsoil area is located may rely (since January 01, 2014) upon a single source of such revenues: 10% of proceeds from the sale of the state share of hydrocarbons under production-sharing agreements on the production of hydrocarbons in the inland area of subsoil.

Theses revenues are credited to the development fund which is a part of the special fund of local budgets.

The development fund is regarded as exclusively special-purpose fund (as specified in the paragraph 2 of Article 71 of the Budget Code of Ukraine) that, in particular, can be spent on social and economic development, as well as the implementation of investment projects and programs.

6.2. Summary of the analysis of the Laws of Ukraine on the State Budget of Ukraine for each of 2010-2015 years in the context of regulation of financial revenues and spending in hydrocarbon production

6.2.1. In the period of 2010-2015, the rent fees for subsoil use for the purpose of oil, natural gas and gas condensate production were constituting the largest share of hydrocarbon production revenues to the State Budget of Ukraine (until January 1, 2013 this fee had been collected in the form of royalties for oil, natural gas and gas condensate and from January 1, 2013 to January 1, 2015 as fees for subsoil use for the purpose of oil, natural gas and gas condensate production).

In the period of 2010-2015, the fees for subsoil use for the purpose of oil, natural gas and gas condensate production (royalties for oil, natural gas and gas condensate) were credited to:

- the General Fund of the State Budget of Ukraine;
- until January 1, 2015 to the State Budget revenues used to fund intergovernmental transfers, and they had to be transferred from the State Budget to local budgets in

the form of equalization grants or subsidies. However, since January 1, 2015, this norm has been cancelled (as well as the definition "State Budget revenues used to fund intergovernmental transfers").

The only exception to the aforementioned general approach took place in 2010, namely the royalties for natural gas paid by SE "Ukrgazvydobuvannya" of national joint-stock company "Naftogaz Ukraine":

- were credited to the Special Fund of the State Budget of Ukraine;
- were treated as special-purpose funds used as subventions from the State Budget to local budgets for providing benefits and housing subsidies for electricity, natural gas, heat and water supply, wastewater sale and housing rent (maintenance of buildings and structures and adjacent areas), sale of household rubbish and liquid sewage.

Laws on the State Budget for 2011-2015 stated the following estimated figures of revenues from charging rent fees for the use of subsoil for the purpose of oil, natural gas and gas condensate production:

	2010	**2011**	**2012**	**2013**	**2014**	**2015**
Fee for subsoil use for oil production (until 01.01.2013 – oil royalty)	4 399 684,1	8 564 800	8 737 879,6	5 479 836,5	5 733 0676 217 757,7	5 904 986,3
Fee for subsoil use for natural gas production (until 01.01.2013 – gas royalty)	1 545 929,9	1 846 200	2 154 048,9	4 391 922,4	10 254 557,5	6 044 70230 766 130,8
Fee for subsoil use for gas condensate production (until 01.01.2013 – gas condensate royalty)	1 295 703,7	2 844 700	3 206 295,1	2 128 391,4	2 263 548,7	2 226 507,5
IN TOTAL	**7 241 317,7**	**13 255 700**	**14 098 223,6**	**12 000 150,3**	**13 952 378,5 18 735 863,9**	**38 897 624,6**
Percentage of estimated total revenues to the State Budget	***2,8398%***	***4,3622%***	***3,7700%***	***3,4172%***	***3,74134,9589%***	***7,7445%***

According to the reports of the State Treasury Service of Ukraine, **the actual execution of the State Budget of Ukraine for 2010-2015 in terms of revenues from hydrocarbon production** is as follows:

thousand UAH

	2010	**2011**	**2012**	**2013**	**2014**	**2015 (6 months)**
Fee for subsoil use for oil production (until 01.01.2013 – oil royalty)	3 553 939,76	8 295 839,29	5 315 785,76	4 802 207,33	5 948 366,3	483 094,8
Fee for subsoil use for natural gas production (until 01.01.2013 – gas royalty)	2 460 655,64	3 080 537,00	3 483 966,94	5 167 244,74	8 655 843,9	8 771 551,2
Fee for subsoil use for gas condensate production (until 01.01.2013 – gas condensate royalty)	1 334 031,89	2 909 159,98	2 136 607,16	1 828 146,92	2 304 609,4	1 185 840,7
IN TOTAL	**7 348 627,29**	**14 285 536,27**	**10 936 359,86**	**11 797 598,99**	**16 908 819,6**	**10 440 486,7**
Percentage of total revenues actually made to the State Budget	***3,0541%***	***4,5406%***	***3,1603%***	***3,4778%***	***4,7352%***	***4,2668%***

On comparison of estimated and actually made state revenues from charging for the use of subsoil for the purpose of oil, natural gas and gas condensate production **for the period 2010-2015, the following trends can be pointed out**:

(a) actually made state revenues from charging for oil production have always been *less* (and in 2010, 2012, 2013 and 2015 *significantly less)* than corresponding estimated figures;

(b) actually made state revenues from charging for gas production have always been *significantly higher* than corresponding estimated figures in 2010-2013 and *less* in 2014-2015;

(c) actually made state revenues from charging for gas condensate production were *higher* than corresponding estimated figures in 2010-2011, 2014-2015 and *less* in 2012-2013;

(d) estimated and actually made percentage of royalty revenues/fee for subsoil use for hydrocarbon production is 3-4,7% of total state revenues (including transfers).

6.2.2. Another source of state revenues from hydrocarbon production in 2010-2015 is the **fee for the issuance of special permits for subsoil use and proceeds from the sale of such permits**.

This fee:

- is credited to the **General Fund of the State Budget of Ukraine**;
- is used to finance the fulfilment of the main functions and tasks of the state (there is no provision for the target use of these revenues).

Figures of revenues from charging for the issuance of special permits for subsoil use and proceeds from the sale of these permits in 2011-2015 are as follows:

thousand UAH

Fee for the issuance of special permits for subsoil use and proceeds from the sale of these permits	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
estimated/planned figures (in accordance with Laws on the State Budget for the relevant year)	260 000	260 000	660 000	260 000	260 000	260 000
Actual figures (in accordance with the data of the State Treasury Service of Ukraine)	319 350,52	348 937,15	661 433,23	304 549,88	509 345,90	97 741,4 (6 months)

Estimated figures of revenues from the "*fee for the issuance of special permits for subsoil use and proceeds from the sale of these permits*" remain unchanged for 2010-2015 at the annual level of 260 million UAH (with the exception of 2012, when the corresponding figures were estimated to be 660 million UAH).

However, over the entire period of 2010-2015 the actual figures of state revenues from the said charging have always been higher (significantly, in most cases) than corresponding estimated figures. However, during the first half of 2015, actual figures of revenues from this fee to the state budget were under the estimated level.

At the same time, there is no information available on whether the estimated and/or actual figures of revenues from the said charging in 2013 included the fee payable under:

- a production-sharing agreement with Shell company of 24.01.2013 in the amount of 4 million USD;
- a production-sharing agreement with Chevron company of 05.11.2013 in the amount of 3 million USD.

Hereby, according to information of the State Service of Geology and Mineral Resources of Ukraine (letter No,86/ПІ12-14 of Sep. 08, 2014), fees to the state budget of Ukraine from issuance of special permits for the subsoil use at Oleska and Yuzivska fields, issued according to Production sharing agreements (with Shell and Chevron) made 56150000 UAH; for geological information on aforementioned fields the state budget of Ukraine received 9988703,24 UAH (there were no indications of the year of these payments).

6.2.3. To determine trends of fiscal load changes on production companies during 2010-2015, it is worth to compare estimated and actual data of revenues to the state budget (as a rent fee for the subsoil use for the purposes of hydrocarbon production) with actual data on volumes of hydrocarbon production (according to data of the State Statistic Service of Ukraine):

Oil production

	2010	**2011**	**2012**	**2013**	**2014**
Production volumes, mln.t	2,6	2,4	2,3	2,2	2,0
Estimated financial indicators for rent fees, thous.UAH	4 399 684,1	8 564 800	8 737 879,6	5 479 836,5	6 217 757,7
Actual financial indicators for rent fees, thous.UAH	3 553 939,76	8 295 839,29	5 315 785,76	4 802 207,33	5 948 366,3

Natural gas production

	2010	**2011**	**2012**	**2013**	**2014**
Production volumes, bcm	20,5	20,7	20,5	21,3	20,1
Estimated financial indicators for rent fees, thous.UAH	1 545 929,9	1 846 200	2 154 048,9	4 391 922,4	10 254 557,5
Actual financial indicators for rent fees, thous.UAH	2 460 655,64	3 080 537,00	3 483 966,94	5 167 244,74	8 655 843,9

Gas condensate production

	2010	**2011**	**2012**	**2013**	**2014**
Production volumes, mln.t	1,0	0,9	1,1	0,9	0,7
Estimated financial indicators for rent fees, thous.UAH	1 295 703,7	2 844 700	3 206 295,1	2 128 391,4	2 263 548,7
Actual financial indicators for rent fees, thous.UAH	1 334 031,89	2 909 159,98	2 136 607,16	1 828 146,92	2 304 609,4

Given the above comparative tables, during 2010-2014:

- by decline of oil production on 23% (from 2,6 to 2,0 mln.t) the fiscal load (as the rent fee) for this hydrocarbon type production has increased: estimated on 41% and actual on 67%;
- by decline on 30% of gas condensate production (from 1 to 0,7 mln.t) the fiscal

load (as the rent fee) for this hydrocarbon type production has increased: estimated on 75% and actual on 73%;

- by decline on 2% of natural gas production (from 20,5 to 20,1 bcm) the fiscal load (as the rent fee) for this hydrocarbon type production has increased: estimated on 563% and actual on 252%.

Therefore, during 2010-2014 the lowest instead of fiscal load has been indicated for oil production and the highest – for natural gas production.

6.2.4. It should be noted that during the first half of 2015, actual level of rent fee payments to the state budget for the use of subsoil for the purposes of oil production stood at 17,3% from estimated indicators (in fact, the state budget received 483 mln. UAH instead of estimated 2,8 billion UAH). This is the lowest indicator for the entire period of 2010-2015.

Certainly, this situation is being explained by significant tax arrears of PJSC "Ukrnafta" (the main oil producer in Ukraine and the main payer of this kind of rent fees), which amounted (including rent fee, VAT and profits tax) according to the State Fiscal Service of Ukraine nearly 9 billion UAH as in August 2015. The State Fiscal Service of Ukraine has informed also about restructuring of the PJSC "Ukrnafta" tax arrears on 5 months with 36% of annual interest.

Hereby, the State Fiscal Service of Ukraine does not provide open information about the structure of tax arrears of the PJSC "Ukrnafta", therefore there is no official state data on the amount of tax arrears of the PJSC "Ukrnafta" with regard to rent fee payments to the state budget from hydrocarbon production.

According to decision of the County Administrative Court of Kyiv, dated July 24, 2015 to the case No. 826/11519/15, identified tax arrears of the PJSC "Ukranafta" from rent fees for the period from August 2014 to January 2015 was 1043780827,17 UAH, including:

- arrears from rent fees for the subsoil use for the purposes of oil production in the amount of 819337186,60 UAH;
- arrears from rent fees for the subsoil use for the purposes of natural gas production in the amount of 220704112,79 UAH;
- arrears from rent fees for the subsoil use for the purposes of gas condensate production in the amount of 3739527,78 UAH.

6.2.5. Since January 1, 2013 the Budget Code of Ukraine foresees crediting to the general fund of the state budget of Ukraine a new type of revenues – "revenues from the use (realization) of the part of produced energy sources, which remains in the state ownership within production sharing agreements" (including revenues from realization of the state's part of hydrocarbons within production sharing agreements).

However, the laws on state budget in 2011-2015 do not foresee any revenues to the state budget – as a separate income headline (with separate classification code of budget incomes) with regard to activities under production sharing agreements (including hydrocarbon production).

6.2.6. The Law of Ukraine "On the State Budget of Ukraine for 2012" has foreseen in the Concluding remarks an order for the Cabinet of Ministers of Ukraine to provide for as an option for the investor to pay a bonus for the signature of a production sharing agreement (hydrocarbons) to the general fund of the state budget of Ukraine.

Although the bonus for the signature of a production sharing agreement does not correspond to the definition "revenues from the use (realization) of the part of produced energy sources, which remains in the state ownership within production sharing agreements", and therefore should be regulated by separate legislative document, the procedure of its crediting to the state budget of Ukraine and further utilization is not determined by Laws on the state budget in 2013-2015. Hereby the production sharing agreement with Shell of January 24, 2013 foresees the payment by the investor of a bonus for the signature in the amount of 25 mln. USD and Tender for the right to sign the production-sharing agreement on the Skifska hydrocarbon field provided for a special payment (signing bonus) in the amount of at least 2.4 billion UAH.

6.2.7. The Budget Code of Ukraine specifies the procedure of crediting *proceeds from the sale of the state share of production (including hydrocarbons) under production-sharing agreements* to the State Budget of Ukraine and their further use.

At the same time, proceeds from the sale of the state share of production are not the only source of revenues that can be obtained by the state as a party of a production-sharing agreement.

The Law of Ukraine "On production-sharing agreements" and production-sharing agreements envisage the following payments by investor and/or transfer of the following assets to the state upon implementation of projects on the production-sharing in Ukraine (in addition to proceeds from the sale of the state share of produced minerals and mandatory taxes paid by investor):

- bonuses and other remuneration paid by investor upon signing and execution of production-sharing agreements in the oil and gas sector;
- revenues from the use (sale) of property produced or acquired by investor to implement a production-sharing agreement in the oil and gas sector, with the title of ownership passed to the State in accordance with the relevant production-sharing agreement;
- payments made by investor or insurer as compensation for damage caused to the environment by the activities of the investor during execution of a production-sharing agreement in the oil and gas sector;
- penalties paid by investor for non-performance or improper performance of its obligations under a production-sharing agreement in the oil and gas sector.

The above potential additional revenues owed to the state (as a party to production-sharing agreements) are an additional source of revenue to the State Budget of Ukraine. The procedure of revenue collection and use (e.g., for purposes of the National Development Fund) shall be subject to further legislative regulation.

6.2.8. In 2011-2015 revenues and spending of the State Budget of Ukraine associated with hydrocarbon production were regulated per standard procedure under the Budget Code of Ukraine.

Although the Budget Code of Ukraine provides for the application of a special approach to the regulation of particular types of revenues to the State Budget of Ukraine (by adding special provisions to the Law of Ukraine on the State Budget of Ukraine for the relevant year), the Laws on the State Budget for 2011-2015 envisaged no specific regulation of hydrocarbon production revenues and spending of the State Budget of Ukraine as compared to the general standards of the Budget Code of Ukraine.

6.3. Summary of the analysis of the Laws of Ukraine, regulating mineral production in the context of regulation of financial revenues, and spending in hydrocarbon production

6.3.1. In accordance with Part 1 of Article 28 of the Subsoil Code of July 27, 1994 №132/94-VR, ***subsoil use is subject to charging***. The charge is collected for the use of subsoil within the territory of Ukraine, its continental shelf and exclusive (maritime) economic zone. The use of subsoil for mineral production (including hydrocarbons) provides the following main compulsory payments to the State Budget and local budgets:

a) rent fee for subsoil use for the purpose of mineral production (Article 28 of the Subsoil Code, Chapter IX of the Tax Code of Ukraine);

b) revenues from the fee for the issuance of special permits for subsoil use for the purpose of mineral production (hereinafter referred to as: «*Special Permit*»):

(i) fee for the issuance of a Special Permit with no tendering process (clause 13 of the Procedure of the issuance of special permits for subsoil use approved by the Decree of the Cabinet of Ministers of Ukraine №615 of 30.05.2011);

(ii) revenues from the sale of special permits by tender (clause 27 of the Procedure of the auctions for the sale of special permits for subsoil use approved by the Decree of the Cabinet of Ministers of Ukraine №594 of 30.05.2011);

c) revenues from the use/sale of the state share of products under production-sharing agreements (Article 21 of the Law of Ukraine «On production-sharing agreements» № 1039-XIV of September 14, 1999, hereinafter referred to as: «*PSA Law*»);

d) revenues from the sale of geological information being the state property (clause 13 of the Procedure for the sale of geological information approved by the Decree of the Cabinet of Ministers of Ukraine №423 of June 13, 1995).

6.3.2. Analysis of legislation regulating mineral production and, in particular, hydrocarbon production, enables us to identify ***the following key features of such regulation of financial revenues and spending in hydrocarbon production***:

6.3.2.1. The rent fee for subsoil use imposed under production-sharing agreements is paid in accordance with the PSA Law. At the same time, the PSA Law does not lay down any specific rules to regulate collection and distribution of revenues from the rent fees for subsoil use, but instead *refers to the provisions of each specific production-sharing agreement* (with due consideration of mandatory standards established by the Tax Code of Ukraine).

6.3.2.2. May a subsoil user have *debt with payment of the rent fee for subsoil use, this can be the reason for suspension or termination* of its Special Permit the for subsoil use (this provision does not apply to production-sharing agreements, unless it is expressly stipulated in the text of the agreement).

6.3.2.3. In October 2012[5], Article 17 of the PSA Law was amended by adding *a new provision that allowed for the agreements on unconventional hydrocarbons (such as shale gas) to lay down rules for subsoil use different from the rules laid down by the legislation of Ukraine*. Thus, production-sharing agreements may envisage special stages, rules and procedures for the use of subsoil and production of unconventional hydrocarbons (such as the rules relating to granting, transfer and termination of subsoil use rights), which may differ from the legislative stages, rules and procedures for production of hydrocarbons that do not relate to unconventional hydrocarbons.

6.3.2.4. Special Permits for subsoil use can be granted to subsoil users upon the following terms:

- by tender or
- without holding a tender (in particular, for execution of production-sharing agreements).

In both cases the proceeds from the sale of Special Permits depend on the starting price for the sale of these permits by tender, which is calculated according to the Methods for calculating the starting price for the sale of a special permit for subsoil use by tender approved by the Decree of the Cabinet of Ministers of Ukraine №1374 of October 15, 2004. The starting price of a Special Permit is calculated as a percentage of the value of reserves and resources of a mineral deposit or a subsoil area, which is calculated by formula for the period of validity of a Special Permit by the Methods for determining the value of reserves and resources of a mineral deposit or a subsoil area provided for use approved by the CMU Decree №1117 of August 25, 2004.

6.3.2.5. Pursuant to Article 21 of the PSA Law, the state share of production *is used (put on sale) by the procedure specified by the Cabinet of Ministers of Ukraine with due consideration of the needs of the territory where the subsoil area provided for use under an agreement is located.*

However, the procedure specified by the CMU in its Decree №741 «On the use of the state-owned share of production under production-sharing agreements» of

[5] That is, before signing the production-sharing agreements with Shell Exploration and Production Ukraine Investments (IV) / "Nadra Yuzivska" Ltd (January 24, 2013) and with Chevron Ukraine / "Nadra Oleska" Ltd (November 05, 2013)

28.04.2000, **comprises only general provisions** (in particular, the provision implying that the state share of production can be sold by a body authorized by the CMU through exchanges/auctions in compliance with the legislative procedure[6]).

6.3.2.6. When entering into production-sharing agreements subsequent to the results of tenders, the tenderers pay the participation fee as well as the cost of tender documentation packages[7]. In addition, in some cases it may be provided for the state to get bonuses for signing production-sharing agreements[8]. However, the legislation of Ukraine which regulates mineral production does not expressly stipulate regulations that would set forth an obligation to transfer these revenues to the State Budget of Ukraine or specify their intended use.

6.3.2.7. Geological information, produced (purchased) on the costs of the state budget, belongs to *state properties* and is used by the State Service of Geology and Mineral Resources of Ukraine. Revenues, resulted from the use of this information and its sale are included into the state budget and directed on services of the Ministry of Ecology and Natural Resources of Ukraine / State Services of Geology and Mineral Resources of Ukraine.

Purchase of geological information on the subsoil area, which will be issued for the use to an economic entity, is one of preconditions for a special permit for the use of subsoil. If one denies to pay for geological information, it might be a legal condition for cancelling decision to grant special permits for the use of the subsoil.

6.3.3. On June 16, 2015 with the aim to increase transparency of extractive industries, introduction of international reporting standards, improvement of natural resources management and implementation of the Extractive Industries Transparency Initiative in Ukraine, the Law of Ukraine "On amendments to certain legislative acts of Ukraine to enhance transparency of extractive industries" No.521-VIII has been enacted. Provisions of this Law have fixed legally the obligation of the Cabinet of Ministers of Ukraine, institutions, responsible for geological survey, use and protection of the subsoil and subsoil users to publish information about received/paid taxes, fees and other payments from production industries.

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6 As of the date of this analysis, the legislation of Ukraine failed to provide for any special procedure for the sale through exchanges/auctions of the state-owned share of production under production-sharing agreements. On 03.10.2011 the Decree of the Cabinet of Ministers of Ukraine №1064 approved the Procedure for Organization and Holding of exchange auctions to sell crude oil, domestically produced gas condensate and LPG» that establishes the mechanism for organizing and holding the exchange auctions to sell the aforementioned hydrocarbons (except for natural gas and unconventional hydrocarbons) and applies to legal persons with the state's share in the authorized capital at the rate of 50 and more percent.

7 The Decrees of the Cabinet of Ministers of Ukraine №1297 and №1298 of November 30 2011 and №455 of May 23, 2012 that approve the terms of tenders for signing agreements on the sharing of hydrocarbons to be produced in Oleska, Yuzivska and Skifska fields.

8 The draft production-sharing agreement for Yuzivska field included a provision stating that the State shall be entitled to the signing bonus in the amount of 25 million USD or its equivalent in the national currency (clause 2.6.1 of the draft agreement). In the case of Skifska field, it was expressly stipulated in the tender terms that the main criterion for evaluating the bids was the investment attractiveness, above all the amount of the special payment to be made by investor to the State Budget in monetary form after signing (bonus for signing a production-sharing agreement allocated to the General Fund of the State Budget), which should make at least 2.4 billion UAH (paragraphs 8 and 13 of the Tender Terms approved by the Decree of the Cabinet of Ministers of Ukraine №455 of May 23, 2012).

6.4. Summary of the analysis of the legislation of Ukraine in the context of the producer companies' liabilities to the State Budget and local budgets

6.4.1. Fees payable to the budget by the companies engaged in hydrocarbon production fall into the following groups:

a) *tax payments* (including corporate income tax, value added tax, fees for subsoil use);

b) *non-tax payments*:

- *state revenues from business activities* - proceeds from the use (sale) of the state-owned share of production under production-sharing agreements, and/or funds in the form of monetary equivalent of such a state-owned share of production;
- *administrative fees* – that is the fee for the issuance of special permits for subsoil use and proceeds from the sale of these permits.
- *own incomes of budget institutions* (payments for services, which are offered by budget institutions) – revenues, which are received for the use of geological information, owned by the state, for its sale, as well as revenues from the sale of the auction documentation package (given the sale on the auction of a special permit for the use of the subsoil).

These payments (budget revenues) are credited directly to the single treasury account, they cannot be accumulated in the accounts of bodies that control the collection of budget revenues and are recognized as credited to the State Budget from the date of arrival in the single treasury account.

Local taxes and charges do not include those directly attributable to the hydrocarbon production activities and payable by the companies in question.

6.4.2. The legislation of Ukraine provides for control over the collection of taxes, fees and other mandatory payments to be made by the companies that are engaged in hydrocarbon production, and specifies the authorities responsible for exercising such control (this issue is regulated by the Budget Code of Ukraine and the Decree of the Cabinet of Ministers of Ukraine №106 of February 16, 2011).

The control over the collection of taxes in hydrocarbon production is exercised by:

- *State Tax Service* – is in charge of corporate income tax, value added tax and royalties (for oil, natural gas and gas condensate) accrued by January 1, 2013;
- *Ministry of Ecology and Natural Resources of Ukraine* – is in charge of fees for the issuance of special permits for subsoil use and proceeds from the sale of these permits.
- State financial inspection of Ukraine has authorities to conduct revisions and checks, whether the State Service of Geology and Mineral Resources of Ukraine follows budget legislation by administering (i) revenues from the use of geological information, owned by the state and its sale as well as (ii) revenues from the sale of the auction documentation package (given the sale on the auction of a special permit for the use of the subsoil), including control over the use for a specified purpose of those revenues.

However, the legislation of Ukraine (effective gas of September 2015) does not specify clearly (directly) the bodies which monitor the collection (levying) of a number of budget revenues (including tax revenues): the rent fee for subsoil use for the purpose of oil, natural gas and gas condensate production (which replaced the relevant royalty payment), as well as proceeds from the use (sale) of the state-owned share of production under production-sharing agreements (budget classification codes 13030700, 13030800, 13030900 and 21090000).

In September 2014, the State Fiscal Service of Ukraine and the Ministry of Finance of Ukraine have conformed, that control over collection of revenues to the state and local budgets according to budget classification codes 13030700, 13030800, 13030900 and 21090000 has been not fixed to controlling bodies. Although they have informed about preparation of amendments to the Decree of the Cabinet of Ministers of Ukraine No. 106 of 16 February 2011 (to clarify this uncertainty), as of September 2015, there were no amendments to the mentioned Regulation.

6.4.3. According to the analysis of the current legislation of Ukraine, there are three types of producer companies' liability for improper (untimely and/or incomplete) payments to the budget:

a) *liability for tax offences* – for improper effecting of tax payments to the budget (corporate income tax, value added tax, rent fees for subsoil use);

b) *liability for improper payment of administrative fees* (the fee for the issuance of special permits for subsoil use) and *payments for services, provided by budget institutions* (for the use and purchase of geological information, owned by the state, as well as for the purchase of the auction documentation package for the special permit on subsoil use);

c) *civil liability* - for improper payment of state revenues from business activities (under production-sharing agreements).

6.4.4. Liability for tax offences, in other words for improper effecting of corporate income tax, value added tax, and rent fees for subsoil use, can be as follows:

a) *financial*: it is specified by the Tax Code of Ukraine and is applied as punitive (pecuniary) sanctions (penalties) and/or default interest;

b) *administrative*: it arises in cases expressly provided for by the Code of Ukraine on Administrative Offences (hereinafter referred to as: the "Administrative Code"), in particular by Articles 163-1, 163-2, 164-2.

c) *criminal*: it is specified by the Criminal Code of Ukraine, especially its Article 212 on "Tax and duties evasion (mandatory payments)." Pursuant to this article, the liability arises not in case of the failure to effect payments within the prescribed period for tax payments, but in case of wilful tax evasion, if the person intends not to fulfil (fully or partially) his or her tax obligations.

Unlike financial liability, administrative and criminal liability is not imposed on legal persons (producer companies) as business entities, but on individuals such as officers of these entities.

Ukraine's legislation (paragraphs 22-23 of the Regulation on issuing special permits for subsoil use, approved by the Decree of the Cabinet of Ministers of Ukraine No. 615 of June 30, 2011) also provides for an additional *special kind of liability for improper payment of rent fees for subsoil use*, in other words, the debt with payments for subsoil use may be the reason for suspension and termination (in case of failure to repay the debt) of the special permit for subsoil use (by the claim of the State Tax Service agencies). In this case, however, the above special kind of liability (suspension or termination of the special permit) does not apply to subsoil users that operate under a production-sharing agreement.

Moreover, despite the fact that since January 1, 2015 "fees for subsoil use" has been transformed into "rent fees", respective changes were not made – at least as of September 2015 – to the respective Regulation on issuing special permits for subsoil use, where the definition "fees for subsoil use" is being used. This terminological discrepancy (nonconcurrence) could be used as a formal legal condition for refusing liability within the Regulation, which foresees additional special type of liability (interruption or suspension of validity of a special permit for subsoil use) for improper payment to the state budget of rent fees for subsoil use.

6.4.5. Fees for issuing special permits for subsoil use; revenues from the use of geological information, owned by the state and from its sale as well as revenues from the sale of auction documentation package (given the sale on the auction of a special permit for the use of the subsoil) does not fall into the category of "national or local taxes and duties", for this reason its improper payment entails no financial, administrative or criminal liability.

Improper payment of fees for issuing special permits for subsoil use and revenues for the use of geological information, owned by the state (for the period of issuance of a respective special permit) entails a *special kind of liability* laid down by the Decrees of the Cabinet of Ministers of Ukraine № 594 of 30.05.2011 and №615 of 30.05.2011. When the said special liability arises, a producer company (subsoil user) becomes non-eligible for being granted a special permit for subsoil use.

6.4.6. Proceeds from the use (sale) of the state-owned share of production under production-sharing agreements do not fall into the category of "national or local taxes and duties", for this reason their improper payment entails no financial, administrative or criminal liability (although there are grounds to recognize the state-owned share of production as a *quasi-tax*), but *civil* (contractual) liability in the form that is envisaged by the production-sharing agreement itself.

In other words, civil liability of an investor for the improper transfer of proceeds from the use (sale) of the state-owned share of production is to be agreed between the state and an investor when entering into a production-sharing agreement. Such investor's liability may arise in the form of pecuniary sanctions or engender the right of the State to terminate the production-sharing agreement prematurely (under the provisions of this agreement).

According to its legal nature, a production-sharing agreement cannot entail administrative or criminal liability.

The Law of Ukraine "On production-sharing agreements" does not envisage any peculiarities/special provisions on the investor's liability for the improper payment of proceeds from the use (sale) of the state-owned share of production and refers to the PSA itself.

6.5. Summary of the analysis of draft production-sharing agreements in the context of producer companies' liability to the State Budget and local budgets

6.5.1. The analysis is based on the draft production-sharing agreement with Shell Exploration and Production Ukraine Investments (IV)/"Nadra Yuzivska" Ltd. of January 2013[9] (hereinafter referred to as: draft PSA with Shell) and draft production-sharing agreement with Chevron Ukraine/ "Nadra Oles'ka" of August 29, 2013[10] (hereinafter referred to as: draft PSA with Chevron). Analysis of the provisions of production-sharing agreements in the context of the producer companies' liability to the State Budget and local budgets is essential, since pursuant to part 4 of Article 17 of the Law of Ukraine "On production sharing agreements», ***the agreements on unconventional hydrocarbons (such as shale gas) are allowed to set rules for subsoil use other than the rules laid down by the legislation of Ukraine.***

6.5.2. Analysis of publicly available texts of the draft PSA with Shell and draft PSA with Chevron made it possible to identify ***the following key features of producer companies' liability for payments to be made in the framework of execution of these agreements:***

6.5.2.1. In accordance with the provisions of the draft PSAs with Shell and Chevron, producer companies are liable for non-fulfilment or improper fulfilment of their obligations under the laws of Ukraine and production-sharing agreements. However, the texts of the draft PSAs *do not imply special liability of producer companies for making payments to the State Budget and local budgets* (with exception of special cases provided for in the draft PSA with Shell as to the right of the State to unilaterally suspend and terminate the agreement).

6.5.2.2. In case when a production-sharing agreement does not provide for any liability for the breach of obligations by a producer company, *the latter shall incur no contractual liability but the liability envisaged for this type of offence by the legislation of Ukraine* (e.g., financial/administrative/criminal for the tax payment default).

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[9] The exact date of the project is unknown. The deputy of Kharkiv Regional Council Ivan Varchenko on his private web field published the text of the draft agreement, which is no longer available.

[10] The text of this draft agreement was approved at the meeting of the Interagency Commission for the conclusion and performance of production-sharing agreements on August 29, 2013 and published on the web field of Ivano-Frankivsk Regional Council (http://www.orada.if.ua/fileadmin/documents/Ugoda_Shevron_new. pdf).

6.5.2.3. Provisions of the draft PSAs with Shell and Chevron do not specify whether a particular payment that is made by producer companies under the PSA is credited to the State Budget and/or local budgets. Only in some cases the transfer of funds to the bank account of the State is expressly stipulated.

6.5.2.4. *A part of payments* made by producer companies under production-sharing agreements *is in the form of compensation (the fee for the issuance of special permits, the fee for the information on the contractual site, a part of bonuses payable).* The amounts of payments made by producer companies shall be reimbursed to them at the expense of produced compensatory hydrocarbons. Practically, due to the compensatory nature of such payments, they can be deemed not an additional state revenue that they would otherwise have to be, but an advance payment for hydrocarbons to be produced.

It is noteworthy that the provision on the investor's costs that shall be reimbursed out of compensatory production is recognized as the fundamental terms of production-sharing agreements that are laid down in Article 8 of the Law of Ukraine "On production-sharing Agreements". However, the provisions of the said Law *do not expressly stipulate which costs can and which cannot be reimbursed to investors out of compensatory products, leaving this important matter to the discretion of the parties to the agreement.*

6.5.2.5. Some provisions of the draft PSAs with Shell and Chevron illustrate the practical application of the new principle of the PSA Law, namely that the agreements on unconventional hydrocarbons are allowed to set rules for the use of the subsoil other than the rules laid down by the legislation of Ukraine (in particular, special permits for Oles'ka and Yuzivska fields shall not be suspended or terminated in case producer companies fail to make payment for the use of subsoil, extension of these special permits is free of charge, etc.).

6.5.2.6. Draft PSAs with Shell and Chevron envisage the obligation of investors to spend annually a certain amount on the so-called "social investment". At the same time, the *effective legislation of Ukraine does not provide for a specific legal mechanism under which producer companies have to make such social investments, leaving this matter to the discretion of the immediate parties to a PSA*. Therefore, draft PSAs with Shell and Chevron establish their own mechanisms of making social investments.

6.6. General recommendations on amendments and supplements to national legislation based on the analysis of the budget legislation of Ukraine and laws of Ukraine on mineral production ***(in the context of the regulation of financial revenues and spending in hydrocarbon production), as well as of the legislation of Ukraine and available texts of production-sharing agreements (on shale gas production) in the context of producer companies' liability for improper effecting of payments to the budget***

6.6.1. Recommendations on giving more consideration to regional interests when distributing budget revenue from hydrocarbon production (introduction of the "regional component" in the distribution of the said budget revenues):

6.6.1.1 To amend the Budget Code of Ukraine in order to provide for due consideration of the regional interests (to introduce the "regional component") while distributing revenues from hydrocarbon production, in particular:

a) to envisage the allocation of a part of budget revenue from hydrocarbon production to local budgets (including the budgets of local self-government). In the first stage, the part of budget revenue (in the form of rent fees for subsoil use for the purpose of oil, natural gas and gas condensate production) which shall be allocated to local budgets, should be determined by analogy with the approach to the distribution of proceeds from the sale of the state share of production between the state and local budgets under production-sharing agreements, namely:

- 10% of the said revenues shall be credited directly to local budgets (of which: 5% go to the regional budget, 3,5% - to the district budget; 1,5% - to the village, town or city budget);

b) to envisage allocation of the above revenues (10% of rent fees for subsoil use for the purpose of oil, natural gas and gas condensate production) to the development fund, which is a part of the special fund of local budgets. To provide also for the special-purpose use of the said revenues to the development fund: for instance, to provide for the proceeds from the hydrocarbons production to be spent solely on projects and programs on environmental protection in the regions concerned and/or socio-economic development of the regions;

c) to establish mechanisms of public control over the use of revenues from the hydrocarbon production which shall be credited to the development fund of local budgets.

6.6.1.2. To amend the Budget Code of Ukraine and the Order of the Ministry of Finance of Ukraine №11 of January 14, 2011 «On Budget Classification» to the effect that revenues from hydrocarbon production intended for local budgets should be credited directly to local budgets. At the same time, in order to avoid confusion and mistakes on the part of investors when making direct payments to local budgets, it is proposed that the agreed text of each specific PSA should include the scheme for distribution of revenues from hydrocarbon production that shall be allocated to the local budgets concerned.

It would be reasonable to implement the above recommendations in the context and as an element of a more comprehensive reform of local self-government and budget reform in Ukraine.

6.6.2. Recommendations on providing special-purpose and intended use of budget revenues from hydrocarbon production:

6.6.2.1. To amend the Budget Code of Ukraine in order to provide target-oriented distribution of budget revenues from the hydrocarbon production, in particular:

a) to envisage allocation of a part (e.g. 50%) of the budget revenues from hydrocarbon production (chiefly in the form of rent fees for subsoil use for the purpose of oil, natural gas and gas condensate production) *to the Special Fund of the State Budget*;

b) to provide for the special-purpose use of the said revenues to the Special Fund of the State Budget, with due consideration of both the humanitarian and sectorial interests. For example, the relevant funds of the Special Fund of the State Budget might be spent on:

- energy-saving activities
- healthcare and environmental protection activities, implementation of regional development strategies (the so-called «*humanitarian dimension*»);
- activities aimed to develop the mineral resource base/oil and gas deposits (the so-called «*sectorial dimension*»).

6.6.2.2 As an alternative or transitional option, it is recommended to amend the Budget Code of Ukraine in order that the amount of basic donations and subsidies for a specific region/local budget was calculated on the basis of certain parameters associated with hydrocarbons produced in this region (e.g., the amount of hydrocarbons produced, the amount of generated budget revenues from hydrocarbon production in the region, the amount of funds required for the implementation of environmental protection programs).

It would be reasonable to implement the above recommendations in the context and as an element of a more comprehensive reform of local self-government and budget reform in Ukraine.

6.6.3. Recommendations on improving the mechanism of *state* control over the payments to the budget made by business entities engaged in hydrocarbon production:

6.6.3.1. It is recommended to amend the Decree of the Cabinet of Ministers of Ukraine №106 of February 16, 2011 "Some issues of accounting taxes and duties (mandatory payments) and other budget revenues" with the purpose to specify the bodies responsible for monitoring the collection of budget revenues:

a) rent fee for subsoil use for the purpose of oil, natural gas and gas condensate production;

b) proceeds from the use (sale) of the state share of production under production-sharing agreements.

6.6.3.2. Since the rent fee for subsoil use for the purpose of oil, natural gas and gas condensate production falls into the category of national taxes (paragraph 9.1.9 of Article 9 of the Tax Code of Ukraine), it is advisable that the collection (levying) of the specified fee should be controlled by tax authorities of Ukraine.

6.6.3.3. Control over collection of proceeds from the use (sale) of the state share of production under the production-sharing agreements should be entrusted to the central executive body authorized by the Cabinet of Ministers of Ukraine to exercise state control over the execution of production-sharing agreements in accordance with Article 28 of the Law of Ukraine "On production-sharing agreements".

6.6.4. Recommendations on improving the mechanism of social control over the payments to the budget made by business entities engaged in hydrocarbon production:

6.6.4.1. It is recommended that the Budget Code of Ukraine and/or the Decree of the Cabinet of Ministers of Ukraine №106 of February 16, 2011 should include the provision on the monthly and quarterly reports to be prepared by public authorities that control the collection of budget revenues from hydrocarbon production. These reports shall be published contemporaneously with their submission to the Verkhovna Rada of Ukraine, President of Ukraine, the Cabinet of Ministers of Ukraine, the Accounting Chamber, and obligatorily provided with the following information (on sectorial and regional basis and in terms of sources of revenue and ownership, with no reference to individual companies):

- actual revenues in the form of taxes and duties (mandatory payments) and other budget revenues from the companies engaged in hydrocarbon production;
- tax debt of the companies engaged in hydrocarbon production;
- the amount of overpayments made by companies engaged in hydrocarbon production, and the amount of effected payments that will be credited in subsequent reporting periods;
- the amount of the cancelled tax debt of companies engaged in hydrocarbon production;
- the amounts of instalment and deferred tax debt and financial liabilities of the companies engaged in hydrocarbon production;
- the amount of tax benefits granted to companies engaged in hydrocarbon production, including the losses of budget revenues resulting from granting of the said benefits.

6.6.4.2. It is recommended that the Law of Ukraine "On production-sharing agreements" should include provisions on the duty of investor to publish regular (e.g., quarterly) information on the volumes of hydrocarbons produced and the amount of payments made to the State Budget and local budgets as associated with activities under production-sharing agreements.

6.6.4.3. It is recommended that the Decree of the Cabinet of Ministers of Ukraine №615 of 30.05.2011 "On approval of procedure for the issuance of special permits for subsoil use" should include the following provision: in order to enter into an agreement on the use of hydrocarbon-bearing subsoil and obtain a permit for subsoil use for the purpose of oil, natural gas and gas condensate production, subsoil user must fulfil the obligation to:

- publish regular (e.g., quarterly) information on the volumes of hydrocarbons produced and the amount of payments made to the State Budget and local budgets as associated with the use of hydrocarbon-bearing subsoil.

6.6.4.4. It is recommended that the Law of Ukraine "On production-sharing agreements" should include the provision stating that the official text of a signed production-sharing agreement does not constitute a state secret, nor it relates to restricted information (i.e. confidential, secret or proprietary information), and access to these texts is provided in accordance with the laws of Ukraine on access to public information.

Application of the above recommendations will contribute to proper implementation of *the Extractive Industries Transparency Initiative in Ukraine* (Decree of the Cabinet of Ministers of Ukraine № 1098 of September 30, 2009) and practical realization of the Law of Ukraine "On amendments to some legislative acts of Ukraine to ensure transparency in extractive industries" No. 521-VIII of June 16, 2015.

6.6.5. Recommendations on improving the mechanism of administration of certain types of revenues from hydrocarbon production:

6.6.5.1. It is advisable that the Budget Code:

a) provides for direct allocation of proceeds from the use/sale of state-owned geological information to the Special Fund of the State Budget, as well as specifies the targets for their use

b) stipulates the individual character of the charge for administrative services associated with mining activities (which would include the fee for participation in tenders for the right to sign a PSA, the proceeds from the sale of tender documentation packages, the proceeds from the sale of auction documentation packages on special permits for subsoil use, etc.) and allocation of such a charge to the Special Fund of the State Budget with specification of its targets,

c) specifies that the fee for the issuance of special permits for subsoil use and proceeds from the sale of these permits includes, inter alia, the fee for the extension of special permits for subsoil use.

6.6.6. Recommendations on improving the mechanism of investor's liability for improper effecting of payments to the budget under production-sharing agreements:

6.6.6.1. It is recommended that the Law of Ukraine "On Production-Sharing Agreements" should envisage certain parameters (*minimum standards*) of investor's liability for the payment of monetary equivalent of the state-owned share of profit production (proceeds from the use (sale) of the state share of production) and the rent fee for subsoil use, with the possibility to regard these payments as *"quasi-taxes"* and improper effecting of these payments as a *"quasi-tax offence"*. As one of the options, it is proposed that the said law of Ukraine *should envisage minimum financial liability of investor* (which cannot be reduced, but can be extended in a production-sharing agreement by consent of both parties) for the failure to accrue and/or non-payment (failure to deliver) of the funds:

- **a penalty** of 25 percent of the amount of the funds to be filed and/or payable to the budget; the second offence, if committed within five years, entails the liability in the form of a penalty of 50 percent of the amount in question; the third and every subsequent offence, if committed within five years, entails the liability in the form of a penalty of 75 percent of the amount in question;
- **default interest** on a 120 annual interest basis at the discount rate of the National Bank of Ukraine, which is calculated for the period of delay in fulfilling investor's obligation to pay budget revenues from the sale of the state-owned share of production.

In addition, it is recommended that the Law of Ukraine «On production-sharing agreements" and the Decree of the Cabinet of Ministers of Ukraine №615 of 30.05.2011 "On approval of procedure for the issuance of special permits for subsoil use" should include the following provision *as an alternative or additional liability:* shall the investor fail to accrue and/or pay (deliver) the proceeds from the sale of the state-owned share of production and/or the fee for subsoil use under production-sharing agreements, including the agreements on unconventional hydrocarbons, this may be grounds for suspension and/or termination of special permits for subsoil use.

Provided that the above minimum standards of investor's liability are approved, they will apply to the production-sharing agreements to be signed *after* the corresponding amendments to the Law of Ukraine «On production-sharing agreements" had entered into force.

6.6.6.2. It is also recommended to introduce clarity into Article 28 of the Law of Ukraine «On production-sharing agreements" by adding the following updates:

a) comprehensive quinquennial audit of production-sharing agreements execution shall obligatorily focus on, inter alia, the issue of timeliness and completeness of payment to the budget of (*i*) the rent fee for subsoil use and (*ii*) proceeds from the sale of the state-owned share of production;

b) systematic (three or more times within the five-year period) violation by investor of the obligation to effect timely and complete rent fee payment for subsoil use and deliver proceeds from the sale of the state-owned share of production, if proved by an independent auditor, *shall constitute a fundamental breach* of a production-sharing agreement;

c) The Cabinet of Ministers of Ukraine is entitled to file a lawsuit in a court (or other dispute resolution body under the agreement) seeking early termination of the agreement in the event of fundamental breach by investor of a production-sharing agreement, *including the agreements on unconventional hydrocarbons.*

6.6.7. Recommendations on ensuring proper distribution of budget revenues from the execution of production-sharing agreements on mineral resources of local importance:

It is recommended to amend paragraph 55 of Part 2 of Article 29 and paragraph 1 of Article 71 of the Budget Code of Ukraine with the effect to clarify that:

- the above legal provisions focus on production-sharing agreements on mineral resources of national importance;
- the above legal provisions shall not apply to the production-sharing agreements on mineral resources of local importance.

6.6.8. Recommendation on ensuring a more rational use of state revenues from hydrocarbon production:

6.6.8.1. It is advisable that the Budget Code of Ukraine regulates the procedure for collection and use of additional payments made by investors under PSAs (bonuses and other remuneration to the state) that do not fall into the category «*proceeds from the sale of the state share of hydrocarbons under production-sharing agreements* ». In particular, it is recommended to provide for crediting these proceeds to the Special Fund of the State Budget and to identify target areas for the use of these revenues.

6.6.8.2. (i) *Additional* payments and/or assets vested in the State in the framework of PSA execution in Ukraine, as well as **(ii)** budget revenues from hydrocarbon production exceeding the respective estimated/planned figures, can be deemed potential sources of revenue to the National Development Fund, with its project and concept being currently underway. This would provide the possibility for strategic management of at least a portion of funds received from activities in the oil and gas sector with a view to their accumulation, preservation and augmentation and further orientation on the implementation of important projects (promotion of the innovative potential of the Ukrainian economy; enhancement of intergenerational solidarity by supporting the pension system; promotion of life and health protection).

6.6.9. Recommendations on legislative regulation of specific issues that arise in the framework of execution of production-sharing agreements (social investments and the use of the state share of production):

6.6.9.1. It is recommended *to expand the list of fundamental PSA terms* stipulated in Article 8 of the Law of Ukraine "On production-sharing agreements", with an additional term on the obligation of investor to allocate annually a certain, as agreed by parties, amount of funds for socio-economic development of local communities in the contractual area of mineral production.

Therewith, with the aim to ensure both state and social control over the fulfilment by investors of this obligation, the said Law should provide for the establishment of a special advisory committee on social investment, which should be appointed by the State for each individual production-sharing agreement and include representatives of the State, investors, local governments of the respective local communities, general public etc. This committee shall consider, select and approve projects of socio-economic development of local communities in the contractual area to be financed by investors as part of their obligation to provide social investment. Given the importance and sensitivity of the issue of social investment, *it would be recommended to develop a separate provision on the establishment and functioning of advisory committees*.

6.6.9.2. It is recommended that the Law of Ukraine "On production-sharing agreements" should stipulate the list of the investor's costs incurred as a result of signing a production-sharing agreement and during its execution, *that cannot be attributed to the costs that are subject to reimbursement at the expense of produced compensatory hydrocarbons*. Such a list of costs should include, in particular, **(i)** the fee for the issuance of special permits for subsoil use, **(ii)** the fee for the data on the contractual area, **(iii)** the funds spent on financing social and economic development of local communities in the region of contractual area, etc.

6.6.9.3. It is recommended to make amendments to:

(i) the Decree of the Cabinet of Ministers of Ukraine №741 of 28 April 2000 "On the use of the state-owned share of production under production-sharing agreements" by laying down more substantive and detailed rules for the use of the state share of production, including special rules for the sale of the state-owned share of profit production through exchanges/auctions;

or

(ii) the Decree of the Cabinet of Ministers of Ukraine №1064 of 03.10.2011 "On approval of the procedure for organization and holding of exchange auctions to sell crude oil, domestically produced gas condensate and LPG», by covering also the sale of the state-owned share of production under production-sharing agreements (including agreements on natural gas and unconventional hydrocarbons).

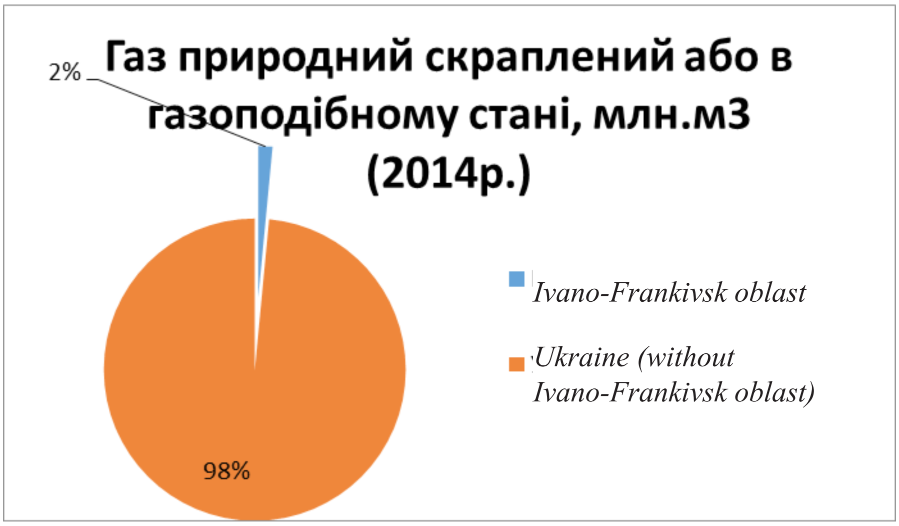
VII. RESEARCH FINDINGS ON THE STATE OF OIL AND GAS SECTOR IN PRODUCTION REGIONS

7.1. Perspective ways of changing the regional hydrocarbon sector in Ivano-Frankivsk oblast (NGO BRIT)

7.1.1. Fuel and energy complex of the region

Fuel and energy complex (FEC) of the region includes 14 leading companies that provide production, transportation and processing of oil and gas, electric power generation and distribution.

In Ivano-Frankivsk oblast, production of almost 3.4% of electricity, 10.9% of oil and 2.3% of gas is locally provided [1-2]. Quantities of hydrocarbons does not include temporarily occupied territory of the Republic of Crimea



Natural gas in liquid form or in gaseous state, million cubic meters (2014)

The highest level of electricity production was in the year 2013 - 10.1 billion kWh, the lowest - in 2010 (billion kWh). The highest level of oil production was in 2006 (495.3 thousand tons) and of gas production in 2003 (580.4 million m3). Electricity in the region is produced by Burshtyn TPP, a subsidiary of the DTEK Zakhidenergo PJSC, and Kaluska CHP, a subsidiary of the SFTC Ukrinterenergo. Since July 1, 2002 generation powers of Burshtyn TPP and Kaluska CHP are parts of «Burshtyn TPP Island», which largely determines the possibility of Ukraine to export electricity to the countries of Eastern and Central Europe. Burshtyn TPP has 12 units with a total installed capacity of 2,300 MW.

Regional power supply companies PJSC Prykarpattyaoblenergo, JSC Ivano-Frankivskgas and PJSC Tysmenytsyagaz are providing uninterrupted electric power and gas supply to all categories of consumers in the region, and maintaining its electricity networks and gas transportation system in the proper state.

The region counts 340 deposits (including 53 registered objects of complex deposits) with 25 kinds of various minerals, 161 of which (including 42 registered objects) are being developed.

The raw material base of the region consists of fuel and energy resources (gas, oil, condensates, peat) - 34,6%, raw material for construction supplies production - 47,8%, fossil ground waters - 12,3%, mining and chemical minerals - 4,4% (rock, potassium and magnesium salt, carbonate raw material for acid soils liming, carbonate raw material for sugar refining industry, sulfur), mining materials – 0,88%.

Within the region, there are known 42 hydrocarbon deposits, 31 of which are industrial.

The oil and gas production is concentrated in Dolyna and Nadvirna oil industry areas. The major part of production is covered by oil and gas producing companies "Dolyna Naftogas" and "Nadvirna Naftogas", which are the structural units of the Ukrnafta PJSC. Major oil deposits included into the State balance of mineral Reserves are Dolyna, North-Dolyna, and Strutyn and Bytkiv-Babchenske oil fields.

Within the structure of fuel and energy resources consumption, fuel covers over 80.0%. In the structure of consumption occupy a significant share of natural gas, coal and diesel. Dynamics of these fuels consumption in the 2003-2012 reflects the changes that have occurred both in industrial manufacturing processes and in their operation as a whole (Figure 1).

Within the structure of fuel and energy resources usage more than 80.0% accounts for the fuel. The natural gas, coal and diesel fuel have a significant share in the structure of fuel consumption. The dynamics of these fuels consumption in the 2003-2012 reflects the changes that have occurred in the technological processes of industrial enterprises, well as in their operation in general. (Figure 1.)

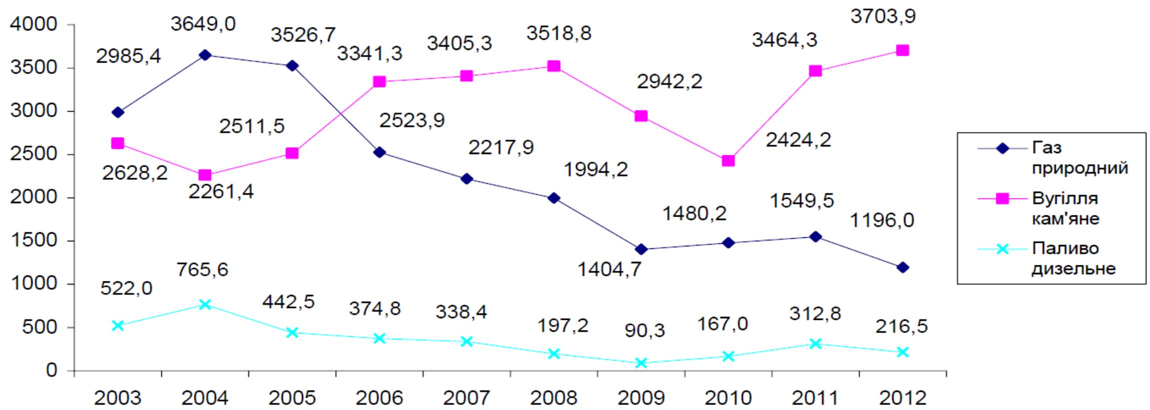


Figure 1. The use of certain types of energy materials and products processing oil

In particular, the reduction of natural gas usage, which has started since 2005, is due to its replacement with alternative solid fuels, as well as certain reduction of production. The dynamics of diesel fuel consumption has been significantly influenced by changes in production processes of Karpatnaftokhim LLC.

Industrial enterprises are the main consumers of electric energy in the region. The largest amounts of its consumption occurred in 2005 - 1355.1 million kWh, the minimum consumption was in 2009 - 618.4 million kWh. The considerable growth of electric energy consumption by transport and communications enterprises (from 62.2 million kWh in 2009 to 320.9 million kWh in 2010) has happened primarily due to changes in the technologies of equipment exploitation within the production processes of the PJSC Ukrtransgas regional affiliate GTPA Prykarpattransgas.

Energy efficiency and alternative energy

Conservation of fuel and energy resources due to the implementation of energy efficiency measures in industry has increased by 67.8 thousand tons of coal equivalent (47.0 percent) owing to the launch the membrane technology of caustic soda production at Karpatnaftokhim LLC in the fourth quarter of 2010.

Electricity generation from renewables increased by 12.5 million kWh in 2013 compared to 2005, which amounts 35.0 percent. It was achieved due to the construction of new hydroelectric generating stations, cogeneration plant, solar electric generating station and biogas plant in the region.

Currently there are following renewable energy facilities functioning in the region:

• 4 cogeneration plants (2004, total capacity - 3.76 MW);
• 4 hydropower plants: Snyatynska (2004, 800 kW), Probiynivska-1 (2009, 1200 kW) Zolotolypska (2010, 320 kW), Probiynivska-2 (2013, 184 kW);
• solar power plant in the village Stari Bogorodchany, Bogorodchany district (2013, 2.5 MW);
• biogas plant Danosha in the village Kopanky, Kalush district (2013, 1.0 MW);
• 120 boiler houses of social facilities are transferred to solid biofuels.

7.1.2. Regional sector of hydrocarbons extraction

Regional sector of hydrocarbons extraction (RSHE) operates as a part of the fuel and energy complex (FEC) of Ivano-Frankivsk oblast.

The “Development Strategy for the period 2020” approved by decision of the XXXI session of the Ivano-Frankivsk Regional Council of 10.17.2014, № 1401-32 / 2014, stated that “...within the region, there are known 42 hydrocarbon deposits, 31 of which are industrial. The oil and gas production is concentrated in Dolyna and Nadvirna oil industry areas. The major part of production is covered by oil and gas producing companies “Dolyna Naftogas” and “Nadvirna Naftogas”, which are the structural units of the Ukrnafta PJSC. Major oil deposits included into the State balance of mineral Reserves are Dolyna, North-Dolyna, Strutyn and Bytkiv-Babchenske oil fields.” [3].

Extracting oil, gas, gas condensate and oil condensate, RSHE covers ≈ 11% oil and ≈ 2.3% of natural gas extraction in Ukraine.

The major producer of oil in Ukraine is the PJSC Ukrnafta (50% +1 share belongs to the state-owned National Joint-Stock Company Naftogaz of Ukraine), whose share is about 90% of total production. Besides, JSC Ukrnafta owns six regional production subsidiaries, including one in our region - Oil and Gas Extraction Management Boards Dolynanaftogas and Nadvirnanaftogaz. However, the overall potential oil industry of Ivano-Frankovsk oblast is formed also such companies as Ukrnaftogazinvest LLC, Ukrainian-Canadian DELTA Petrol and Gas Company in Kolomyia, Nadvirna subsidiary of the Ukrainian-American joint enterprise LLC "Ukrkarpatoil LTD ", OJSC Dolyna gas processing plant, JSC Ivano-Frankivskgas, Prykarpattia Management Office for Drilling, Scientific-Research and Design Institute JSC Ukrnafta, and several dozens of private SMEs of satellite nature.

Altogether the enterprises of the oil, gas and petrochemical industry of the region are employing more than 7 thousand persons, accounting for almost 15% of the number of employees in the industry.

State of the total primary hydrocarbon resources development in the Western RSHE (Fig. 2) is 45%.

AGE OF OIL AND GAS DEPOSITS

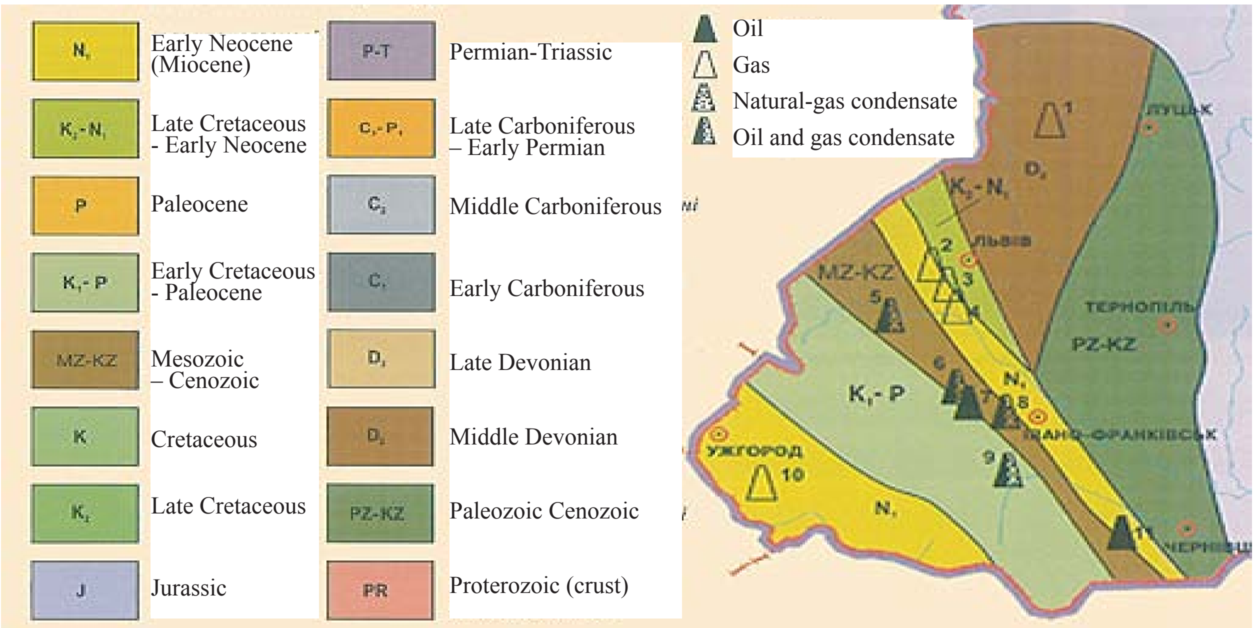


Figure 2. Structure of the regional sector of Hydrocarbons extraction

According to Ukrainian experts, a considerable reserve of hydrocarbons in Ukraine and in the Western RSHE is residual oil and condensate at the long-term operated fields. In particular, the rate of oil extraction in the Western RSHE is 16.5%. With the use of modern technology and equipment expected rate of oil extraction for Ukrainian deposits will be about 35.2%, in particular for the Western RSHE - about 25.5%. This evaluation provides us with estimates of residual oil in known oil deposits of the RSHE as over 500 million m^3 [4].

The remaining share of oil from the start of operation in the Western RSHE is 78%, and the specific share of extractable residual resources is 4%. According to the professor Yaroslav Vytvytsky (Ivano-Frankivsk National Technical University of Oil and Gas), this fact indicates the feasibility and the undeniable need to improve effectiveness and increase the oil and gas extraction. After all, such decisions will lead to increased production in older, prepared and equipped oil areas. Just 1% increase of extraction at the old fields is equivalent to opening of entirely new field with a potential production of 10 million tons of oil.

In this context, there are surprising statements presence in the baseline scenario of the region's development ("Strategy 2020": first, that "volume of crude oil and associated gas extraction will be decreased at Dolynske and Nadvirnianske oil fields as the result of their gradual depletion, technological complexity and the growing cost of production" [3], and the second, on the absence of any strategically oriented proposals to avoid this "scenario" through exploitation of any existing opportunities and advantages of the oil and gas potential of the Western region.

These statements are made despite the fact that these opportunities (in case of proper feasibility study and implementing environmental, economic and social expertise) can be realized through systematic improvement of processes of oil and gas extraction, implementation of technologies to maintain reservoir pressure, extraction of residual oil from flooded fields and condensed hydrocarbons from depleted gas fields, initiation of oil extraction from poorly drained and stagnating areas effected with initial oil saturation, well placement optimization the area in oil fields, etc.

7.1.3. Problems of regional hydrocarbon sector

Besides the tasks and opportunities of technical and technological nature, RSHE experiences also objectives of organizational and economic character. For instance, the very urgent and important objective for the industry should be a development of a new taxation mechanism, which would achieve the maximum balance of the state and mineral developers' interests while preserving economic motivation for the latter. Namely the rental duties for extracted oil and natural gas account for the lion's share of tax liabilities of oil and gas companies, whereas the current tax system does not take into account individual rental characteristics of deposits and create unequal competitive conditions for oil and gas companies.

Indeed, when we analyze the structure of proceeds to the General Fund of the State Budget (SB) from resource, rental and other payments of Ivano-Frankivsk region (Fig. 3), for instance, in 2012, where:

1 - the special forest resource use duty;
2 -the special water resource use duty;
3 – the rent for the use of subsurface resources;
4 - the rent for the use of oil, natural gas and gas condensate produced in Ukraine;
5 - other proceeds,

then it turns clear that the distribution of rental payments can and should be revised taking into account the needs of the region and the RSHE.

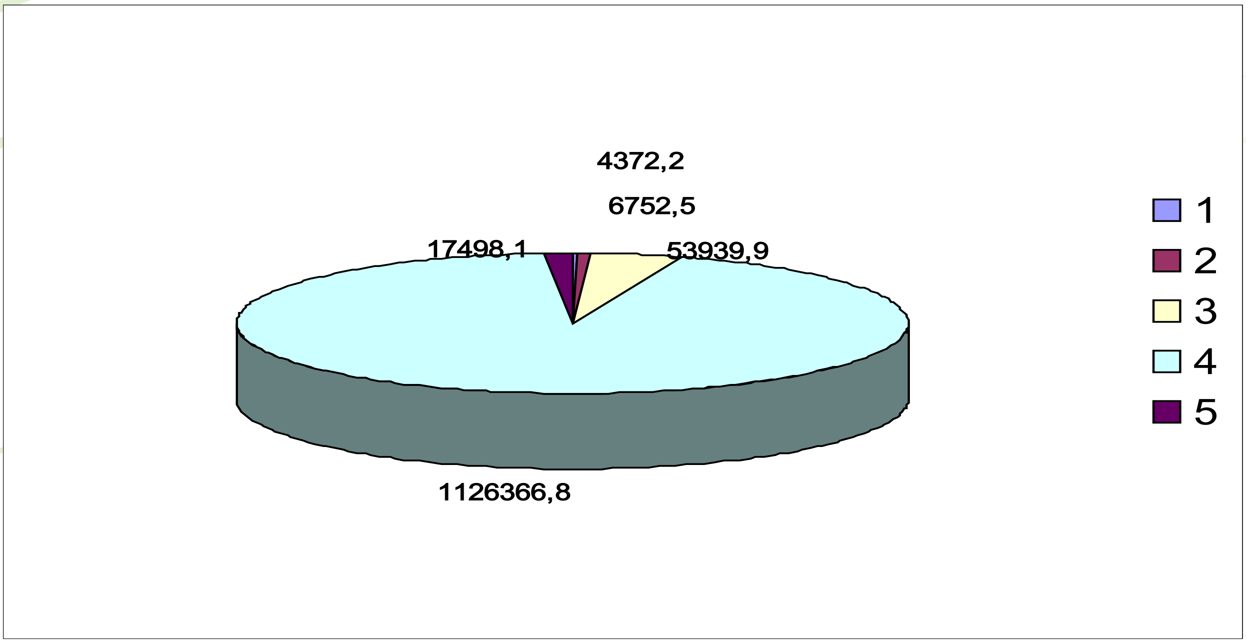


Figure 3 – Distribution to the General Fund of the State Budge of the resource, rent and other payments of Ivano-Frankivsk region

During 2012, the General Fund of the State Budget of Ukraine has received 1,208.9 million UAH of resource, rent and other payments the rent for the use of oil, natural gas and gas condensate produced in Ukraine – 1,126. Million UAH that is 93.2%.

Based on the volume of extracted hydrocarbon, rates and values of adjustment coefficients applied to the rates, in the year 2012 State Budget received: rent the use of oil - 933.6 million UA, natural gas - 186.1 million UAH, gas condensate – 6.6 million UAH (total 126.3 million, what is 390 million UAH less than in the year 2011 due to the procedure of calculation the value of adjustment coefficients for the rent for the use of oil, natural gas and gas condensate revised since January 1, 2012).

In 2013, the General Fund of the State Budget of Ukraine has received 1,178,164.4 thousand UAH of subsoil use, resources and other, in particular payments for subsoil use composed 1,143,202.1 thousand UAH, that is 97.0%.

In Ivano-Frankivsk region control of hydrocarbon production is carried out in terms of deposits (by comparison of the declared payments in accordance with the issued special permits for subsoil use in specific sector), types of hydrocarbons (separately for oil, natural gas and gas condensate) and mineral developers.

It should be mentioned that the current state of the oil and gas industry in the RSHE is characterized by a number of other issues that must be considered during eventual and very necessary reform of the sector. These are as follows:

- Difficult and long licensing process for the special permits for subsoil use;
- Constant changes in legislation concerning the licensing of subsoil use;
- The need to extend the license while they are issued for a short time - 5 years;
- The rationality of licensing oil and gas areas to public companies in licenses without auctions;
- Unattractiveness of oil and gas structures in case of involvement of private capital, due to the lack of evaluation of the economic indexes of investments'

effectiveness carried out according to the world standards;

- In the case of methodology of settlement of the auction price of special permit for subsoil use, economic evaluation and correction factors for the development of hard recoverable reserves in the methodology of the starting price determination at the auction, it is the absence of the economic evaluation and adjustment coefficients for development of hard-to-reach deposits;
- Rigid centralization of decision making process regarding activities of the localized components of the transregional structures of the National Joint Stock Company Naftogaz;
- Deficiencies of the structure and management function of NJSC Naftogaz and its regional subsidiaries, the lack of transparency in planning of distribution and use of resources and earnings derived from hydrocarbon deposits development by regions;
- Centralization of taxation of the regional subsidiaries of the NJSC Naftogaz, what leads to losses by local budgets and to the total lack of social responsibility of businesses towards the local communities;
- The lack of dialogue between the leadership of NJSC Naftogaz and its regional subsidiaries and enterprises with local governments, academic, civic organizations and others.

Alongside with all these shortcomings, the RSHE provides some stability of hydrocarbons extraction.

During 2011, the RSHE has produced 398.5 thousand tons of crude oil, 313.3 million m^3 of natural gas, 174.5 million m^3 of associated gas, what accounts respectively for 16.3%, 1.6% and 24.2% of total production in Ukraine.

The volume of oil production in 2013 in Ivano-Frankovsk oblast made 385.3 thousand tons, that is 7.3 thousand tons less than in the year 2012 [5]. Decrease of production at existing fields of NGVU Dolynanaftogas NJSC Ukrnafta was caused by the pressure drop in oil and natural gas wells, as well as unscheduled and scheduled maintenance of individual wells. As in previous years, the main share of oil production accounts for NJSC Ukrnafta (85.9 %). As for natural gas, in reporting year 2013 its production comprised 4.673 billion m^3 that is by 10.6 million m^3 less than in 2012. Reduction of natural gas production was caused by natural pressure drop in natural gas fields operated by the largest mineral developers for a long time and, thus, their exhaustion. So, only within the PJSC UkrGasVydobuvannya (mainly at the Bytkiv-Babchynske gas field) the decrease in natural gas production totaled 3.2 million m3, while NGVU Nadvirnanaftogaz PJSC Ukrnafta - 2.5 million m^3. In 2013, in comparison with the year 2012, the mentioned reasons caused the decrease in production of gas condensate totaled in 0.05 thousand tons.

In 2013, they produced 387.9 thousand tons of crude oil, 287.6 million m^3 of natural gas, 178.9 million m^3 of associated gas, that accounts for 17.9%, 1.4%, and 24 2% of the total production in Ukraine respectively.

During the period of January-July 2014, companies has been working almost at the level of the corresponding period of the year 2013 - an index of industrial output amounted to 99.6%.

Prior to the events in early 2015, the major investment plans were based on the development of shale gas in Oleska area:

- During the next 10 years, the shale gas production in the Oleska area can reach more than 3 billion cubic meters per year. However, prospects of achieving such an outcome will depend on a number of conditions: successful exploration and confirmation of technically recoverable reserves of shale gas, successful drilling and performing the conducting hydraulic fracturing of formation with high performance gas flow, active implementation of investment programs to ensure drilling of the growing number of wells, compliance with the environmental standards, the lack of emergency, and so on. If at the any stage happens the failure, it will lead to a deterioration of the forecast production for the next 10 years, additional costs and additional quantities of drilling wells and an additional burden on the environment.

As of early 2015 Chevron, has closed its activities in Ukraine.

7.1.4. Proposals for the Development Strategy of Ivano-Frankivsk region 2020

We would like to emphasize that without the leading and guiding power of the volume of oil and gas production would be sufficient in terms of solving many of the problems either in the RSHE or in the region. However, the assessment of Naftogaz, given by finance professor Andriy Kyrylenko from the Sloan School of Management at Massachusetts Institute of Technology ("Dzerkalo Tyzhnia Ukrajina", 10.10.2014), as of "a key threat to national security of Ukraine", transforms its subsidiaries in the RSHE in the same threat to the region, as Naftogaz is to Ukraine.

Nonetheless, whilst there is planned subsidy 32 billion UAH for Naftogaz in 2015 instead of 110 billion UAH in 2014 a (s Prime Minister of Ukraine Yatsenyuk stated during the presentation of the State Budget for 2015 at the Verkhovna Rada session), the budget of the Ivano-Frankivsk region for the year 2015 stipulates income of 3,657,912 thousand UAH and expenses of 3,656,670 thousand UAH.

Comparison of these figures with respect to the group of resource rent charges (≈ 30% compared to the regional budget and only ≈ 3.5% to the size of subsidy in 2015 or ≈ 1% to the size of subsidy in 2014) shows a clear appropriateness, necessity and possibility to leave a significant share of charges in the budget of the region, as well as enterprises of the RSHE. As the matter of fact, these charges are going to the Naftogaz, which George Soros has aptly named a „national budget black hole".

Given the fact that the current leadership of Naftogaz and personally the Chairman A. Kobolyev are recognizing that "the oil and gas industry needs the European management technology" [6], it is necessary and appropriate to carry out a deep reengineering of this mega-enterprise.

Hence, the listed above problems of functioning and development of the RSHE within the region require the reasonable transformation: review and reorganization of relations as along the communication line Center-Region, as well along the lined Naftogaz - RSHE. In other words, there is needed an agreed in-depth reengineering of the both subsystems within the framework of the national economy.

Proposals on the implementation of the reengineering procedure along the communication line Naftogaz- RSHE can be developed and presented by the team of the IFNTUOG scientists in case of a demand on the part of industry management structures.

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7.2. Analysis of gas and oil sector in Lviv region (NGO ACRC)

7.2.1. Assessment of hydrocarbon resource base of Lviv region

Estimation of inferred resources of hydrocarbons in Ukraine is provided by Ukrainian State Geological Research Institute (UkrDGRI) in order to develop realistic views on the amounts, structure and economic significance of promising mineral resources for oil and gas industry in Ukraine. The latest assessment of hydrocarbon resources in Western Ukraine was performed as of 01.01.2004 and adjusted by UkrDGRI as of 01.01.2011[1].

Assessment of the resource base of the Western oil and gas region of Ukraine is based upon the scheme of geological oil and gas zonation (Fig. 2.1) which identifies two oil and gas provinces (OGP) within the Western region, namely the *Carpathian* one, which covers the territory of the folded Carpathians, the Carpathian and Transcarpathian depressions, and the *Baltic-Pre-Dobrogea* one which comprises the prospective area of the northern Dniester perycraton together with the superimposed Lviv Paleozoic depression.

In 2004-2011 the following fields were discovered in the Western region of Ukraine: one oil field (Verhnyovilhivske in Boryslav-Pokutskyi OGR) and 10 gas fields (Berezhnytske, Stryhanetske, Turabivske, Dubanevytske, Pivnichnozarichnyanske, Luhivske, Dobrianske, Butsivske, Mostivske in Bilche-Volytskyi OGR, and Dibrovske in Zakarpattia region). In terms of recoverable reserves all of them relate to small (1-5 million tons of standard fuel - Dibrovske gas field) and very small (less than 1 million tons of standard fuel - the rest of fields) deposits.

Increase in proven reserves during this period is 0.054 million tons of oil and 2.039 billion m3 of free gas, which makes only 0.26% of recoverable reserves in Lviv oblast estimated as of 01.01.2004, that is **796.6 million tons.**

Insignificant sales volumes of the resource base of the region and discovery of only minor deposits can be explained primarily by reduced seismic exploration due to economic reasons (from 1.56 thousand linear km in 1991 to 0.374-0.407 in 2008-2010) and exploration drilling (from 72,8 thousand linear m in 1991 to 24,0–30,1 in 2008–2010). In addition, exploration drilling is provided mostly at small depths (up to 2.5-3.0 km) mainly in the Carpathian oil and gas province, where the development of total gas initially-in-place in Bilche-Volytskyi and Boryslav-Pokutskyi oil and gas regions has reached 83.2 and 90,8% respectively, and more or less significant deposits are already discovered. However, the development of total initially-in-place resources in the depth range of 3-5 km is 46.3% and 70.6%, and the resources at the depth of over 5 km remain virtually undiscovered.

In 2011, total initially-in-place resources in the Western region were estimated to be 2 745.0 million tons of standard fuel versus 1 435.5 million tons of standard fuel as estimated in 2004. The inferred resources make 2 093.1 versus 796.1 respectively. Thus, the increase makes 52.3 and 62.0 % respectively.

The share of inferred oil resources has decreased by 45.9% (from 298.3 down to

161.4 million tons), that of condensate - by 40% (from 0.5 to 0.3 million tons). The share of inferred free gas resources has increased - by 358, 4% (from 404.7 to 1855.0 billion m3), and the share of dissolved gas resources has decreased by 17.9% (from 93.1 to 76.4 billion m3).

The increase in the recoverable share of total initially-in-place resources of the Western region is accounted for by the shale gas resources of Silurian lithologic and stratigraphic complex in Oleska area of Volyno-Podilska oil and gas region, that were not taken into account by the preliminary geological and economic assessment.

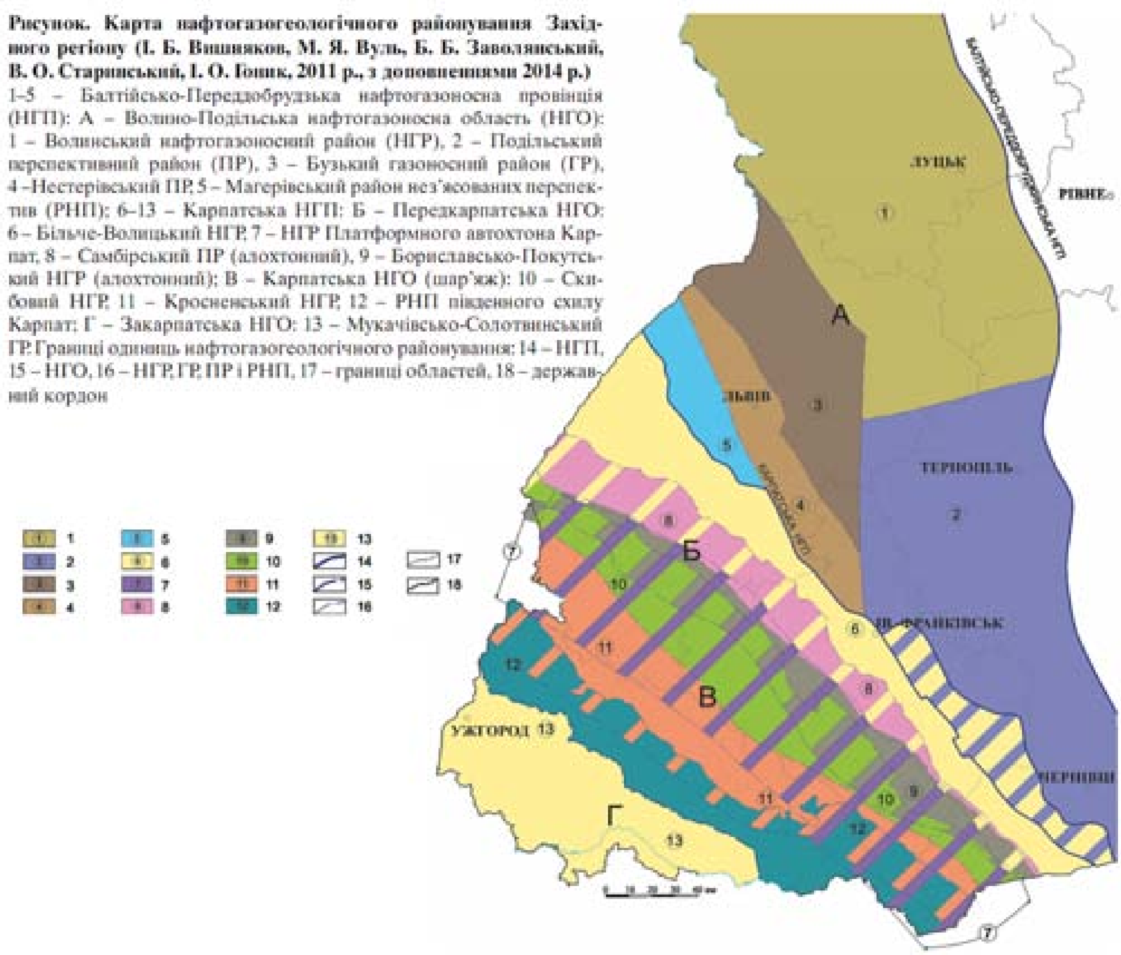

Fig.2.1 map of geological oil and gas zonation of Western Ukrainev

Priority areas of geological exploration for the purpose of developing hydrocarbon resource base of the region in the short term (until 2020) and thereon.

The above materials provide a basic framework for developing a new strategy of exploration drilling, geophysical and scientific research for each particular oil and gas region or province.

Volyno-Podilska oil and gas region

Within the Cambrian LSC the following three areas of concentration of prospective plays can be identified:

- Peremyshlyanska area within the Buzkyi gas region and Volyn OGR is a priority for further exploration. Here, after a thorough study of seismic survey data with due consideration of new information from wildcat wells, the drilling should be continued in the attic zone of Peremyshlyany structure where the occurrence depth of the promising complex does not exceed 3 500-3 800 m. It is also advisable to provide seismic survey of Andriyivska and Monastyretska structures where medium size gas fields (10-30 billion m3) are likely to be discovered. Further exploration drilling can be also carried out in the promising Ludynska structure with localized gas resources of about 1.5 billion m3.

- medium size gas fields are likely to be also discovered in Kulychkivska area (Buzkyi gas region) which is characterized by the significant (4.3 km) occurrence depth of Cambrian sediments. For this reason, its exploration might be deferred to a later stage;

- Ratnivsko-Zavadivska area of Podolskyi gas region is characterized by up to 2 km occurrence depth of Cambrian sediments. Exploration of certain promising structures, such as Tarashanska structure with potential of up to 1.1 billion m3 should be put off for a later stage due to the law exploration status.

Terrigenous component of the Silurian LSC of Oleska area includes black shales rich in organic matter, thus representing significant prospects for shale gas exploration. UkrDGRI experts estimate the inferred recoverable resources at 1 490 billion m3. After the available geological, geophysical and geochemical information is summarized, it is recommendable to drill appraisal wells using modern technologies in order to estimate the profitability of further large-scale exploration and commercial development of shale gas.

Devonian LSC is the only complex within the Volyno-Podilskyi OGR with proven gas presence (Lokachynske and Velykomostivske fields). However, since their discovery exploration on a number of sites has not produced any positive results, mainly due to the lack of traps or their small amplitude and size. No plays have been prepared for appraisal drilling. There are only two identified structures on the list, namely Korchivska and Semyrenska. By analogy with the territory of Poland, the former may prove promising in view of carbon deposits, so here it is recommended to drill a parametric well with project depth of 2600 m.

Bilche-Volytskyi OGR

Despite the fact that the total initially-in-place resources of this region are developed by 80.6%, it is the region where the most significant results in the Western Ukraine have been recently achieved. However, further deployment of geologic exploration is constrained by the shortage of prepared plays. There are only seven of them as of 01.01.2011. In terms of identified resources, the situation is somewhat better. 15 plays are available. It is recommendable to concentrate up to 50% of seismic survey in this region in the next 5-7 years. Exploration in Kosivsko-Ugerska subzone should be focused mainly on complex combination traps in Lower Sarmatian sediments at depths up to 2 km, as well as on Helvetian stage of Upper Jurassic deposits at depths of 3 km or more, where oil accumulations are likely to be discovered.

NGR of platform autochthon of the Carpathians

Undiscovered recoverable hydrocarbon resources of this region are estimated to be 89.2 million tons of standard fuel. Lithostratigraphic distribution: 13.1 million tons in the Paleogene, 50.5 million tons in the Cretaceous, 25.6 in the Jurassic. The development level of total initially-in-place resources across all formations is only 7.6 %. The discovery of Lopushne oilfield has made the platform autochthon of the Carpathians the most promising OGR in the Western region, however, it is characterized by the greatest depths of the promising horizons and low status of exploration. 11 prospective structures were identified in conditions similar to those of Lopushne field. Inferred localized oil resources comprise 334-75.0 million tons. Two of these structures, namely Staykivska (12.501 million tons) and Putylska (9.61 million tons) are considered to be prepared for exploration. The main objective of parametric drilling in this OGR is to study lithology, thickness and hydrocarbon potential of Paleogene and Cretaceous formations overridden by the Pokuttya-Bukovyna Carpathians southwest of Lopushnyanske field. In this region, seismic data give grounds to expect an increase in thickness of Paleogene and Upper Cretaceous shelf formations up to 700-800 m. That is why this area in the West of Ukraine represents prospects of discovering medium and large hydrocarbon deposits. This problem may be solved by means of a parametric well «Yablunytska-1» with the project depth of 5950 m drilled at the same-named site. Drilling of this well will give a possibility to study regularities of lithofacies changes in the aforementioned promising LSCs and to specify the stratification of seismic horizons. The second stage of work should involve exploration drilling of Staykivska and Putylska structures as well as detailed seismic survey of Dykhtynetska and Fedkovytska anticlines with a view to preparing them for appraisal.

Sambirskyi PR

Undiscovered recoverable hydrocarbon resources of this region are estimated to be 27.2 million tons of standard fuel, of which almost 70% are expected at depths of up to 3 km. The level of their development is 0 %. All of them are associated with Neogene sediments. The Sambirskyi pool of identified plays includes three structures as of 01.01.2011. The first stage of the field exploration should involve seismic survey in order to prepare the identified plays for the exploration drilling, in the second stage the wells should be drilled in each of them. Upon the results of drilling new locations can be identified and prepared for exploration. Given the low exploration status of the region, it is recommended to defer the appropriate geologic exploration until a later stage.

Boryslavsko-Pokutskyi OGR

Undiscovered recoverable hydrocarbon resources of this region are estimated to be 89.9 million tons of standard fuel. All of them are associated with Paleogene sediments. The development level of total initially-in-place resources is 77.2%, mostly due to deposits at depths of up to 3 km. Increasing depths account for the undeveloped potential of the region. It is characterized by a large number of plays that are formally on the list of drilling activities, yet the actual scope of drilling operations is insignificant. Compared with other regions, there is a sufficient number of plays (36 localities) prepared for exploratory drilling with total scope for recovery amounting to 47.1 million tons of oil and 8.5 billion m3 of free gas. The pool of identified plays includes 13 structures with total inferred localized resources of oil amounting to 44.5 million tons. By 2020 it is required to have the scope of exploration expanded in the areas where it is already underway, and commence drilling of new prepared localities. Special focus should be laid on exploration of structures at depths of up to 3 km, namely Pivdennoboryslavskyi, Vilkhivskiy, Khrepylivskiy, Mahurskiy with inferred oil resources of 0.791 to 4.4 million tons. Prospecting for hydrocarbons at depths of 3-5 km is recommended with the following structures: Meryshorska, Teresnyanska, Steryshorska, Zahidnopodilska, Chemyhivska with inferred localized hydrocarbon resources of 0.5 to 8.18 million tons of standard fuel. It is advisable to defer exploration at depths of over 5 km until after 2020.

Carpathian OGP

Undiscovered recoverable hydrocarbon resources of this region are estimated to be 103.3 million tons of standard fuel. Lithostratigraphic distribution: 47.5 million tons of standard fuel in the Paleogene with the development level of total initially-in-place resources of 16.3 %, and 55.8 million tons of standard fuel in the Cretaceous with the development level of total initially-in-place resources of 2.1 %. Modest results of deep drilling within the province are due to the fact that drilling activities used to be of a sporadic nature and small scope. Lately, there has been a somewhat increased focus on the region exploration since the discovery of Verkhnyomaslovetske oil field. As of 01.01.2011 drilling operations were carried out at five sites, and seven sites were suspended, four sites were prepared for exploration. The pool of identified plays includes 25 localities.

Summary

Thus, by general estimates of Ukrainian State Geological Research Institute, the total initially-in-place recoverable resources in the Western region as of 2011 amount to **2 745.0 million tons of standard fuel** (that is 22.45 % of the initial potential hydrocarbon resources of Ukraine estimated to be 9 322.7 million tons of standard fuel) as compared to 1 435.5 million tons of standard fuel estimated in 2004. The increase in the recoverable share of the total initially-in-place resources of the Western region is accounted for by the shale gas resources of Oleska area in Volyno-Podilska OGR, that were not taken into consideration by the preliminary geological and economic assessment.

The strategy of further oil and gas exploration in the Western region should be based on the progressive withdrawal from concentrating the bulk of exploration activities within two OGRs, namely Bilche-Volytskyi and Boryslav-Pokutskyi regions, where hydrocarbons occur at relatively shallow depths, the degree of the total initially-in-place resources development is quite high (especially at depths up to 3-4 km), and only very small deposits have been discovered lately.

It should be expected that the relevance of the aforementioned recommendations will be practically verified by appraisal and parametric drilling along with timely theoretical and empirical study of new geological and geophysical data, thus providing the basis for selecting the most economically and geologically prospective directions for further exploration with a view to establishing the mineral resources base of oil and gas industry of Western Ukraine for a fairly long term.

7.2.2. Hydrocarbon production in Lviv region

According to «Derzhgeonadra», as of March 13, 2015 there have been issued 480 special permits for geological exploration and pilot development of oil and gas fields in Ukraine. The number of permits granted by the state service «Derzhgeonadra» to the companies engaged into oil and gas production in Lviv region is 63, that is 13.2% of the total number of special permits issued in Ukraine over the period from 1997 to 2015. The Table 3.1 represents a list of 13 companies that were granted special permits for the use of fossil hydrocarbons in Lviv region.

Table 3.1: The list of oil and gas producer companies in Lviv region that received special permits in 1997-2014

№	**Name of company / place of registration**	**Number of special permits**
1.	PJSC “UKRGAZVYDOBUVANNYA”, Kyiv	34
2.	SE NJSC “NADRA UKRAINE” - “ZAKHIDUKRGEOLOGIYA”, Lviv	3
3.	LLC «ZAKHIDNADRASERVIS», Ivano-Frankivsk	1
4.	LLC «ZAKHIDGAZINVEST», Lviv	5
5.	Ltd. JOINT UKRAINIAN-AZERBAIJANI ENTERPRISE «UKR-AZ-OIL», Ivano-Frankivsk	1
6.	LLC “TRUBOPLAST”, Lviv	1
7.	SE “MOLTEX OIL & GAS” COMPANY “MOLTEX BUSINESS”, Lviv	1
8.	“CHEVRON UKRAINE B.V.», Netherlands	1
9.	PJSC «UKRNAFTA», Kyiv	10
10.	Ltd. “BORYSLAV OIL COMPANY”, Lviv	1
11.	LLC «ZAKHIDENERGOBUD», Lviv	1
12.	LLC “PARI”, Kyiv	3
13.	LLC «PERSHA UKRAINSKA GAZONAFTOVA COMPANIYA», Kyiv	1
	IN TOTAL	**63**

Analysis of the Table 3.1 data shows that the companies that were granted the largest number of special permits are PJSC “Ukrgazvydobuvannya” (34 permits) and PJSC “Ukrnafta” (10 permits), which are currently the key players on the market of oil and gas production in Lviv region.

Table 3.2: Distribution of special permits by the type of mineral products (Lviv region) /in-house estimates

Mineral product (principal, associated)	Number of permits
Natural gas	22
Natural gas, oil	14
Natural gas, oil, condensate	6
Shale gas	2
Natural gas, coal-bed methane, oil, condensate, shale gas, oil bitumen	8
Natural gas, ethane, propane, butane	5
Natural gas, condensate	4
Oil, natural gas, ethane, propane, butane	2
IN TOTAL	**63**

Analysis of data on permit distribution by the type of mineral product (Table 3.2) shows that natural gas production is covered by only 22 special permits out of 63, and the majority of permits in Lviv region has been issued for the mixed production of oil, gas and condensate.

For the development of coal reserves in Lviv region, “Derzhgeonadra” has granted 10 special permits to four producer companies as of March 13, 2015 (Table 3.2).

Table 3.2: List of coal producers that were granted special permits in Lviv region in 1997 – 2014

№	Name of company	Number of special permits
1.	SE “UKRSHAHTGIDROZAHYST”	1
2.	SE “CCI LUBELYA”	2
3.	SE “LVIVVUGILLYA”	6
4.	PJSC “MINE “NADIYA”	1
	IN TOTAL	**10**

7.2.3. Payment of royalties and fees for subsoil use by the producer companies in Lviv region

According to the Head Office of the State Fiscal Service in Lviv region, there are 16 producer companies (including 14 oil and gas companies and 2 coal producers) in the region that effect payments to the general fund of the State Budget of Ukraine for the subsoil use for the purposes of oil, gas and coal production. In 2014, the total payments for the subsoil use made by these companies amounted to 565 456.5 thousand UAH (oil and gas account for 562 570.3 thousand UAH; and coal accounts for 2 886.5 thousand

UAH). While the total budget revenues coming from royalties levied on hydrocarbon production amounted to about 20.37 billion UAH in 2014, the share of Lviv region in these revenues was only 2.76%. The Table 3.3 shows the rates of payment of royalties and fees for the subsoil use by producing districts of Lviv region for 2012-2014 Data analysis shows that in 2012-2014 the payment rate of fees for the subsoil use in Lviv region increased by 29.87%.

Table 3.3: Payment of royalties and fees for the subsoil use to the general fund of the State Budget in 2012-2014 by the producer companies that were granted special permits for the subsoil use to produce oil, gas and coal in Lviv region, thousand UAH[3].

District	Royalty	Subsoil use fee		
	2012	**2012**	**2013**	**2014**
Oil and gas				
Drohobytskyi	119634,3	6459,6	138470,0	191 421,7
Sambirskyi	80646,9	4421,7	89715,5	108643,0
Stryiskyi	137 517,8	7842,2	145949,5	204819,8
Gorodotskyi	29185,6	4651,7	37440,6	54005,8
Mykolaiivskyi	3421,9	1102,3	4689,1	3680,1
Total in Lviv region	**370406,5**	**24477,5**	**416 264,7**	**562 570,3**
Coal				
City of Chervonograd	0,0	419,3	519,4	760,6
Sokalskyi	0,0	1234,1	1355,3	2125,7
Total in Lviv region	**0,0**	**1653,4**	**1874,7**	**2886,2**
Total (oil, gas, coal)	**370406,5**	**26130,9**	**418139,4**	**565456,5**

Lviv region is one of 13 gas-producing regions of Ukraine. There are 44 fields explored in the region with recoverable resources estimated to be about 85.7 billion m^3, that is approximately 8% of gas reserves of Ukraine. There are 31 gas fields in operation with over 60 billion m^3 of recoverable resources; there are 10 prospective areas and unexplored horizons of Vyshnyakivske and Horodotske fields (about 28.474 billion m^3).

Apart from free gas fields, there are 8 gas-condensate fields explored in Lviv region with the recoverable industrial resources of 0.85 million tons, that is 1.06% of total condensate resources of Ukraine. 7 fields with the recoverable resources of 0.847 million tons have been put in production; one more field has been prepared for commercial development.

Lviv region provides 3.8% of nation-wide production of natural gas. Natural gas is extracted from more than 300 wells.

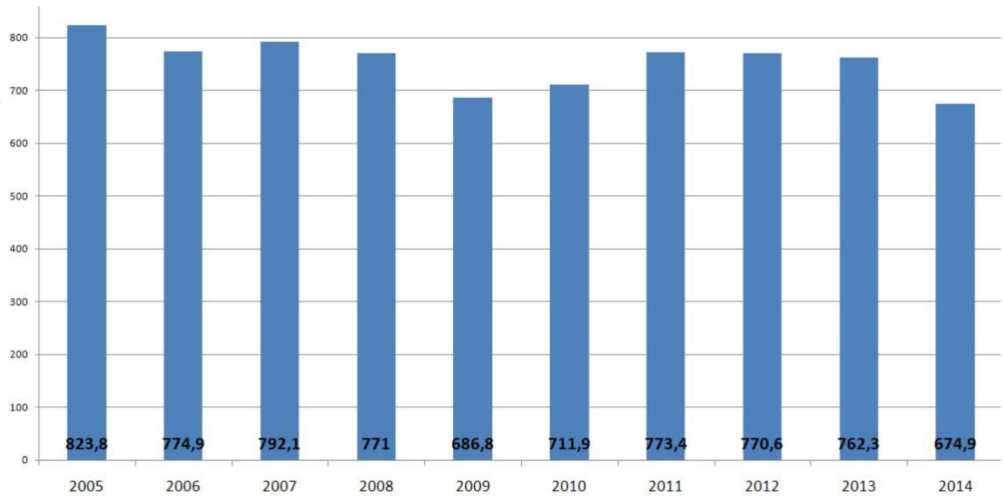

Fig 3.2. Natural gas production in Lviv region, Mio. m³

The analysis of data on natural gas production in Lviv region in 2005-2014 shows that throughout the last 10 years it has been gradually reducing by 100-150 million m^3 per year. According to the representatives of the producer companies, the main reasons for the decline in gas production in the region are depletion of gas fields in operation, lack of funds for capital investment to restore gas production rate and frequent changes of regulatory field, in particular of the rates of royalty payments, which undermines financial stability of the companies, as well as the low level of investments into geologic prospecting and seismic survey.

Ukrainian part of Lviv-Lublin basin is Oleska area which is found in the territory of Lviv (Buskyi, Zhydachivskyi, Zhovkivskyi, Zolochivskiy, Kamyanka-Buzkyi, Mykolaivskyi, Peremyshlianskyi, Pustomytskyi, Sokalskyi districts) and Ivano-Frankivsk regions (Tlumatskyi, Halytskyi, Horodenkivskyi, Rohatynskyi districts). Its total area equals to 6 324 km^2 (Fig. 3.3).

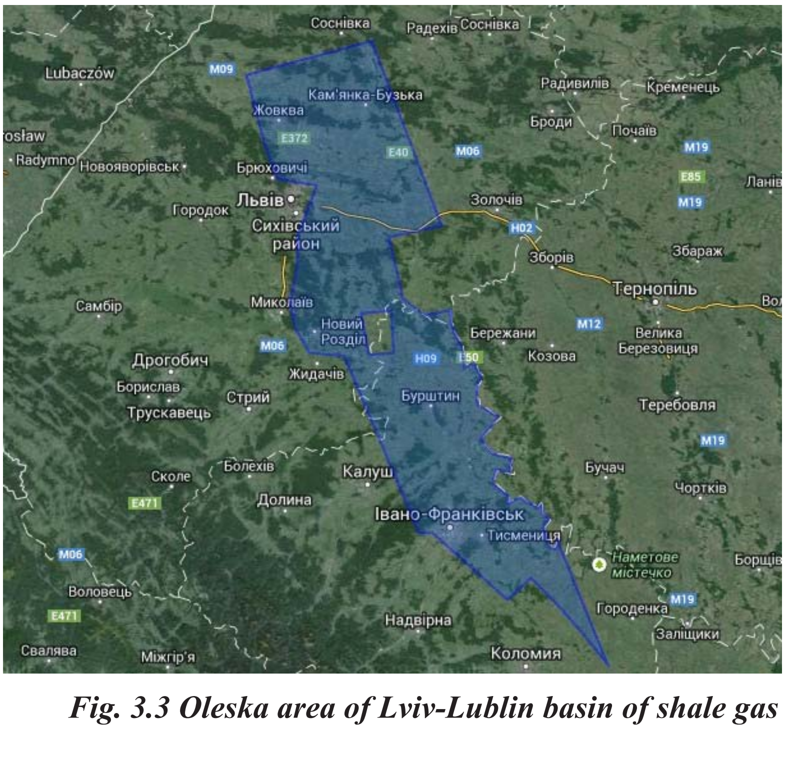

Fig. 3.3 Oleska area of Lviv-Lublin basin of shale gas

Upon the results of the first tender for the priority right to sign a product-sharing agreement on shale gas production projects which was held in 2012, the company «Chevron Ukraine B.V.» was granted the priority right to make an agreement on the development of Oleska area.

However, in December 2014 it was reported that «Chevron» was likely to withdraw from the project of Oleska area development, and on July 2, 2015, pursuant to the decision of board of directors, the representative office of «Chevron Ukraine B.V.» declared the termination of the company's activity in Ukraine.

Lviv region is one of 10 oil-producing regions of Ukraine. Petroleum reserves in the region are represented by 18 fields with the recoverable resources of over 30 million tons, which is 21.52% of reserves of Ukraine. 11 promising areas are available.

Oil industry functions in the southern part of region, within the territory of Boryslav oil-producing area which is one of the oldest in Europe. To date the recoverable oil-in-place reserves of the region make over 21.8 million tons. There are about 800 wells in operation.

In 2014 oil production was 123.5 million tons having increased by 12.5%, or 15.4 thousand tons, as compared with 2010 (Fig. 3.6).

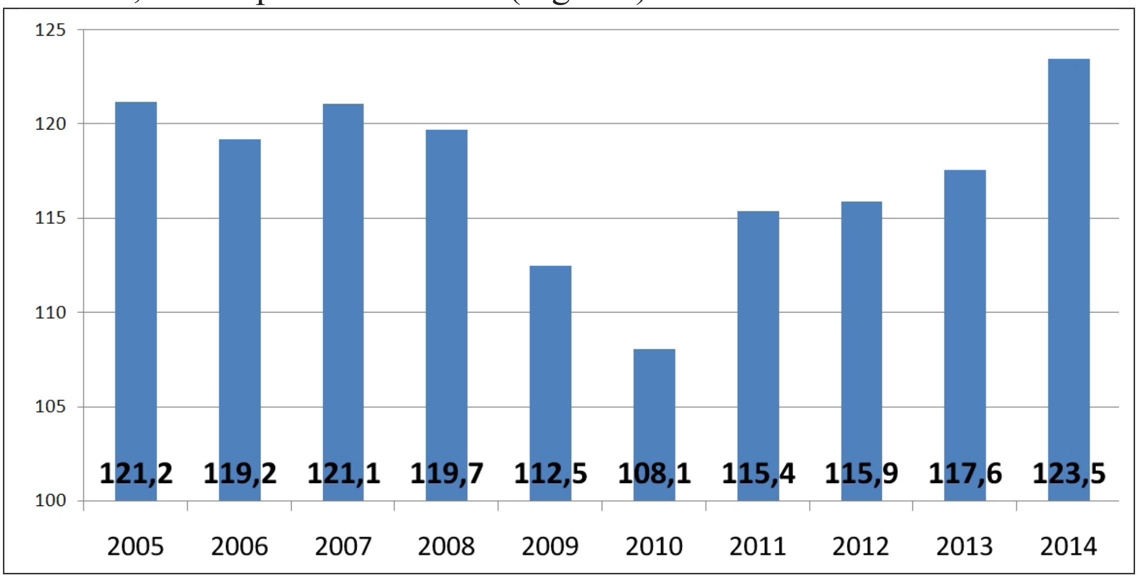

Fig. 3.6 Crude oil production in Lviv region for 2005 – 2014, thousand tons

Summary

Taking into account Ukraine's energy dependence on the Russian Federation and Moscow's continued occupation of coal mining areas of eastern Ukraine, the stabilization and increase in production of hydrocarbons is critical and western regions need to play an ever more important role in helping to satisfy the state's energy needs. This decreases Ukraine's dependence on imports and provides prerequisites for state energy independence and strengthening of the national economy.

An increase in domestic production may not be achieved prior to resolving a number of economic issues associated with funding optimization, increased volume combined with efficiency of geological exploration, improvement of tax policy and legislative framework within the mining industry, ownership transformation and, based on this, attracting investment from abroad and at home to promote the development of the industry.

The main problem and the reason for a decline in hydrocarbon production in Lviv region is that the majority of main oil and gas reserves transitioned into the late mining stage with the depletion of deposits reaching 80% to 85% of the initial reserves. Hence, within the structure of the region's hydrocarbon reserves, the share of reserves that are hard to recover has been increasing. Production of these reserves given the present non-transparent and corrupt model of the industry is unprofitable. This is why, the main approach towards increasing the production of hydrocarbons in the region and across the country should involve the development of a new economic model of the industry based on the principles of transparency, trust between market players, simplicity and de-bureaucratization of permit procedures for companies, establishment of economic and regulatory preconditions for attracting investment in geological exploration and the introduction of new technologies for the production of hydrocarbon reserves that are hard to recover.

Modern scientific approaches and application of the latest advances in technology for increasing oil and gas production (use of local hydrodynamic drags, drilling of horizontal wells in existing vertical wells and the use of other methods for enhancing productivity of formations, etc) require specialist knowledge and equipment, which affects the net cost of hydrocarbon production and must be taken into account when deciding on taxation of such products in order to maintain hydrocarbon production at an economically justified level of profitability.

When speaking of the depletion of currently mined hydrocarbon fields, it is necessary to pay special attention to stimulation of geological prospecting and exploration of over 5,000-meter deep horizons which can be geologically explored by using various non-seismic technologies due to the advancement of technological development of the industry and new technologies. Over the past 20 years, no mid-size fields have been discovered in the western regions of Ukraine. The accumulation of hydrocarbon reserves by using small fields is economically unjustified.

At the moment, there is no mechanism in Ukraine for obtaining tax exemptions by oil and gas mining companies that provide mining of depleted fields or use additional equipment to boost and increase the yield of unprofitable oil and gas wells. This creates uneven competition for the companies of the sector.

Involving Lviv region's mining industry companies in "The Initiative of Transparency in Mining Industry" (ITMI) should facilitate the development of a transparent and competitive market of hydrocarbons in the country, attract additional foreign investment for the industry's development, etc.

7.2.4. Characteristics of investment within mining industry of Lviv region

At present, 17 state-owned and private companies are involved in hydrocarbon production. In 2014, their total capital investment reached 72.97 million UAH, which is 33.4 million less in comparison with 2013.

Shrinking of capital investment into the sector has been observed over the past 5 years. Market players explain this by companies' tough financial situation, high cost of capital and low profitability (Table 4.3).

Table 4.3: Capital investment by types of economic activity in Lviv region (thousand UAH)

	2010	2011	2012	2013	2014
Total capital investment, thousand UAH	8830203	12113954	11173321	9816691	9555030
Production sector, thousand UAH	1975760	2384768	2647296	3492696	2749137
Mining sector, thousand UAH	103614	97871	105461	106373	72970
Share of investment in mining sector compared to the volume of investment in the production sector of Lviv region	**5,24%**	**4,10%**	**3,98%**	**3,05%**	**2,65%**

Among the largest constraints that prevent the development of an attractive investment climate in the mining industry of Ukraine, respondents named the following:

- Adoption by the Cabinet of Ministers of Ukraine of Decree No 596 of 07.11.2014 “On the procedure of purchasing natural gas by industrial, power generating and heat generating companies”. Essentially, this document contradicts the principles of free gas trade, free choice of suppliers and ensuring equal opportunities and access for gas market players to Ukraine’s gas transport system;
- Instability of tax regulation of hydrocarbon production in Ukraine. In 2014, the Cabinet of Ministers of Ukraine increased taxes on gas production for private companies from 28% up to 55% of gross revenue for gas extracted from deposits above 5,000 m, and from 14% up to 28% for gas extracted from below 5,000 m. This became the fifth tax increase for mining companies over the past 4 years. As a result, Ukraine has one of the most onerous tax treatments in Europe;
- The land where the majority of hydrocarbon deposits is located, is usually registered as agricultural land. Ukrainian land laws do not meet the needs of oil and gas sector thus significantly complicating the implementation of any hydrocarbon production projects. The current version of the Land Code noticeably burdens companies forcing them to change the designation purpose of land, which due to the moratorium on changing designation purpose of agricultural areas inhibits implementation of such projects;
- Ukrainian laws define oil and gas wells as real estate. This provides for different interpretations of the law by central and regional authorities and various operating companies, and also causes contradictions and uncertainty within the regulatory sector, including when registering wells, since the regulatory database of real estate objects is not suitable for registering oil and gas wells. Due to this fact, producer companies consistently experience problems;
- Ukraine does not have a unified permit for producer companies. The procedure of obtaining permits for mining companies is regulated by numerous regulatory acts, including the Code on Deposits, the Law “On Oil and Gas” and the Mining Law. There is confusion regarding the role

of regional councils and local authorities in this process. Unification of permits and simplification of the procedure for obtaining permits has a potential to significantly improve the investment climate of the industry. All these procedures can be stipulated in a new draft Code on Deposits that is being currently discussed;

- There is a need to revise the state policy on import of certain types of pipe products and other types of technical equipment used by producer companies. At the moment, seamless casing pipes and pump-compressor pipes with external diameter under 406.4 mm fall under import quotas that are introduced from time to time by the intergovernmental commission on foreign trade of the Economic Development and Trade Ministry. Due to quota limitations, producer companies are not capable of covering their production needs.
- Adoption of International Financial Reporting Standards (IFRS) by the Ukrainian accounting system will allow producer companies to adopt the standards used in most EU countries and the USA and have company reports matching those in different countries. This will be a prerequisite for simplified access to the international markets of capital, stock markets, being more understandable and transparent for international investors, partners, etc.
- The Tax Code of Ukraine has no strict procedure for VAT refunds, paid for materials and services over the period of time beginning from geological exploration until the start of production from the well. The Tax Code of Ukraine does not settle the issue of VAT concerning the wells that ultimately turned out to be unsuccessful.
-

7.2.5. Recommendations on improvement of investment climate in the mining industry

- Reverse the Decree No 596 of 07.11.2014 “On the procedure of purchasing natural gas by industrial, power generating and heat generating companies”, which will give natural gas importers free access to the gas transport system; prevent the adoption of provisions on expropriation of natural gas from owners;
- Develop a balanced tax system that would take into account geological conditions and cost of exploration work; introduce moratorium on changes to the tax system and to lease charges for producer companies, which undermines the trust of investors and leads to deterioration of sector’s investment attractiveness.
- Simplify and legally establish a procedure for land acquisition for building, construction, exploration and maintenance of gas and oil wells; legally establish competence, rights and obligations of parties and the form of agreements for wells, etc.;
- Except the construction, commissioning and operation of oil and gas wells and related infrastructure from the operation Ukrainian land and

construction laws. These issues should be regulated by designated mining laws and laws on deposits;

- The Energy Ministry, the Ministry of Ecology and Natural Resources and the Derzhgeonadra (State Service of Geology and Deposits) must develop industry instructions regarding the procedure for acquiring permits for oil and gas production industry, develop amendments to the law in order to balance permit procedures, adopt rules for oil and gas development and the new Code on Deposits which would generally describe the procedure for acquiring permits at the stage of geological exploration;
- Introduce amendments to the Land Code and the Law of Ukraine "On Land Lease" and except the change of the designation purpose of land, purchase and lease of land for the purposes of oil and gas production industry from the operation of the moratorium; develop a simplified procedure for changing the designation purpose of land for the purposes of oil and gas production industry;
- Set up a national electronic database of geological data set preparation (technical data) for seismic surveys; allow investors to use such data; set a fee for accessing the geological data set (technical data) and for the right to use it, which, same as license fee, will be used to finance the Derzhgeonadra.
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Author: Deineko Viacheslav, Analytical Centre for Regional Cooperation

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xii Letter of the General Directorate of Statistics in Lviv region of 03.04.2015 № 08-11/153

7.3. Transparency of resource and financial flows from conventional and unconventional hydrocarbons in Kharkiv region (NGO ISD)

A distinctive feature of Kharkiv Oblast is its own raw materials base, which by 37.6% consists of fossil fuels (oil, gas, condensate, coal and brown coal). It should be noted that today 42.7% of the national natural gas production (as of 01.11.2015) is produced in Kharkiv Oblast.

Two international projects are implemented in Kharkivshchyna: the first - a joint activity of Shell and PJSC "UkrGasVydobuvannya" (project implementation has been suspended) for natural gas exploration in tight sandstones (Pervomaisk and Blizniuky Districts) and the second - a joint activity of Shell, Nadra Yuzivska Ltd. and State of Ukraine concerning development of Yuzivska field under production sharing agreement (Donetsk and Kharkiv Oblasts).

Kharkiv Oblast fully satisfies its own needs in energy resources (natural gas production), power generation facilities that cover Kharkiv Oblast needs in thermal and electrical energy are fully located in the region. Kharkiv Oblast supplies to other regions about 62% of the generated electrical power and 84.2% of extracted gas is supplied to other regions of Ukraine.

7.3.1. Results of regional sector operation concerning hydrocarbons extraction for the period from 2010 to 2015

Gas producing industry formation in Ukraine in its modern sense was just in Kharkiv Oblast after unique Shebelinka gas field discovery in 1950 with gas reserves in amount of 650 bcm and a little bit later - a number of large and medium-sized fields: Khrestyshchenske, Yefremivske, Medvedivske, Melikhivske and other fields.

Their development and extensive pipeline network construction has allowed Ukraine to bring natural gas extraction to 39 bcm in 1965, 61.3 bcm - in 1970, 68.7 bcm - in 1975 and to become not only the main gas supplier to the European part of the USSR at that time, but also to export it to Poland, Czech Republic, Bulgaria and Hungary. Total gas extraction volume from the Oblast fields since the beginning of the Oblast fields development has exceeded 1.13 trillion cubic meters and makes up 57% of the overall gas extracted in Ukraine.

56 fields with the natural gas balance reserves in amount of 367 bcm and 19 fields with oil balance reserves in amount of 5,538 thd. tons have been taken on the State balance-sheet of the mineral resources for Kharkiv Oblast.

As of 01.10.2015 special permissions were issued in the Oblast for:

1. Geological study of subsoil including research and industrial development of mineral deposits of national importance - 36, including:

- SC "UkrGazVydobuvannya" - 19
- PJSC "Ukrnafta" - 1
- other business entities – 16

2. Geological study of oil and gas bearing subsoil, including research and industrial development of hydrocarbon fields with further oil and gas extraction (commercial field development) - 2, including:

• SC "UkrGazVydobuvannya"– 0
• PJSC "Ukrnafta" – 0
• other business entities – 2

3. Extraction of mineral resources (commercial field development) - 38, including:

• SC "UkrGazVydobuvannya" – 29
• PJSC "Ukrnafta" – 3
• other business entities – 6

In 2014 increase in hydrocarbon reserves was amounted to 17.5 mln. tons of the reference fuel in Kharkiv Oblast, total gas extraction - 8802.3 mln. cubic meters, total condensate extraction - 175 thd. tons and total oil production - 145 thd. tons.

For hydrocarbon fields located in Kharkiv Oblast almost the overall gas production (about 94%) is traditionally provided by NJSC "Naftogaz of Ukraine" resources and facilities. The share of production by commercial entities constitutes 0.546 bcm of gas, which is about 6% of the total volume.

7.3.2. Perspectives for hydrocarbons extraction increase

The main areas for gas production increase in the Oblast should be intensification of available production resource base use in existing fields and fields under development and its increase due to large-scale exploration operations.

New explored fields inclusion in development was the most common solution for gas production increase issue. Unfortunately, almost all known gas fields have been currently brought into development in Kharkiv Oblast and new explored small fields inclusion does not solve the issue related to the gas production stabilization in the region due to low production capacities: initial gas reserves are insignificant and wells productivity is often lower than the minimum economically efficient productivity (Plativske, Bilozirske, Krasnogradske fields etc.).

Maximum increase in production up to 82 mln. cubic meters / year is expected in 2017 as a result of the new wells activation. Due to annual bringing into development of the new operating wells their additional production will amount to 736 mln. cubic meters in 2020.

In order to increase production as well as to involve residual hydrocarbon reserves into development primary obligatory measure shall be taken in existing fields related to continuation of development and production drilling pilot development provided by the project in Shebelynske, Zakhidno-Khrestyshchenske, Yefremivske, Melykhivske, Medvedivske, Chervonoyarske, Kobzivske, Bezliudivske, Skvortsivske, Pivnichno-Korobochkynske, Druzheliubivske and Krasnokutske fields.

To build up production in depleted fields by additional production drilling is harder and less efficient way. On the one hand it is related to the technological difficulties in absorbing layers opening by drilling with lower formation reservoir pressures and on the other hand - low formation reservoir pressures are not able to ensure high flow rates for the new wells (although these flow rates, in practice, are quite stable). New wells allow involving gas reserves in development from peripheral areas of deposits and certain lens-shaped sublayers that will not be extracted by existing facilities.

Reduction in wellhead operating pressures is another direction for gas production increase in depleted fields, which is actively introduced by SC “UkrGazVydobuvannya” as the well flow rate directly depends on the difference between formation reservoir pressure and wellhead pressure. The main direction for the natural gas production stabilization and increase from existing resource base for the period from 2015 to 2016 is the new booster compressor stations (BCS) construction and modernization of existing units.

For successful production resource base increase there are two required conditions: a sufficient stock of facilities to bring into search and exploration drilling and sufficient working capital to carry out exploration works. Government tasks implementation as to its own gas production increase is seriously constrained due to the lack of licensed areas sufficient stock by SC “UkrGasVydobuvannya” – the main company in Kharkiv Oblast for hydrocarbons search and exploration. Thus, the company has not obtained any special permission for the new sites for the last 5 years, although the documents have been prepared for this period and applications for 36 sites of Ukraine have been submitted. Moreover, Kobzivske and Yuliyivske fields have been completely explored to be the main source for gas production increase.

Yuzivske field of tight sandstones is located in Kharkiv Oblast, which according to preliminary estimates has gas reserves from 1.5 to 2 trillion cubic meters. Shell Exploration and Production Ukraine Investments (IV) B.V. has planned to develop this area, but overall drop in gas prices, proximity to the zone of antiterrorist operations and volatility of national legislation have caused work termination under the project of this area development. Currently a new tender was announced for unconventional gas reserves development in Yuzivske field.

7.3.3. Contributions to the budget from the oil and gas industry in Kharkiv Oblast

According to the General Directorate of State Fiscal Service of Ukraine in Kharkiv Oblast (submitted in response to the written request) 18 extracting companies of oil and gas sector are located in the region, which make contributions to the general state budget of Ukraine for subsoil use, in particular, to extract oil and gas. In 2014 the overall payment rate made to the budget for subsoil use by these companies amounted to UAH 199,522.97 thd.

It should be noted that the overall budget revenues of Ukraine from rent payments for hydrocarbons extraction in 2014 amounted to about UAH 20.37 bln., while Kharkiv Oblast rate in this balance sheet amounted to only 1.8%, but actually it has to be much higher. Table 2.4 shows amount of rent payments and payments for subsoil use by the companies in extracting districts of Kharkiv Oblast for 2012 – 2014. Data analysis shows that the volumes of payments for subsoil use in Kharkiv Oblast have increased by 38.6% in the period from 2012 to 2014.

Rent payments and payments for subsoil use (oil and gas) in Kharkiv Oblast

District	Rent payment, thd. UAH	Payment for subsoil use, thd. UAH		
	2012	2012	2013	2014
Balakliyskyi District	318,568.25	9,955.26	21,901.57	30,662.19
Barvinkivskyi District	214,538.21	6,704.32	14,749.50	20,649.30
Valkyvskyi District	119,482.63	3,733.83	8,214.43	11,500.20
Zmiivskyi District	86,452.63	2,701.64	5,943.62	8,321.07
Kehychivskyi District	128,562.36	4,017.57	8,838.66	12,374.13
Kolomakskyi District	57,561.12	1,798.79	3,957.33	5,540.26
Krasnogradskyi District	325,680.52	10,177.52	22,390.54	31,346.75
Krasnokutskyi District	221,453.28	6,920.42	15,224.91	21,314.88
Novovodolazhskyi District	67,893.68	2,121.68	4,667.69	6,534.77
Pervomayskyi District	245,632.11	7,676.00	16,887.21	23,642.09
Chuhuivskyi District	218,623.25	6,831.98	15,030.35	21,042.49
Shevchenkivskyi District	47,593.22	1,487.29	3,272.03	4,580.85
Total:	**2,054,053.26**	**66,138.29**	**143,090.83**	**199,522.97**

Another type of payments, on which we shall pay our attention in this report, are the programs of social responsibility and social investment provided by extracting companies. Shell activities in Kharkiv Oblast shall serve as an example.

Within the Memorandum on Cooperation between Shell and V. N. Karazin Kharkiv National University, 3-year Master Degree Program is being prepared for masters` study in unconventional hydrocarbons extraction industry. The program is financed exclusively with the private funds, it is designed for three faculties of KNU - geological-geographical, ecological and chemical. Total costs and expenses incurred by Shell are estimated at the level of USD 300 thd., including USD 200 thd. for equipment purchase and up to USD 40 thd. for the program preparation proper. As a whole, university research program within the framework of PSA (Production Sharing Agreement) in Yuzivske field provides the budget in equivalent of USD 300 thd. annually.

Instead, internship program was introduced in 2014 and provides for a 6-month practice in the company. Annually Shell plans to involve up to 10 students from Kyiv, Kharkiv and Donetsk. According to the company data, the costs incurred for annual internship program are approximately UAH 600 thd. assuming UAH 10-11 thd. per person monthly.

In the project completed by Shell together with UkrGasVydobuvannya, social investments have been made since the beginning of 2013. Joint Committee considered proposals from the local councils of territorial communities, where hydrocarbons are directly explored. These proposals should be previously agreed with the district authorities (RDA), in particular, comply with or at least not contradict the programs of communities social and economic development of the relevant level. Proposals, which covered Pervomaysk and Blyzniuky Districts in Kharkiv Oblast, were submitted on a voluntary basis. On average, each year 8 projects received an aid amounting to up to UAH 400 thd.. Thus, in the 2013 program budget amounted to UAH 1,5 mln., in 2014 it was estimated at UAH 1.2 mln. level. Total amount of funds allocated made up about UAH 2.7 mln.. The following projects were implemented within the program: heating system replacement in two schools of Pervomaysk and Blyzniuky Districts, V-shaped roof was mounted in school of Pervomaysk District, capital repair in the rural kindergarten in Blyzniuky District, installation of street lighting, road repairs and purchase of medical drugs for two district hospitals.

7.3.4. Proposals for the situation improvement in the oil and gas sector of Kharkiv Oblast

Oil and gas enterprises in Kharkiv Oblast need to have reforms toward engineering modification and payments transparency increase, namely:

1. ***Organizational:***
    - 1.1. To develop high-quality and real concept of oil and gas industry development in Kharkiv Oblast based on a new economic model, which is balancing between the costs and expenses incurred for gas extraction and its cost reduction. This model should be as de-bureaucratic and open as possible in order to attract the new foreign extracting companies to develop the new fields.
    - 1.2. To intensify the process of legislative regulation to obtain tax benefits for the new oil and gas production players, who enter the region. Funds released within the approved tax benefits should be invested in the local communities in terms of infrastructure quality improvement used by extracting companies (roads quality improvement, water supply improvement, street lighting improvement, etc.).
    - 1.3. To support extracting companies' involvement, operating in Kharkiv Oblast, to implement Extractive Industries Transparency Initiative (EITI) standards in their own business. This will allow the companies to be open and transparent both for the local authorities, other companies and for the local communities.
    - 1.4. Establishment of the long-term regional endowment (Development Fund), which is replenished from the companies` payments and divided

into 2 parts: 1 - investment (even lending) of the energy efficiency and energy saving projects to reduce region gas dependency; 2 – some funds accumulation for their use after significant gas extraction level reduction in Kharkiv Oblast for energy supply.

2. ***Technical:***

   2.1. New drilling operations in the territory of Kharkiv Oblast on 30 areas and fields in 2016 – 2018. Planned headway is 143.5 thd. m including exploration drilling 75.1 thd. m, development drilling – 68.5 thd. m. It is planned to finish with 46 wells construction, of which: 20 – operating and 26 - exploration. It is planned to drill to the new areas: Nurivska, Sumska and Buchatska. Planned increase in hydrocarbon reserves: 12 bcm of the natural gas and 65 thd. tons of oil.

   2.2. Natural gas extraction increase through the operating pressure reduction in the wellhead due to the gas flows optimization, reconstruction and modernization carried out at Chervonodonetska and Khrestyshchenska BCSs, construction of Yuliyivka-Stepove pipeline, which will allow to additionally obtain more than 4.8 bcm of additional gas extraction. To carry out works on operating pressure reduction in the wellheads of the large aging fields, which are at the final stage of development (Shebelynske, Zakhidno-Khrestyshchenske, Melykhivske, Yefremivske, Medvedivske and Kegychivske), which will increase condensate production by 10-15 tons per day.

3. ***Scientific:***

   To conduct further exploration works in Sakhalynske gas field (Kegychivskyi and Balakliyskyi Districts). It is recommended proportionally to the exploration amount to reduce the amount of payments from the companies, which finance the exploration works. This will become an effective tool to motivate the extracting companies to actively explore the new fields and specialized research organizations – to conduct qualitative exploration.

7.3.5. Analysis of investments in oil and gas industry in Kharkiv Oblast

The Main Department of Statistics in Kharkiv Oblast has fixed an increase in foreign direct investments in the oil and gas industry of the region (Table 3.1). It was related, mainly, to Shell activities in 2013-15 in the Oblast, which actively built 2 drilling search sites in the territory of Pervomaiskyi and Blyzniukivskyi Districts in Kharkiv Oblast. Within this activities program of social investments and program of local infrastructure improvement have been implemented, which are also accounted for as investment flows in the region.

Direct foreign investments in the oil and gas industry of Kharkiv Oblast [11]

Direct foreign investments, mln., USD	Years					
	2010	2011	2012	2013	2014	2015
Total direct investments	2,082.7	2,716.9	2,814.3	2,174.3	2,131.9	1,726.0
Direct investments in the industry	1,312.1	1,711.6	1,773.0	1,369.8	1,343.1	1,087.4
Oil and gas industry	715.1	660.7	652.5	579.4	1,147.0	665.5
Investments in oil and gas industry to the total investments in the industry ratio	54.5 %	38.6 %	36.8 %	42.3 %	85.4 %	61.2 %

Also, 2 companies with foreign investments have been carrying out natural gas extraction in Kharkiv Oblast since 2008: Diloretio Holding (Cyprus) and Alpeko Investments (UK), which have totally invested USD 2,482.6 mln. in gas production of the region.

In the general context, it was observed foreign investments decrease in the oil and gas sector of Kharkiv Oblast from USD 715.1 mln. to USD 579.40 mln. during the period from 2010 to 2013. It was primarily related to the exploration completion by the foreign companies in 2009 and active stage of construction at production sites and gas pipelines in 2009-2010.

In addition, double increase in investments flow for the period from 2013 to 2014 – from USD 579.4 mln. to USD 1,147.0 mln., was related to Shell activities. The same rapid drop in direct foreign investments flow in gas production of Kharkiv Oblast in 2015 to USD 665.5 mln. was resulted in region leaving by such a big player as Shell. It was started a period of the rights transfer to the operating activity from Shell to Nadra Yuzivska LLC.

However, the "Strategy for Kharkiv Oblast development till 2020" provides activities intensification for foreign investors involvement in the projects of new oil and gas fields exploration and operating activities implementation in them related to oil and gas production.

As a part of study made, directive interviews with the heads of gas extracting companies of different ownership forms have been conducted, for their vision of the main threats and obstacles facing investors, who plan to operate in the industry of Kharkiv Oblast. So, the respondents have identified the following threats and obstacles:

- Kharkiv Oblast has a high level of investment attractiveness, particularly in the oil and gas sector. In addition, the proximity to the areas of ATO operations poses increased risks, namely to the safety of equipment and life of employees. Moreover, insurance risk component appears as the core part of investment, which under current conditions can reach 0.9 ratio of the total investment.
- Currently, legislator has not resolved discrepancies between the Law of Ukraine "On the natural gas market" and the Cabinet of Ministers of Ukraine Resolution

No. 596 dd. 07.11.2014 “On the Procedure of Procurement of Natural Gas by Industrial, Power and Heat Generating Companies”. Discrepancy between two above legal norms prevents to carry out free trading in natural gas, complicates access to GTS and, in general, destroys the principle of equal opportunities for all market players.

- Foreign company`s representatives note that Ukraine has the heaviest tax system for the oil and gas sector companies. Constant increase in taxes is observed for extracting companies - 5 times in the last 4 years. In particular, in 2014 the Cabinet of Ministers increased the tax from 28% to 55% of the gas sale cost produced from reservoirs at the depths less than 5000 meters and from 14% to 28% of the gas sale produced from the depths over 5000 meters. New companies entering the area need tax holidays in order to make active investments in the region: both directly in production projects and in the social facilities development in the territory of companies’ influence.
- Current regulations in the Land Code of Ukraine complicate the process of the land designation purpose change, where exploration and drilling works are performed. The process is complicated while agricultural lands transfer into the land of industrial and energy sector, as the procedure shall be carried out based on decision taken by the Cabinet of Ministers of Ukraine. Given that a larger proportion of soil in Kharkiv Oblast is black soil, referred to the valuable soils, the facts of refusal to issue permit for land designation purpose change are often in evidence. It can be explained by the fact that extracting companies often neglect CMU Resolution “On the procedure for carrying out removal of fertile soil layer”.
- There is a need to revise the policy on the certain types of tubular products and other technical equipment import used by extracting companies. Today, seamless casing and production tubing, which external diameter does not exceed 406.4 mm are the subject to import quotas, periodically established by the Interdepartmental Commission for International Trade at the Ministry of Economy. Due to the quota restrictions, extracting companies are not able to meet current production needs.

Therefore, investment attractiveness of oil and gas industry in Kharkiv Oblast is affected by both external (legislative regulation, taxation, inconsistency of laws) and internal facts, in particular, ATO operations conducted on the border of Kharkiv Oblast.

7.3.6. Conclusions and recommendations

Kharkiv Oblast in 2013 has been ranked as the first in the national investment attractiveness rating of the regions of Ukraine, conducted by the State Agency for Investment and National Projects of Ukraine. Therefore, the region is one of the most attractive for investments in Ukraine. In Kharkiv Oblast the “Strategy for Kharkiv Oblast development till 2020” is being implemented, which stipulates active cooperation with foreign investors. The main component of this Strategy is creation of a special investment climate to attract investors into the region, particularly in the energy sector. Today, Kharkiv Oblast State Administration (KhOSA) actively cooperates with 3 energy companies-investors.

As of 01.11.2015, 3 large companies with foreign investments: Shell (Netherlands), Diloretio Holding (Cyprus) and Alpeko Investments (UK) continue operating in the oil and gas sector of Kharkiv Oblast, the amount of investments from which in 2014 made up USD 1,147.0 mln..

To obtain the following recommendations it was conducted directive interviews with the heads of gas extracting companies, which operate in Kharkiv Oblast, namely:

- Kharkiv Oblast Administration, with consultation support of Ukraine's National Security and Defence Council, shall develop special investment regime for oil and gas industry companies, which plan to operate in the region. An important condition for this initiative should be the elaboration of the tools targeted at risk minimization caused by ATO area to the business conducted in Kharkivshchyna.
- Coordinate legislative regulations in the Law of Ukraine "On natural gas market" and Resolution of the Cabinet of Ministers of Ukraine No.596 dd. 07.11.2014 "On the Procedure of Procurement of Natural Gas by Industrial, Power and Heat Generating Companies". Removal of discrepancies between two above regulations will allow to conduct free and transparent natural gas bidding and provide access to the GTS to all market participants.
- Create balanced taxation system that would consider geological conditions of deposits and cost of exploration. Establish moratorium on changes in the system of taxation and rent charges by extracting companies, which undermine investors` confidence and leads to deterioration in investment attractiveness of the industry. Introduce tax holidays for the new companies entering the Kharkiv Oblast, for the purpose of active investment in the region: both directly in production projects and development of social facilities in the territory of companies' influence.
- Amend the Land Code of Ukraine and Law of Ukraine "On Land Lease" in order to simplify changes in the land designation purpose, where exploration and drilling works are conducted. The process is complicated when agricultural land plot is transferred into the land plot of industry and energy sector, giving such powers to regional councils.
- Strengthen control over the Cabinet of Ministers Resolution "On the procedure for carrying out removal of fertile soil layer" implementation in order to preserve the black soils, which are removed for drilling sites construction. Develop recommendations for the topsoil removal, its storage and also drilling site recultivation.
- Revise customs legislation on the special import conditions for the certain tube products and other technical equipment used by extracting companies.

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SUMMARY

During 2013-2016 Ukraine's oil and gas sector passed through period of turbulences. Ukraine destroyed monopolistic dependence on Russian gas, started real steps towards energy saving and energy efficiency measures. We are staying ahead of heavy challenges on the way to increase domestic production of gas, based on free market conditions.

Analysis of five-year period in developments of oil and gas sector on a nationwide and regional scale has indicated problems and challenges, which should be solved by joint efforts of national government and parliament. Moreover, the analysis has pointed out more clearly regional peculiarities, solutions to which, in particular with regard to social and ecologic projects, should be in the hands of local authorities and active approach of territorial communities.

Hereby we propose a list of general conclusions and recommendations, which actuality has been confirmed during the period of this project implementation:

1. The period of opaque, corruptive utilization of subsoil in Ukraine should come to the end. Comprehensive transparency of hydrocarbon production is a must. The core of this transparency lays in creation of open National register of production assets with corresponding certification of producing wells and identification of their operators, formal owners and end beneficiaries.
2. Information on generated by hydrocarbon production resource (natural gas, condensate, oil) and financial flows should become public. In regions and areas with hydrocarbon production special information desks should be established, where data on production volumes and generated revenues should be published.
3. Extractive Industries Transparency Initiative (EITI), even if not very effective instrument, should be implemented on national and regional level, providing annual reporting with gradual extension on other extractive industries and detailing of information with regard to payments from each company and revenues to budgets (both national and local, starting from district budget).
4. Financial flows, generated by hydrocarbon production, should be spent, taking into account social needs of regional and local dimension and their preservation for next generations.
5. By management of revenues from hydrocarbon production one should rather prefer to use revolving financial mechanisms (revolving funds) than traditional budget proceedings (subsidies, donations etc.), with the later to cause one-time utilization of those financial resources.
6. Reforms in oil and gas sector should support establishment of transparent market conditions, pricing based on demand and proposal, decreasing taxation, thus enabling to increase both production as such and revenues of national and local budgets.
7. Several initiatives to create special financial instruments for supporting this or other reforms could be united in one single sovereign fund. This fund should have professional managing board, supervisory council from representatives of civil society organizations, public authorities and international organizations and provide its activities based on national priorities of development. Among first priorities we could propose energy efficiency, return and reinvestment of illegally owned resources, as well as accumulation, preservation, multiplication and utilization of revenues from hydrocarbon extraction. Here revenues from agrarian and other sectors should be included to collect stocks for ongoing and next generation of Ukrainian citizens.
8. We have taken the international practice and propose to create a National Development Fund. The draft law, attached to the brochure, could become a basis for such single state financial instrument, with hydrocarbon revenues as one of primarily resources for its filling and as a framework to include other sectors.

9. The main advantage of such a fund in Ukraine is a possibility to separate its activities from problems of the national budget. It would make easier to establish multi-stakeholder control over funds utilization (government, parliament, civil society, international donors), simplification of procedures to receive financial resources into this fund and their utilization for investment or grant purposes in the country.
10. One single fund would make easier to conduct audit of resources, received from different donors, introduce effective and integrated planning, include strategic goals of national economic development and enable definition of short-term, middle-term and long-term investment plans.

And finally. History does not have conditional mood, but if we would suggest that oil and gas sector reform would have been implemented in Ukraine at the beginning of 2000th. And a National Development Fund would have been created (similar as it was in Azerbaijan) with some financial means, already accumulated. Ukraine would be much easier to protect own territory and population against external aggression. And it could be very possible, that the aggression itself would become impossible together with many destructive processes.

It is highly on time to think about the future!

ANNEX 1

Draft

LAW OF UKRAINE

On the National Development Fund

This law establishes the legal, financial and organizational foundations of strategic management of part of the funds derived from activities in the oil and gas sector under the state and public control in order to accumulate, preserve, increase and use them for the benefit of present and future generations.

Section I
GENERAL PROVISIONS

Article1. The Aim and Scope of the Law

1. This law establishes the legal, financial and organizational foundations of for the foundation and operationalization of the National Development Fund (hereinafter referred to as 'Fund').

2. The aim of this Law is to ensure implementation by the Fund the strategic management of the funds derived from activities in the oil and gas sector under the state and public control (in order of their accumulation, preservation and increase) and important projects to support the innovation potential of Ukrainian economy, energy saving, development of solidarity between generations by supporting the pension system, health care and human life.

Article 2. Fund's interactions with governmental bodies

1. The Fund is accountable to the Verkhovna Rada of Ukraine, the President of Ukraine and civil society.

The Fund's accountability to the Verkhovna Rada of Ukraine and the President of Ukraine means:

1) the Verkhovna Rada of Ukraine delegates and deposes its representatives in the Supervisory Board of the Fund in the manner set forth herein;

2) the President of Ukraine delegates and deposes its representatives in the Supervisory Board of the Fund in the manner set forth herein;

3) the Fund offers information on its activities and assets.

2. The governmental bodies and the National Bank of Ukraine have no right to interfere in the activities the Fund carries out in order to implement its legislatively defined functions and powers.

3. The Fund interacts with the governmental bodies and the National Bank of Ukraine within the limits defined by the present Law and other laws of Ukraine.
4. The Fund has a right to receive from the governmental bodies and the National Bank of Ukraine the information necessary for the accomplishment of its legislatively defined goal.

Article 2^1. Fund's operating principles

The Fund is created and operates basing on the following principles:

- Rule of law;

- Impartiality and fairness;

- Independence and separation of the Fund and its employees from government, local government, political parties and other public associations;

- Openness and transparency;

- Accountability and responsibility to the civil society and the state;

- Responsibility towards future generations;

- Political neutrality and non-partisan;

- Economic feasibility (stable level of revenue from the Fund's assets in the long run) and functionality;

- Planning and scientific validity;

- Promoting social and economic development of Ukraine and its regions (including elimination of the inter-regional disparities).

Section II

LEGAL STATUS AND STRUCTURE OF THE FUND

Article 3. Legal status of the Fund

1. The Fund is a national extrabudgetary trust fund.

2. The Fund is an institution that performs special functions.

3. The Fund is a legal entity of public law and has separate property.

4. The Fund is created and operates as an independent body. No governmental body, local authority, public official, legal or natural person may engage in illegal influence on the activities of the Fund. Any interference in the activities of the Fund is not allowed, in particular by providing guidance or instructions, carrying out audits, claiming documents, except as provided in this Law.

5. The Fund is an economically independent institution with its own balance sheet, current and other accounts in the National Bank of Ukraine.

6. The Fund is entitled by the legislation to enter into contracts, acquire property and moral rights, to be a plaintiff and defendant in the courts of Ukraine and other countries.

7. The Fund performs accounting and reporting in accordance with the laws of Ukraine.

8. Reorganization and liquidation of the Fund are carried out in case of justified necessity on the basis of a separate law.

Article 3^1. Employees of the Fund

1. The Fund's employees who perform organizational and administrative (managing the Fund and its units), administrative and economic (managing or disposition of the Fund's property) or consulting and advisory functions are equal in their status to civil servants.

2. Limitations and requirements set by the laws of Ukraine "On Civil Service", "On the Principles of Preventing and Counteracting Corruption" are extended at the employees of the Fund.

3. Employees of the Fund may not use the Fund in the party, group or personal interests or for purposes other than those defined by this Law. For the period of membership in the Fund, the Fund's employee's membership in political parties is suspended.

Article 4. Location Fund

1. Location of the Foundation - Kyiv.

Article 5. Property isolation of the Fund

1. The Fund is not liable for the obligations of the Cabinet of Ministers of Ukraine, central executive bodies, the National Bank of Ukraine and other state authorities or local governments.

2. The Fund is not liable for obligations of the state, and the state is not liable for the obligations of the Fund.

Article 6. Fund Management

1. Management of the Fund is carried out by representatives of the State (appointed by the Parliament and the President of Ukraine) and civil society on a parity basis.

2. The governing bodies of the Fund are the Supervisory Board and the Executive Board.

3. Subject as provided in paragraph 4 of the present Article, the maintenance of the Fund's secretariat, establishment and development of its logistical base is performed at the expense of investment income of the Fund.

4. For the first three years of the Fund's operationalization, the costs of its staff maintenance and establishment of its logistical base at the minimum required level are financed at the expense of the Fund's establishment funds, as defined in Article 10 of this Law.

Article 7. The Supervisory Board of the Fund

1. The Supervisory Board oversees the activities, financial stability of the Fund and compliance with legislatively defined purpose of its activities.

2. The authority of the Supervisory Board includes:

development and approval of the regulations of the Supervisory Board;

approval of the annual expenditure of the Fund;

approval of the Fund's development strategy and the annual plan of its activities;

development and adoption of Fund's asset management;

development and approval of Requirements for financial assets where the funds / assets of the Fund may be invested;

approval of the Main directions of investment policy of the Fund and the Fund's annual investment plan;

approval of the public tenders' regulations for projects funding, requirements for registration of applications for participation in tenders, rules of selection and drawing up a list of projects that could be financed by the Fund;

development and adoption of open competitions to fill positions in the Executive Board of the Fund;

carrying out an open competition and approval of the personal composition of the Executive Board and the Managing Director of the Fund as the outcome of the competition among potential candidates for publicly announced vacancies with job descriptions (if at least two requests for an announced position have been submitted);

determining the structure of the Fund;

approval of the Council for regional development;

approval on proposal of the Executive Board of the personnel schedule of the Fund, the conditions and form of remuneration for the members of the Supervisory Board, remuneration of employees of the Fund, including members of the Executive Board;

approval on proposal of the Executive Board of the external investment consultants selected by open competition;

approval of nominations for the head of the internal audit service;

determine annually the independent external auditor for audit (verification of the financial statements accuracy) of the Fund;

approval of the annual report of the Fund;

determining the order by which the Managing Director of the Fund delegates some of his/her competences to the members of the Executive Board or other employees of the Fund;

ensuring control over publishing the information on the activities of the Fund;

other powers as provided by this Act.

3. The Supervisory Board consists of eight members, who must meet the requirements set out in paragraph 7 of this article. The Verkhovna Rada of Ukraine and the President of Ukraine are appointing by two members of the Supervisory Board each, and four members are delegated by civil society. Undue delays in the appointment / delegation of the members of the Supervisory Board are not permitted.

4. The members of the Supervisory Board of the Fund from civil society are being elected and prematurely withdrawn at the special congress organizations of Ukraine, all of which must meet the following requirements:

a) statutory activities of the NGO must fit the purpose of the Fund, as defined in the Article 1 of the Law;

b) the activities in the relevant area should occur at least for three years prior to the date of application for participation in a special convention;

c) members of the public association are competent in the relevant sphere;

d) operation of public association is active (e.g., during the last three years it has been periodically organizing public events on the problems that exist in the relevant area: initiating public discussion of topical issues, public discussion in the professional sphere, etc.).

5. At the written request of at least three non-governmental organizations that meet the requirements set out in paragraph 4 of this Article, the Ministry of Justice of Ukraine provides the organizational assistance in conducting the special congress of NGOs in a way that ensures the maximum openness and transparency of the process:

a) determines the date of a special congress of NGOs;

b) publishes in the newspaper «Uryadovyi Kurier» and at its official web page (publication at the official web page should be released on the date of publication in the newspaper «Uryadovyi Kurier»), immediately after determining the date of the Congress of non-governmental organizations but in any case at least forty-five days before the respective Congress, the information on:

the date of the special congress of non-governmental organizations and its tentative agenda;

requirements applied to public organizations set out in the paragraph 4,

documents confirming compliance of an NGO with requirements set out in the paragraph 4;

address where interested non-governmental organizations can send their applications to participate together with the documents confirming compliance with the requirements set out in the paragraph 4;

the deadline for applications submission to participate in a special congress of interested NGOs (the relevant period for submitting applications should not be less than thirty days from the date of publication of the information set out in this section);

c) collects and logs all applications for participation received from NGOs; a complete list of NGOs that have applied to participate shall be published at its official web page within two days from the deadline for submission of applications;

d) determines the applied NGOs' compliance with the requirements set out in the paragraph 4; the full list of non-governmental organizations that meet the requirements set out in paragraph 4 shall be published at its official web page within five days from the final date for submission of applications;

d) determines the venue of the congress of the non-governmental organizations and ensures allocation of premises for its realization depending on the number of NGOs that have applied to participate in the special convention and met the requirements set out in the paragraph 4.

6. Each NGO that have applied to participate in the special convention and met the requirements set out in the paragraph 4 of this Article may send only one representative to attend the special congress of non-governmental organizations. The competences of this representative are determined by the power of attorney, which must comply with the law.

The vote at a special congress of non-governmental organizations shall be carried by a simple majority of registered non-governmental organizations representatives' votes.

The Chairman and Secretary of the Congress of non-governmental organizations shall be elected at the beginning of the Congress. In order to approve the final agenda, proposals submitted and decisions taken at the Congress of NGOs, a protocol certified by personal signatures of the Chairman and Secretary of the Congress and present as an observer representative of the Ministry of Justice of Ukraine (subject to any which of these persons' comments or objections to the protocol, they are obliged to sign with the addition of written comments or objections set out to be justified). Immediately after the Congress of NGOs published a protocol (with the submitted objections or comments, if any) on the Ministry of Justice of Ukraine on the Internet, at the official website of the Fund in the Internet (if available), and the original Protocol (together with the submitted objections or comments, if any) shall be deposited with the Ministry of Justice of Ukraine.

7. A member of the Supervisory Board may be a person who is a citizen of Ukraine and does not have citizenship of another state, permanently resides in Ukraine, possesses proficiency in the state language, has completed higher education in economics, finance or law, professional experience of at least ten years, best suits the criteria of outstanding professional and moral qualities, and community authority, as well has no an outstanding conviction and has not been prosecuted for corruption offenses. A member of the Supervisory Board of the Fund cannot be an executive, a member of supervisory board, executive board member, participant or shareholder of the business entity of any ownership type, including a bank or other financial institution.

8. The Supervisory Board is headed by the Chairman elected by the Supervisory Board of the Fund from among its members for a term of three years.

Election of the Chairman of the Supervisory Board must respect the principle of rotation, whereby after the termination of office of the Chairman of the Supervisory Board elected from among the members appointed by the Verkhovna Rada of Ukraine or the President of Ukraine, the next chairman of the Supervisory Board must be elected only from among the members of the Supervisory Board delegated from civil society, and vice versa.

9. The Managing Director of the Fund takes part in the work of the Supervisory Board in an advisory capacity.

10. The members of the Supervisory Board shall serve terms of six years; their term may be extended, but not more than once.

11. Powers of a member of the Supervisory Board appointed by the Verkhovna Rada of Ukraine or the President of Ukraine may be terminated by justified decision of the body that appointed the respected member of the Supervisory Board, unless the six members of the Board (excluding a member of the Supervisory Board, whose early termination of the powers is adopted by the Verkhovna Rada of Ukraine or the President of Ukraine) hold a session within ten calendar days from the date of the decision receipt on early termination of the powers of the respective Supervisory Board member, and decide that this decision is not justified.

Powers of a member of the Supervisory Board delegated from civil society may be terminated in the manner stipulated in paragraphs 4-6 hereof.

Powers of any member of the Supervisory Board shall automatically terminate if:

1) he/she submitted an application for termination of powers at his/her own request;

2) a conviction by a court against him or her enters into force;

3) he/she is prosecuted for corruption offence;

4) he/she dies or is adjudged by a court to be incompetent or partially incompetent, missing or dead;

5) he/she loses citizenship of Ukraine.

The powers of any member of the Supervisory Board shall also terminate on the initiative the Supervisory Board if:

1) he/she is unable to perform his/her duties, also for health reasons;

2) he/she is absent for three or more meetings of the Supervisory Board in the row without valid reasons;

3) circumstances occurred indicating that a member of the Supervisory Board does not meet the requirements defined by the Section 7 of this article.

12. Board members are remunerated by a reasonable and justified reward for the work done at the expense of investment income of the Fund. Thus for the first three years of the Fund's activities the Board members' remuneration shall be paid in reasonable amount at the expense of funds from the sources of the Fund's establishment, as defined in Article 10 of this Law.

13. The question of organization of activity of the Supervisory Board and the order of record-keeping are determined by Regulations approved at its meeting.

14. The Chairman of the Supervisory Board shall exercise the following powers:

1) convenes meetings of the Supervisory Board and presides over them;

2) signs the minutes of the meetings of the Supervisory Board;

3) makes arrangements distributing duties among members of the Supervisory Board;

4) performs other powers and functions in accordance with the Regulations of the Supervisory Board.

15. The Supervisory Board convenes regular meetings at least four times a year. The Supervisory Board may convene the extraordinary meetings on the initiative of its Chairman, at the request of at least three of its members or at the request of the Executive Board of the Fund.

16. Voting at meetings of the Supervisory Board on all issues shall be performed by the simple majority, except as specifically provided by this Law. In the event of a tied vote, the casting vote is that of the Chairman of the Supervisory Board.

In the election of the Chairman of the Supervisory Board the resolution shall be deemed adopted if have received at least six votes of members of the Supervisory Board.

The initial meeting of the newly appointed Supervisory Board is convened under the chairmanship of the oldest Supervisory Board member.

Article 8. Executive Board of the Fund

1. The Fund’s daily operations are managed by the Executive Board, which consists of seven members.

2. Executive Board is responsible for the effective functioning of the Fund.

3. The authority of the Executive Board includes:

The Fund’s asset management under the control of the Supervisory Board;

decision making on the Fund’s assets allocation / investments of the Fund in accordance with the annual investment plan, approved by the Supervisory Board of the Fund;

decision making on concluding the legal transactions under the Fund’s strategic asset management;

determining the structure of the Fund;

organizing and conducting the public election competitions for positions of:

a) external investment advisors;

b) projects for financing;

c) the external auditor;

decision making on other issues arising from the law and the purpose of the Fund, which are not within the competence of the Supervisory Board.

4. Members of the Executive Board may be persons who are citizens of Ukraine and do not have citizenship of another state, permanently reside in Ukraine, possesses proficiency in the state language, have completed higher education in economics, finance or law, professional experience of at least seven years, best suit the criteria of outstanding professional and moral qualities, and community authority, as well have no an outstanding conviction, have not been prosecuted for corruption offenses and work at the Fund on a permanent basis. A member of the Executive Board of the Fund cannot be an executive, a member of supervisory board, executive board member, participant or shareholder of the business entity of any ownership type, including a bank or other financial institution.

5. The Executive Board is headed by the Managing Director of the Fund, appointed by the decision of the Supervisory Board of the results of the open competition.

6. The Managing Director of the Fund exercises the following powers:

1) organizes the work of the Fund and manages its current activity;

2) acts on behalf of the Fund and represents its interests without power of attorney in relations with public authorities, the National Bank of Ukraine, international organizations, and non-governmental organizations, other legal entities and individuals;

3) presides over the meetings and manages the activity of the Executive Board;

4) signs the minutes of meetings, decisions of the Executive Board and agreements concluded by the Fund;

5) distributes duties among members of the Executive Board;

6) issues administrative acts (orders, instructions, mandates) binding upon all employees of the Fund;

7) appoints and dismisses employees of the Fund in accordance with the labour legislation of Ukraine;

8) reports to the Supervisory Board of the Fund on the activities of the Fund.

7. The Managing Director of the Fund has authority to delegate some of his powers to members of the Executive Board or other employees of the Fund in the manner prescribed by the Supervisory Board of the Fund.

8. The Managing Director of the Fund is personally responsible for the activities of the Fund and accomplishment of the tasks assigned to him.

9. Members of the Executive Board and the Managing Director are elected through open competitions for six years and shall be employed by the Fund on the basis of employment contracts.

10. Powers of members of the Executive Board or the Managing Director of the Fund shall automatically terminate if:

1) he/she submitted an application for termination of powers at his/her own request;

2) a conviction by a court against him or her enters into force;

3) he/she is prosecuted for corruption offence;

4) he/she dies or is adjudged by a court to be incompetent or partially incompetent, missing or dead;

5) he/she loses citizenship of Ukraine.

Powers of members of the Executive Board or the Managing Director of the Fund shall also terminate on the initiative the Supervisory Board if:

1) he/she is unable to perform his/her duties, also for health reasons;

2) circumstances occurred indicating that a member of the Executive Board or the Managing Director does not meet the requirements defined by the Section 4 of this article.

3) in cases stipulated by the Labour Code.

Article 8[1]. The Regional Development Council

1. The Regional Development Council is established as an advisory body to the Executive Board of the Fund. It operates on the basis of provisions, approved by the Supervisory Board of the Fund and consists of representatives delegated appropriately by the regional (oblast) councils of Ukraine (one representative from each regional council) and a representative of the Supreme Council of the Autonomous Republic of Crimea.

2. Main objectives of the Regional Development Council are:

a) assistance to the Executive Board of the Fund in the assessment and selection of the projects which Fund finances on the basis of open competitions

b) informing local communities on the competitions which Fund conducts in order to select the projects for financing and on the rules of participation in such competitions;

c) representation of the interests of Ukrainian oblasts' and Autonomous Republic of Crimea at competitions for the selection of projects for funding.

3. The Regional Development Council operates on a periodic basis and is convened by the Managing Director of the Fund for the period of preparation and realization of open competitions for the selection of projects for funding.

Section III
SOURCES AND MECHANISMS OF THE FUND'S BUDGET FORMATION

Article 9. Relationships between the Fund and the state budget

1. The Fund's financial assets shall not be included into the state budget of Ukraine and may not be subject to seizure.

2. The Fund has the independent revenue sources referred to in the Article 10 of this Law, and carries its costs independently from the state budget of Ukraine.

3. Payments to the Fund's budget are incoming directly to Fund and not to the state budget of Ukraine.

Article 10. Sources of Fund's formation

1. Sources of Fund's formation are:

1) 25 percent of the subsoil-use charges for the extraction of oil, natural gas and gas condensate;

2) funds received by the state form conclusion and implementation of the production sharing agreements in the oil and gas sector, including:

proceeds from payments for participation at the competitions for conclusion of production-sharing agreements;

proceeds from the sale of tender documents for conclusion of production-sharing agreements;

proceeds from the use (sale) of the part of manufactured products owned by the state (the state share of extracted minerals) in accordance with production-sharing agreements;

bonuses and other remuneration paid by investors during the conclusion and implementation of production sharing agreements;

proceeds from the use (sale) of property created or bought by the investor for implementation of production-sharing agreement, the ownership of which has been transferred from the investor to the state under such agreement;

taxes, fees and other mandatory payments paid by the investor during the implementation of production-sharing agreements (except personal income tax levied on wages and other remuneration and benefits, and except the single contribution to mandatory state social security of Ukrainian employees and foreigners employed in Ukraine);

50 percent of the funds paid by the investor or insurer as compensation of damage caused to the environment due to the investor's activity associated with the implementation of production-sharing agreement;

proceeds from penalties paid by the investor for failure or improper fulfilment of its obligations under the production-sharing agreement;

3) proceeds from the excess of the state budget of Ukraine actual revenues generated by entities engaged in oil, natural gas and gas condensate extraction (in the form of the subsoil-use charges for the extraction of oil, natural gas and gas condensate, as well as

the fee for the issuance of special permits for subsoil use and proceeds from the sale of these permits or in the form of payments that will introduced instead of mentioned charges and/or fee) over respective planned revenues, defined by the relevant Law of Ukraine on State Budget of Ukraine (excluding its subsequent amendments) basing on the results of the calendar year in the manner, determined by the Supervisory Board of the Fund and upon public authorities of Ukraine;

4) interest accrued on the outstanding balance of the Fund's account with the National Bank of Ukraine;

5) funds from the state budget of Ukraine;

6) Income tax and value added tax, charged in connection with the Fund's activity;

7) voluntary and charitable contributions of legal and natural persons, their associations to the Fund;

8) revenues and profits from the activity carried out by Fund as a legal entity.

2. The Fund may be funded from other sources which are not prohibited by the laws of Ukraine.

Article 11. Credits and loans

1. Fund is prohibited to raise funds in the form of credits and loans.

Article 12. Taxation

1. Income tax and value added tax due to the Fund's activity shall be allocated to the formation of the Fund's resources.

Section IV
PRINCIPLES AND MECHANISMS OF FUND'S STRATEGIC RESOURCE MANAGEMENT

Article 13. Bank accounts of the Fund

1. The Fund's financial assets in Ukraine shall be accounted on special accounts opened at the National Bank of Ukraine.

For the use of funds deposited in special accounts of the Fund, the National Bank of Ukraine shall pay the Fund the interest established by the bank account contract, the amount of which cannot be less than the National Bank of Ukraine discount rate valid during the allocation of funds to the appropriate account.

2. In the exercise of the Fund's asset management in order to achieve its objectives defined by this Law, and subject to the limitations established by this Law, the Fund's

financial assets may be allocated in national and/or foreign currency in accounts at the commercial banks of Ukraine that meet creditworthiness requirements established by the Fund's Supervisory Board.

3. Exclusively in order to use them to achieve its objectives defined by this Law, the Fund is entitled to open national and/or foreign currency accounts at the first-class foreign banks (which has minimum long term international rating of A) in stable countries (having investment rating of no lower than class A on a scale established by one of the rating companies: Standard and Poor's, Moody's or Fitch).

4. The funds from banks accounts may not be withdrawn in indisputable manner.

Article 14. The assets of the Fund

1. The Fund's resources (assets) are composed of the following:

1) assets in cash, including in foreign currency;

2) assets in securities;

3) assets in bank metals;

4) assets in real estate;

5) other assets not prohibited by law.

Article 15. The Fund's assets in securities

1. The Fund's assets in securities shall include exclusively:

1) securities whose redemption and income shall be guaranteed by the Cabinet of Ministers of Ukraine;

2) shares, listed in accordance with the legislation and traded on the stock exchange, that meets the requirements set by the National Commission on Securities and Stock Market;

3) shares and mortgage bonds of the Ukrainian issuers whose credit rating whose credit rating corresponds to the investment grade by legally established Ukrainian National Rating Scale, or which are listed on the stock exchange in accordance with the legislation, that meets the requirements set by the National Commission on Securities and Stock Market;

4) securities, which repayment and income are guaranteed by the governments of foreign states having the external debt rating of no lower than class A on a scale established by one of the rating companies: Standard and Poor's, Moody's or Fitch;

5) bonds of foreign issuers with the investment rating of no lower than class A on a scale established by one of the rating companies: Standard and Poor's, Moody's or Fitch;

6) shares of foreign issuers traded on the regulated stock markets and listed on one of such stock exchanges as New York Stock Exchange, London Stock Exchange, Tokyo Stock Exchange, Frankfurt Stock exchange or NASDAQ Trade-and-Information System.

2. In addition to the specified in item 1 of this Article, the Supervisory Board of the Fund may determine other foreign stock exchanges and trade information systems, through which the Supervisory Board of the Fund allocates its assets in securities. Here, the issuer of such shares shall have been in operations for at least 10 years and shall be the resident of the country the external debt rating of no lower than class A on a scale established by one of the rating companies: Standard and Poor's, Moody's or Fitch.

Article 16. The Fund's asset management

1. The Fund's asset management is performed by the Executive Board under the control of the Supervisory Board by means of:

1) accumulating funds that arrive in Fund's bank accounts;

2) investment in order to preserve assets and obtain investment income for the Fund, including through the acquisition, disposition and other transactions with assets and financial instruments;

3) funding projects on account of the Fund's investment revenues shall be focused exclusively on:

support of the innovative capacity of Ukrainian economy through investments in education, higher education, research and development;

support of energy saving projects;

implementation of intergenerational solidarity by supporting the pension system;

support of health and human life.

2. The Fund's asset management objective is to preserve these assets and, in a long term perspective, to ensure a stable income level from their allocation (investment) through a reliable investment policy. The Fund's asset management objective to ensure a stable income level from their allocation (investment) in a long term perspective thereupon leaves room for the negative financial results in the short term.

Article 17. Ensuring the reliable investment policy

1. The reliable investment policy is ensured with:

1) setting a benchmark portfolio of the Fund’s assets (the ratio between e investments in equity instruments, financial instruments and real estate);

2) establishing requirements for diversification of the Fund’s assets;

3) establishing requirements for individual issuer;

4) establishing requirements for risk management and conducting periodic risk assessment;

5) restriction on the currencies in which the Fund’s assets may be located;

6) restriction of the territorial scope of the Fund’s activity.

2. 2. The Supervisory Board approves the Regulation on the fund’s asset management (hereinafter - the Regulation on Management) and the Requirements for financial assets where funds/assets of the fund may be allocated (hereinafter - the Requirements for Financial Assets).

3. Not later than December 1st of the year preceding the planned, the Supervisory Board approves on the proposal of the Executive Board the Main guidelines of investment policies and regulations of the fund’s assets investment in the calendar year under planning (hereinafter - the Main Guidelines). This is a document that in accordance with this Law defines guidelines and restrictions regarding the Fund’s assets investment, the level of investment income, the amount of funds spent for administrative and other purposes in the respective calendar year.

4. The Regulation on Management, the Requirements for Financial Assets and the Main Guidelines are mandatory for the Executive Board of the Fund and subject to mandatory disclosure immediately after their approval.

5. Basing on Regulation on management, the Requirements for Financial Assets, and the Main Guidelines, the Executive Board determines and approves the annual proportion of investments in each asset type including definition of criteria for selecting the investment objects, subject to the specific grades of investment rating.

The content of assets investment regulations shall not contradict the provisions of the approved Main Guidelines and the present Law.

Article 18. Restrictions of the Fund’s investment policy

1. When managing the Fund’s assets shall be prohibited:

1) to form its assets through loan (credit) funds or any other funds which are not the assets of the Fund;

2) to provide to provide bails, property guarantees or any other credits (loans) a t the expense of the Fund's assets;

3) to enter into purchase and sale agreements or assets swaps under the condition of a mandatory repurchase;

4) to keep over 50% of the total value of the Fund assets in current bank account, bank deposits and bank savings certificates, and over 10% of the total value of the Fund's assets in the liabilities of one bank;

5) to purchase or additionally invest over 5% of the total value of the Fund's assets into securities of one issuer and keep in Fund's assets over 10% in the liabilities of one issuer;

6) to purchase or additionally invest over 25% of the total value of the Fund's assets into securities whose repayment and income is guaranteed by the Cabinet of Ministers of Ukraine;

7) to purchase or additionally invest over 10% of the total value of the Fund's assets into local bonds;

8) to purchase or additionally invest over 25% of the total value of the Fund's assets into bonds of Ukrainian legal entities;

9) to purchase or additionally invest over 25% of the total value of the Fund's assets into shares of Ukrainian legal entities;

10) to purchase or additionally invest over 25% of the total value of the Fund's assets into securities whose repayment and income is guaranteed by the governments of foreign states;

11) to purchase or additionally invest over 25% of the total value of the Fund's assets into shares and bonds of foreign issuers are listed on the regulated stock markets of foreign states;

12) to purchase or additionally invest over 5% of the total value of the Fund's assets into assets into other assets permitted by the legislation of Ukraine, but not envisaged in this Article;

13) to purchase or additionally invest over 10% of the total value of the Fund's assets into securities whose repayment and income is guaranteed by the government of one foreign state;

14) to keep over keep over 30% of the total value of the Fund's assets in US

Dollar, Euro, Swiss Franc, British Pound Sterling, thereon to keep over 10% of the total value of the Fund's assets in the liabilities of one bank;

15) to purchase or additionally invest over 10% of the total value of the Fund's assets in real estate objects.

2. The Fund's assets held in commercial banks deposits shall not place less than in three commercial banks. There, the distribution of funds in banks deposit accounts should be such that the difference in the amounts shall deviate not more than 10%.

3. Subject to the provisions of this Law, the purchase and sale of securities shall be only on competitive basis or on one of the stock exchanges such as New York Stock Exchange, London Stock Exchange, Tokyo Stock Exchange, Frankfurt Stock exchange or NASDAQ Trade-and-Information System, or on stock exchanges or trading information systems defined in accordance to Article 15 of this Law.

4. The Fund's assets shall not be allocated in banks and financial institutions:

a) where a member (shareholder) or related or interested person is a member of the Supervisory Board or Executive Board, or his/her relatives, or the Fund's employee;

б) which during the current or preceding calendar year have made voluntary or charitable donations to the Fund.

5. The Fund shall not invest its assets in shares, bonds and other securities of following issuers:

a) where an employee, a member (shareholder) or related or interested person is a member of the Supervisory Board or Executive Board, or his/her relatives, or the Fund's employee;

б) which during the current or preceding calendar year have made voluntary or charitable donations to the Fund.

Article 19. Restrictions of the territorial scope of the Fund's activity

1. The Fund has a right to carry out its investment activity only:

1) in Ukraine, and

2) in the stable foreign countries having the external debt rating of no lower than class A on a scale established by one of the rating companies: Standard and Poor's, Moody's or Fitch.

Article 20. Currency restrictions

1. Currency assets of the Fund may be allocated only Ukrainian Hryvnia, in US Dollar, Euro, Swiss Franc, and British Pound Sterling.

2. Restrictions on the of currency values placement in accounts and deposits outside Ukraine, including the requirement to obtain an individual license of the National Bank of Ukraine, shall not be binding upon the Fund's operations performed in order to implement its legally prescribed functions and powers.

3. Not more than 50% of the total value of the Fund's assets shall be invested as foreign currency deposits abroad.

4. Not more than 10% of the total value of the Fund's assets shall be invested in the liabilities of one bank.

Article 21. External investment consultants

1. The Fund is entitled to entrust on a contractual basis the other persons (who have the necessary licenses, continued experience, qualifications and professional reputation, and who shall be chosen through open competition), with functions of the trust management of part of the of the Fund's assets (hereinafter - external investment consultants).

2. The transfer of the Fund's assets in trust management of an external investment consultant does not entail the transfer of ownership of this external investment consultant. Income from the Fund's assets trust management is not owned by an external investment consultant, but shall be accounted as growth of the Fund's assets transferred in trust management. An external investment consultant must separate the Fund's assets charged in his/her trust management from its own property and property of the third persons, by separate accounting of the Fund's assets, which are held in trust management, and financial assets acquired during the Fund's assets trust management.

3. The services of the external investment consultant are paid as a fixed portion of net profits proceeded from consultant's trust management of part of the Fund's assets. The external investment consultant's services payment is established for every particular case by the Supervisory Board of the Fund.

4. One external investment consultant may be entrusted no more than 10% of the total assets of the Fund.

5. The Fund publishes and regularly updates (quarterly) information on the engaged external investment consultants, on the Fund's assets transferred to the each of the external investment consultants, and the profits or losses derived from the Fund's asset management by each external investment consultants.

6. The essential terms of the agreement concluded with each external investment consultants by the Fund are:

1) provisions on termination of the agreement and the return of assets transferred

to the trust management if it is unprofitable within twelve calendar months from the date of the transaction;

2) provisions on full compensation by the external investment consultant for losses caused to the Fund as a result of its intentional action or inaction, negligence or criminal offenses by the employees or officials of the external investment consultant;

3) prohibition on the Fund's assets transfer by the external investment consultant to the third persons;

4) the list and structure of the Fund's assets charged in the trust management;

5) responsibility of external investment consultant to provide the Fund with a report on the trust asset management within the terms defined by the contract, but not less than once per calendar;

6) other conditions defined and approved by the Supervisory Board of the Fund.

7. The financial (property) responsibility of the engaged external investment consultants, including damage caused to the Fund as a result of professional errors, must be insured.

Section V
PRINCIPLES AND DIRECTIONS OF THE USE OF FUND'S ASSETS

Article 22. Targeted use of the Fund's assets

1. The assets of the Fund are used exclusively for reaching the established goal of the Fund defined by article 1 of this Law.

2. The Fund's assets are used with maximum safety, profitability and transparency.

Article 23. Unbundling of state debt obligations

1. The assets of the Fund cannot be used for covering debt obligations of the Cabinet of Ministers of Ukraine, National bank or any other state or local authorities.

Article 24. Limitations regarding the financial aid

1. The Fund must not provide irrevocable or interest-free financial aid for the goals that are not directly foreseen by this Law and/or in a way which is different from the one defined by this Law.

Article 25. Principles of the use of the Fund's assets

1. The Fund is the only administrator of the assets accumulated within its activities.

2. Earnings and assets of the Fund can be only used for the investment activities on market principles, and also in accordance with the rules defined by article 26 of this Law.

3. The earnings and assets gained by the Fund within first ten years since the date of the state registration of Fund cannot be directed at implementing any projects but are supposed to be just administered (invested) for the sake of their accumulation, preservation and enhancement.

4. Only the net profit gained from the investment activities of the Fund can be used for the implementation of projects by means of the Fund's assets and in accordance with this Law.

Article 26. The directions of the use of net profit gained from the investment activities of the Fund

1. The net profit gained from investment activities of the Fund can be used exclusively for the direct financing of the concrete projects or in the form of transfers to state budget of Ukraine for covering the protected budget lines in the following spheres:

support to the innovative potential of the Ukrainian economics by investing into preschool education, education, higher education, scientific studies and development;

support to energy-saving projects;

realization of solidarity principles between the generations by supporting pension system;

support to health care and human lives.

2. The maximum transfer to the state budget of Ukraine during one budget year cannot exceed 50% of the expected annual budget of the Fund's spending aimed for the project activities. The transfers to the state budget during to consequent calendar years are not allowed. At the same time, the use of net profit gained by the investment activities is allowed only in exceptional cases in case there is a significant deficit of state budget. The decisions on the transfers to the state budget are taken by the Fund's Supervisory board on the proposal of Executive board of the Fund.

3. The part of the net profit gained from investment activities of the Fund (no less than 25% but not more than 50%) is used for the implementation of the projects of high importance for the support and social and economic development of the regions (oblasts of Ukraine and the Autonomous Republic of Crimea) and corresponds with the goals of the Fund's activities.

During the process of projects' selection, the priority is given to the projects that:

а) are of high importance for social and economic development of two and more oblasts of Ukraine / the Autonomous Republic of Crimea;

б) are partly covered by costs of local budgets (budgets of the Autonomous Republic of Crimea, oblast, rayon budgets and/or budgets of local authorities);

в) are complex by their nature (aimed not at the support of separate enterprises, institutions or organizations but at the respective spheres or branches).

At the same time 50% of the share, which is annually used for financing of the projects of regional development, should be directed at the implementation of the projects which are of high importance for the development of the regions (oblasts of Ukraine / Autonomous Republic of Crimea), which are oil, natural gas or gas condensate producing.

Article 27. The mechanism of use of the Fund's assets for financing the projects

1. The Executive board of the Fund, grounding on the proposals of central and local authorities, civil society organizations are conducting an open competition, shapes the list of the projects which can get financing from the Fund and by July 1 of each year preceding planned calendar year, and submits for consideration of Verkhovna Rada of Ukraine together with the information on the volume of accessible funding.

2. Approved by the Verkovna Rada of Ukraine list of projects is considered by the Supervisory board of Fund in the expenditures for the planned calendar year.

3. Financing of each concrete project is made directly by Fund as the outcome of consideration of the proposals and conducting of the open competition.

4. The Fund is taking control over the efficiency, legality and expediency of use of costs for the project implementation independently and/or with the involvement of the external auditors.

5. The Fund promulgates and regularly updates (semi-annually) at its official web-page in Internet the information on the Fund's resources used for financing of the projects that gained financing from the Fund, including the information on the timeline and the outcomes of the realization of the projects.

Section VI
CONTROL OVER THE FUND'S ACTIVITIES

Article 28. The ways of control

1. The activities of the Fund are to be controlled both by state authorities and civil society organizations.

Article 29. Fund's reporting

1. The Fund is preparing monthly and annual reports which are to be published.

The annual report includes the report in the Fund's activities in the reporting year and financial reporting.

In the monthly and annual reports there necessarily should be data on:

volume of Fund's assets at the beginning and at the end of the reporting period;

shaping of the Fund's assets during the respective reporting period;

depositing costs and submission of other assets to the Fund during the respective reporting period;

placing and use of the Fund's assets during the respective reporting period with naming and describing the key characteristics of the objects of financing;

the rates of interest that were applied during the reporting period for the Fund's assets, placed at the bank accounts with naming the respective bank institutions.

2. The credibility of the annual financial reporting of the Fund is annually confirmed by the independent auditor (audit company), which has the experience of conducting audit in accordance with the world standards of audit.

Independent auditor is appointed as the result of open competition with the compulsory publishing of the proposals of each participants of the competition and the results of the competition. One and the same auditor cannot conduct the audit of the annual financial reporting of the Fund more than three years in a row.

3. Annual report of the Fund and the conclusion of the independent auditor are to be published before July 1 of the year next to the reporting one.

Article 30. Internal audit

1. For the internal control and audit of the Fund the internal audit service accountable to the Supervisory board is operationalized and acts in accordance with the internal rules adopted by the Supervisory board. The head of the internal audit service is appointed and fired by the Supervisory board of the Fund.

2. Internal audit service has the following functions:

1) conducts periodical evaluations of the activities of the Fund in regard of compliance to the legislative demands and decisions of the administrative units of the Fund;

2) conducts the evaluation of the financial and investment activities of the Fund;

3) conducts other functions in accordance with the rules on the activities of internal audit service.

3. Internal audit service regularly (by 1st day of each quarter) provides the reports to the Supervisory board including the conclusions and proposals regarding the issues under service's competence. The reports of the service are to be approved by the Supervisory board of the Fund.

4. The conclusions and the proposals of the internal audit service are to be considered during the process of Fund's activities.

Article 31. Independent evaluations

1. No less than once in two years independent evaluation of the Fund's assets and assessment of the quality and effectiveness of management and/or servicing of the part of assets of the Fund (further – independent evaluation).

2. One and the same evaluator is not allowed to conduct independent evaluation more than three times in a row.

3. The results of independent evaluation are to be published immediately.

Article 31^1. Ensuring of openness and transparency of the Fund's activities.

1. Any information which is at Fund's disposal is to be open and accessible to the public with the exception of approved by the Fund's Supervisory board list of data the access to which is limited by the legislation or is commercially sensitive with sound reasoning.

2. The Fund is obliged to publish information about itself and its activities, as it is envisaged by this Law. By the decision of the Supervisory board the Fund can also publish other information.

3. The information regarding the Fund and its activities is made public by the following means

a) by publications in mass media;

b) by placing information in the informational systems and at the official websites in Internet network;

c) by placing information at the information boards;

d) by other means which are not forbidden by legislation of Ukraine.

4. Fund is obliged to create and maintain its official web-site in Internet network.

Section VII
FINAL PROVISIONS

Article 32. Final provisions

1. This law comes into force on the day next after its publication and gets operational since January 1 of the next calendar year next to the date when this Law came into force.

2. to Cabinet of Ministers of Ukraine:

to foresee the expenses necessary for launching the Fund in a state budget for the year when the Law becomes operational;

before this Law gets operational to solve the issue of Fund's location and also to take the necessary organizational measures for launching the activities of the Fund;

in three month after this Law comes into force but not later than this Law becomes operational to reach an agreement with the investors and to adopt the amendments to already concluded agreements regarding the distribution of the production in oil and gas sector and/or to send the official notes to investors with the provisions of the mentioned treaties in order to make sure that the investors will transfer the costs foreseen by paragraph one of article 10 of this Law directly to the Fund's account;

while preparing and signing the treaties on the distribution of production in oil and gas sector to foresee the provisions that will ensure receiving the costs envisages by paragraph one of article 10 of this Law directly to the Fund's account;

before this Law becomes operational to ensure adaptation of its normative legal acts into compliance with the Law and in accordance with its competence to ensure adoption of normative legal acts envisaged by this Law;

to ensure revision and cancellation by the ministries and other central authorities of Ukraine their normative legal acts that contradict this Law.

3. To adopt the amendments to the following legal acts of Ukraine:

1) in the Budget Code of Ukraine:

a) to adopt paragraph four of article 9 in the following edition:

«transfers-costs received from other state authorities, authorities of the Autonomous Republic of Crimea, local authorities, other states or international organizations, extrabudgetary trust funds on gratuitous and irrevocable basis»;

б) to enrich Chapter 2 with the article 13-1 of the following content:

«**Article 13-1. The National development fund**

1. The National development fund is functioning as extrabudgetary all-state trust fund in accordance with the law.

2. Interactions between the National development fund and the State budget of Ukraine is regulated by this Code and a separate law»;

в) to enrich paragraph two of article 15 with the wording: "and also the costs of the National development fund (except for the transfers to the State budget for covering targeted protected budget lines in accordance with the order envisaged by a separate law)".

г) in article 29:

paragraph two to read as follows: "2) the income tax of the enterprises (except for the paragraph 2 of part one of article 69 of this Code and except of income tax of enterprises connected with the activities of National development fund which is used exclusively for forming the resources of the mentioned Fund)";

paragraph five to read as follows: "5) 50% of payment for the use of subsoil and extraction of minerals of national meaning (except for payment for mining for extraction of oil, natural gas and gas condensate, 75% of which is transferred to the general fund of state budget, and 25% – transferred to National development fund)";

paragraph six to read as follows: "VAT (except for the VAT connected with the activities of National development fund, which is used exclusively for forming the resources of the mentioned Fund)";

2) In the Law of Ukraine "On distribution of production":

a) chapter III to enrich with the following article 25-1:

«**Article 25-1. Targeted use of costs gained by the state while implementing the treaties on the distribution of products in oil and gas sector**

1. The following costs gained by the state while implementing the treaties on distribution of products in oil and gas sector are to be transferred to National development fund:

1) costs gained from use (realization, selling) part of produced goods which remains in the state's property (state's share of extracted mineral resources) in accordance with the treaties on the distribution of the production;

2) costs gained from payments for the participation in the competition for signing the treaties on the distribution of production;

3) costs gained from selling the packages of documentation for signing the treaties on the distribution of the production;

4) bonuses and other rewards which are paid by investor while signing or implementing the treaties on the distribution of production;

5) costs gained from use (realization, selling) property, produced or gained by investor for the implementation of treaty on distribution of production the right of property for which was received by the state from the investor as the outcome of the respective treaty on distribution of production;

6) taxes, collections and other obligatory payments which are paid by investor during implementation of treaty on dissemination of production (except for the income tax of physical persons from salaries and other rewards or payments and except for the single fee for obligatory state social insurance of Ukrainian employees and foreigners employed in Ukraine);

7) 50% of costs paid by investor or insurer in order to compensate damage caused to environment connected with the implementation of treaty on distribution of production;

8) the sums of fine sanctions paid by investor for non-fulfilling or improper fulfilment of its obligations under the treaty on distribution of production.

2. The costs mentioned in part one of this article can be used only according to the purposes, defined by the Law «On National development fund»;

б) first sentence of article 21 to read as follows:

«The share of the produced goods which belong to the state property is realized by the rules and in accordance with the purposes defined by the law on «On National development fund»;

3) Paragraph one of article 31 of the Code of Ukraine in subsoil to read as follows:

«Payment for the use of subsoil is transferred to state and local budgets and to the National development fund in accordance with the Budget code of Ukraine. Simultaneously, National development fund gets 25% of fee for the use of subsoil for oil, gas and gas condensate production, if the higher fee is not foreseen by the law on State budget for the respective year.

Besides, costs that exceed the actual performance of gains of the State budget of Ukraine gained from business entities which are performing activities on oil, gas and gas condensate production (in a form of payment for use of subsoil for producing oil, gas and gas condensate and also as the fees for special permissions for use of subsoil and costs from selling such permissions or payments which will substitute the mentioned fees and or/collections) higher than forecasted (planned) rates, defined while adopting the respective law of Ukraine on State budget of Ukraine (without taking into consideration further amendments and additions to it) in accordance with the results of the respective calendar year in accordance with the rules, defined by Supervisory board of the Fund, which are obligatory for the state authorities of Ukraine».

4) In article 164-12 of Code of Ukraine on administrative violations:

a) in part one the words «violations of the demands of Budget Code while making the spending from state budget (local budget) in case of non-timely coming into force of Law on budget of Ukraine (non-timely decision on local budget) for the respective year» to be enriched with the words «; violations of the Law of Ukraine «On National development fund» regarding the payments for shaping the National development fund»;

б) in part three:

words "creation of extrabudgetary funds" to be enriched with the words "(except for the National development fund)";

words "violation of the demands of Budget code of Ukraine regarding allocation of funds from reserve fund budget" to be enriched with the words: "; violation of the demands of Law of Ukraine "On National development fund" regarding the order of management of resources of the National development fund or the way of conducting by the National fund of the investment policy or regarding the use of the resources of the National development fund";

5) Article 210 of the Criminal Code of Ukraine to read as follows:

Article 210. Improper use of budget costs or costs of National development fund, payments from budget or providing the credits form budget without defined budget allocations or with the excess of them

1. Improper use of budget costs by official, improper use of costs of the National development fund, as well as payments from the budget and providing credits from the budget without defined budget allocations or with the excess of them which violates Budget Code of Ukraine and the Law on State Budget for the respective year if the subject of such activities are budget costs or costs of the National development fund in big amounts, -

are punished by fine from one hundred to three hundred untaxed minimum incomes of citizens or by correctional labour for the term up to two years or limitation of freedom for the term of up to three years with deprivation of right to hold certain positions or to do certain activities for the period of up to three years or without such deprivation.

2. The same activities if the subject is budget costs or the costs of National development fund in significantly big amounts or committed for the second time or as the outcome of prior plot of persons, -

punished by limitation of freedom for the term from two to five years or imprisonment for the term from two to six years with the deprivation of right to hold certain positions or to do certain activities for the term of up to three years».

Head of
the Verkhovna Rada of Ukraine

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