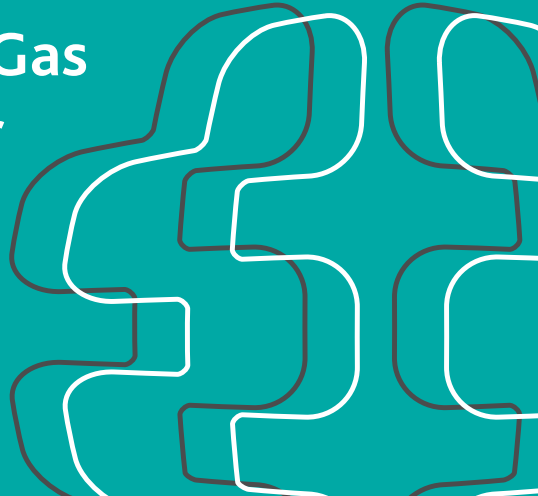




Opportunities and Challenges for Foreign Investments in Ukrainian Oil&Gas Production Sector





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SUMMARY

The government of Ukraine is taking steps to attract foreign capital in the industry and meet the needs of foreign investors. E.g., this includes creation of the National Investment Council^A chaired by Borys Lozhkin (former head of the Presidential Administration of Ukraine) and Business Ombudsman Council^B to protect investors' rights. Given the plans of Ukrainian government to increase domestic gas production up to 27 bcm by 2020, it is important to understand the ways, how it can be achieved and how investors can contribute to it. Our recommendations for foreign businesses interested in Ukraine's upstream sector include the following:

Focus on partnerships with big state-owned companies or private producers with well-established reputation, starting with offering solutions to improve technical equipment.

In particular, the annual growth of oil and gas reserves should be 2-3 times more than current production levels^C. Demand for modern exploration and production technology is explained by depletion of Ukrainian conventional fields (main fields on the final stage with 85-90% depletion) and lack of exploration of unconventional fields. This would generate demand for deep drilling equipment, drilling rigs and workover rigs^D. Ukraine does need not only appropriate equipment, but also service support for some operations, namely hydraulic fracturing^E, well stimulation, sidetracking idle wells, revitalizing existing water floods etc.^F Details about companies' plans, tenders etc. can be found on websites (in particular, UGV^G, Ukrnafta^H), the ProZorro procurement system^I or industry associations.

^A Lozhkin hopes to establish investment council within two, three months. Interfax Ukraine. August 30, 2016

^B boi.org.ua/en

^C Trends in oil&gas industry in Eastern Ukraine. Unconventional gas in Ukraine

^D 'Success in Ukgazvydobuvannya reforming process'. National Reforms Council. February 18, 2016


^E UGV conducted first successful fracking operation

^F 'Ukrnafta to increase oil production by retrofitting existing wells'. Ukrnafta. August 9, 2016

^G ugv.com.ua/en

^H ukrnafta.com/en

^I prozorro.gov.ua/en



Such partnerships can start with supply or service agreements and develop into full-scale JV or operation agreements under existing licenses or application for new ones.

Join associations of oil&gas production companies to receive support in terms of information and good practices, explore experience of investors already operating in Ukraine.

One of them is the American Chamber of Commerce in Ukraine (ACC), which aims to promote further development and modernization of Ukraine's energy sector by attracting investment, in support of the vision of a more energy self-reliant Ukraine^J. As for companies, energy part of the ACC consists of such influential players as Eni Ukraine, DTEK Naftogaz, and CMS Cameron McKenna. Another similar union is the European Business Association (EBA) where members can discuss and find solutions to common problems affecting business in Ukraine, as well as receive information on developments and regulatory environment^K. Among members with expertise in energy sector are CMS Cameron McKenna, EY, KPMG in Ukraine etc^L. However, one of the most relevant alliances is the Association of Gas Producers of Ukraine (AGPU). Its main tasks include creation of a competitive energy market and improve investment attractiveness of gas producing industry^M. Among its members are all key producers – UGV, DTEK Naftogaz, Burisma Holdings, Geo Alliance Group, Smart Energy, KUB-Gas and Poltava Petroleum Company.

^J The American Chamber of Commerce. B2G. Energy

^K About the EBA. European Business Association

^L Reviews from members. European Business Association

^M Mission. Association of Gas Producers of Ukraine



Seize the opportunity to influence the rules for oil&gas market operation, which will be changed along with the large-scale review of legislation and regulation.

Expertise and knowledge of foreign investors are frequently used by Ukrainian companies and decision-makers as a proof in discussion on new rules. E.g., the ACC energy committee meets to discuss positions towards legislation^N or even to elaborate on specific draft legislation like the new Subsoil Code^O. The AGPU members can influence decision-making through meetings with the government officials and politicians. In particular, recently they discussed the Concept of Gas Production Industry Development by 2020 aimed to contribute to the production growth program by means of creating an attractive investing and regulatory environment^P. In addition to business, think tanks and independent experts are part of the government working groups focused on certain draft laws. Being a part of such community can help protect and support business interests, introduce best standards and practices into the Ukrainian market.

^N Energy Committee Meeting. ACC. August 4, 2016

^O Meeting of the Working Group on Draft Subsoil Code. ACC. August 5, 2016

^P The Conception of the Ukrainian gas production industry development until 2020. Association of Gas Producers of Ukraine. September 11, 2016

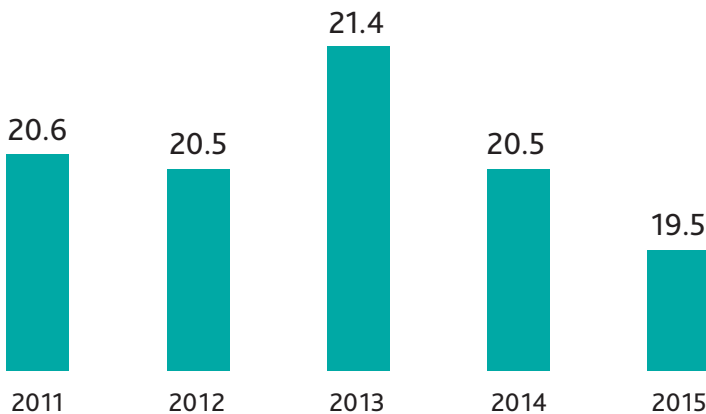
SECTOR'S OVERVIEW

GAS PRODUCTION

Resources of oil and gas play a major role in Ukraine's energy mix. Notably, in 2014 the share of natural gas and oil amounted 31.6% and 10.1% respectively¹. Since the breakup of Soviet Union and until recently, Ukraine's energy dependence from Russia was extremely high. In particular, in 2014 Ukraine imported from Russia 14.5 bcm of gas, whereas now Ukraine refused from purchasing Russian gas and switched to supplies from the European side².

One of the ways to reduce this dependence or even refuse from gas imports is ramping up own production. These issues are now among Ukrainian government priorities. In particular, according to the Concept for increasing gas production, Ukraine should increase its gas output up to 27 bcm by 2020³. Also, the State Service for Geology and Mineral Resources plans to support increase in oil and gas production up

Trends in gas production, bcm



Source: Naftogas

¹ Energy balance of Ukraine in 2014. State Statistics Service. December 21, 2015

² Ukraine purchased 63% of its imported gas in Europe in 2015. Naftogaz Europe. February 2, 2016

³ 'Vice Prime Minister tells when Ukraine will be able to provide itself with their own gas production'. 112 Channel. October 5, 2016



to 35% by 2020⁴. Moreover, according to the Ukgazvydobuvannya (UGV) Strategy 20/20, company is planning to increase the output to 20 bcm by 2020⁵. However, in the last 5 years Ukraine's attempts did not achieve this goal.

Several factors contributed to this trend. In particular, the reason why gas production has dropped is the changing fiscal regime. In 2015, the parliament increased rent payments (royalties) to 55% (wells above 5 km) and 28% (wells below 5 km)⁶, and returned to the previous levels 29%/14% only in 2016. According to management of Chevron, it was one the major reasons why it has frozen its shale gas exploration project in the Oleska field⁷. In 2015, Ukraine has reduced gas production by 1.4% compared to 2014, with the largest share accounted for state-owned companies. These companies are under Naftogaz control and by April 2016⁸ were used as source for subsidizing low gas price for households. According to Ukrainian media⁹, among the reasons was also the corporate conflict between shareholders of Ukrnafta (Privat group and the government). It resulted in underinvestment and subsequent production decline of Naftogaz group by 13.6% or 237 mcm¹⁰. Also, a major impact on industry resulted from the Russian aggression towards Ukraine: early estimates immediately after Crimea annexation mentioned 300 mln USD of lost opportunities in offshore resources' development, with estimated reserves at 2.3 bn tons of standard fuel¹¹. However, the share of explored gas reserves does not exceed 4%¹². At the same time, compared to offshore fields, onshore fields in Ukraine are more developed and have advanced infrastructure in place (pipelines, storages, drilling teams).

⁴ 'The State Service for Geology and Mineral Resources plans to increase oil and gas production by up to 35% by 2020'. RBC –Ukraine. August 2, 2016

⁵ Gas production in Ukraine decreased by 3% in 2015. Naftogaz. Ukraine. February 2, 2016

⁶ Tax Code (02.12.2010 No. 2755-VI). Verkhovna Rada.

⁷ Chevron confirms Ukraine shale pull out. Natural Gas World. December 16, 2014


⁸ From May 2016, the government adjusted gas prices for households to import parity level, effectively removing any subsidies.

⁹ 'How much largest oil and gas companies in Ukraine earn?' Khvyliya. September 19, 2016

¹⁰ Ibidem

¹¹ 'Prodan estimates Ukraine's losses from Crimea and Black Sea shelf loss'. IPress.ua. July 7, 2014

¹² 'Trends and priorities of domestic gas production development'. Razumkov Centre



One more reason why gas production dropped is the fact that the industry is suffering from global excess of supply and therefore low oil and gas prices. According to the information of Association of Gas Producers of Ukraine and IHS CERA, gas production cost amounts 100-200 USD/tcm for small and technologically inaccessible deposits¹³. For comparison, the estimated production cost of unconventional gas ranges between 180 and 350 USD/tcm¹⁴. These resulted in lower investment attractiveness for new large-scale unconventional projects. In particular, this was one of the reasons why Shell has withdrawn from a tight gas exploration project in the Yuzivska field (Eastern Ukraine)¹⁵. Since 2012, the share of gas production by private companies has increased more than twice. According to the Association of Gas Producing Companies, there are 50 actors with Naftogazvydobuvannya and Burisma Holdings accounting for 65% of private-led production. However, the biggest producer is still the state-owned company Ukr-gazvydobuvannya with 14.5 bcm output 2015, which accounts 75% of total gas production.

Currently the biggest gas production companies in Ukraine are Ukgazvydobuvannya (UGV, state-owned), Naftogazvydobuvannya (private company), Ukrnafta (50+1 share owned by Naftogaz), Esko-Pivnich (private company), Ukrnaftoburinnya (private company), Pryrodni Resursy (private company), KUB-Gas (private company)¹⁶.

The potential for ramping up production and developing upstream business is particularly high given the available reserves. Natural gas proven reserves in Ukraine are estimated at 924 bcm and potential reserves – at 5.6 Tcm¹⁷. Given proper level of investment into these gas reserves, in the next ten years Ukraine may allow to reach 40 bcm per year.¹⁸

However, most of the reserves are concentrated either in the depleted or small-scale fields, or tight gas reserves on high depths. The average depth of drilling for natural gas in Ukraine is around 3500 meters, and

¹³ How to make Ukraine a new gas supplier to Europe. Censor.Net. October 3, 2016

¹⁴ Energy sector of Ukraine, as of update 2015/2016. German Advisory Group Ukraine. March 2016

¹⁵ Shell withdraws from the shale gas project in Eastern Ukraine. Oilandgaspeople.com. June 19, 2015

¹⁶ Kobal, Hennadii. Oil&Gas Production in Ukraine in 2014. Ekonomichna Pravda. February 3, 2015

¹⁷ Golovnyov, Serhiy. Why Ukraine is not energy independent? Business Censor. September 13, 2016

¹⁸ Vorobyov, Philip. Making Ukraine Europe's new gas supplier. Petroleum Economist. August 31, 2016

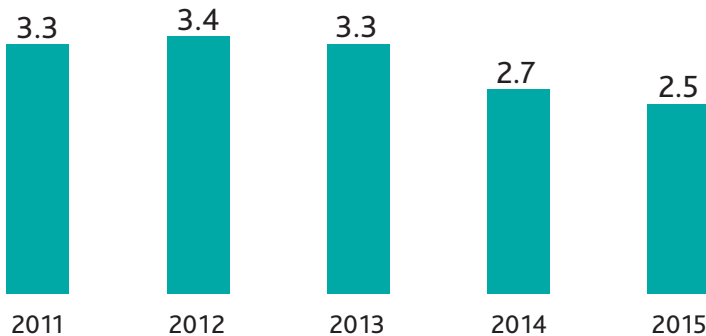


the maximum is 6000+ meters. 90% of the proven reserves do not exceed 5 bcm per gas field¹⁹. According to the National Reforms Council, UGV needs to overcome the lack of efficiency in gas production processes. Considering this, there is a necessity to invest in intensification of gas recovery. For instance, UGV has recently launched programs of modernizing its wells and drilling rigs, which would increase exploration and development drilling. Using Chinese loans, the company is planning to purchase 20 drilling rigs and 10 workover rigs. It has also completed significant fracking tender, which will help to increase gas production by 5 mcm per day²⁰.

OIL PRODUCTION

The situation in oil sector is different from the gas sector: production levels have been falling since 2013. According to State Statistics Ser-

Trends in oil production, mln tons



Source: Naftogas

vice, oil output has dropped by 12% between January and March 2016. Proven oil reserves in Ukraine are estimated at 3.62 mln tons, including 0.4 mln tons which are not currently developed²¹. However,

¹⁹ How much largest oil and gas companies in Ukraine earn?

²⁰ `Success in Ukrkazvydobuvannya reforming process`. National Reform Council. February 18, 2016

²¹ `Naftogaz annual report 2015`. Naftogaz of Ukraine. September 30, 2016

low production volumes resulted in high import dependency: in particular, in early 2016, Belarus supplied 73.14%, Lithuania – 7.5% and Greece – 4.7%. As for Russia, in 2015 it supplied 20% of total oil imports to Ukraine²². Also, due to aging refining industry, with only two major facilities operational, Ukraine is even more dependent on petroleum and diesel fuel imports. Currently, negotiations are held with Azerbaijan on investment in up- and downstream²³.

Main holders of licenses and therefore oil producers in Ukraine are companies under Naftogaz control (Ukrnafta, Ukgazvydobuvannya). Among private players, JV 'Poltava Petroleum Company', JV UkrCarpatOil Ltd, Ukrnaftoburinnya, and others shall be mentioned²⁴.

In particular, oil production of Ukrnafta – the largest producer – has decreased by 10.5% in 2015. According to the CEO of Ukrnafta Mark Rollins, one of the reasons is the decline of fields' effectiveness and low level of investments²⁵. He also mentioned that the business model would collapse if oil prices fall below 25 USD/bbl. A certain minimum needed to maintain fixed assets in functional state is between 0.9-1 bn USD²⁶.

One of the reasons for Ukrnafta difficult situation – apart from the mentioned corporate conflict – is its tax debt, rooted in financial mismanagement. In particular, the company owes Ukrainian government 10.5 bn UAH, including 8.4 bn UAH of royalties, 1.3 bn UAH of advance payments on income tax and over 0.6 bn UAH of VAT. Due to this facts, the State Service for Geology and Mineral Resources has notified Ukrnafta on withdrawing 14 production licenses at its oil fields in Ivano-Frankivsk and Lviv regions. The company argued that license suspension would jeopardize its financial rehabilitation²⁷.

²² Belarus remains to be a market leader in oil imports to Ukraine. UNIAN. March 10,2016

²³ 'Ukraine wants to buy oil from Azerbaijan and transit it to EU' 5 Channel. July 1,2016

²⁴ Kopal, Hennadii. Oil&Gas Production in Ukraine in 2014. Ekonomichna Pravda. February 3,2015

²⁵ 'Declination rate of Ukrnafta's oil production increased twice in 2015'. Ekonomichna Pravda. February 10, 2016

²⁶ 'Rollins: Ukrnafta won't survive with oil price below 25 USD per barrel'. Ekonomichna Pravda. February 10,2016

²⁷ 'Ukrnafta receives notice on withdrawal of 14 hydrocarbon production licenses in Ukraine'. Hydrocarbons-technology.com. September 1,2016



LEGISLATION AND REGULATION

FRAMEWORK LEGISLATION

Law «On Oil and Gas» (12.07.2001 No. 2665-III)²⁸ defines the legal, economic and organizational basis for the oil and gas industry in Ukraine and regulates relations in the use of oil and gas mineral resources, production, transportation, storage and use of oil, gas and their products to provide Ukraine's energy security, development of competition, protecting the rights of all relations that arise from geological exploration, development, refining, storage, transportation and sale of oil, gas and their products.

UPSTREAM LEGISLATION

Subsoil Code (27.07.1994 No. 133/94)²⁹ aims at regulation of all parties of subsoil use and protection of the rights and interests of enterprises, institutions, organizations and individuals. Chapter 3 defines the rights and obligations of subsoil users, Chapter 4 defines the fee for subsoil use, Section II outlines the issues of geological exploration, Section V describes subsoil use for the development of mineral resources, Section VII determines state control and supervision of geological exploration, use and protection of subsoil, and Chapter VIII explains dispute settlement procedures.

As the Code is quite old, since 2004 there are intentions to update it with a completely new version. However, it is being constantly updated instead. In 2015, a provision was added to publish information on national and local taxes, fees and production activities necessary for ensuring transparency in the extractive industries.

Rules of oil and gas fields' development (15.10.1984)³⁰ establish the basic requirements for the organization and implementation of hydrocarbons development. Given the fact the rules are outdated, the industry demands to adopt a new, modern version to set clear norms for calculation of oil, gas and gas condensate reserves, geological and economic assessment of fields, rules of wells construction and operation,

²⁸ zakon3.rada.gov.ua/laws/show/2665-14?test=dCCMfOm7xBWM8xVEZixAu5SzHI4Dcs80msh8le6

²⁹ zakon2.rada.gov.ua/laws/show/132/94-%D0%B2%D1%80

³⁰ zakon5.rada.gov.ua/laws/show/v0044400-84

control mechanisms for the development and regulation of extraction process. Attempts to adopt new Rules were made by both Ministry of Energy³¹ and Ministry of Environment and Natural Resources³².

Cabinet of Ministers (CoM) resolutions «On approval of the auctions of special permits for subsoil use» (30.05.2011 No. 594)³³ and «On the procedure of granting special permits for subsoil use» (30.05.2011 No. 615)³⁴ define the procedure for the sale of exploration and production licenses and – most important – set exhaustive list of exceptions. Both regulations have been amended in 2016, with more transparency and less regulation introduced to attract investors. Tax Code (02.12.2010 No. 2755-VI)³⁵ determines the fiscal regime. For oil and gas condensate produced from the deposits wholly or partly above 5,000 meters, royalties (rent) are set at 45% of the commodity value, and those below 5,000 meters – 21%. For natural gas sold for households royalties (rent) are 29% (70% in 2015), and for other purposes – 29% (55% in 2015) and 14% (28% in 2015), depending on the depths. For gas produced under the joint activity agreements (JAAs), a separate regime is applied.

Law «On Production Sharing Agreements» (14.09.1999 No. 1039-XIV)³⁶ is aimed at creating favorable conditions for investment in prospecting, exploration and production based on specified conditions. It defines the basic legal requirements for such agreements, and especially the safeguards for investors taking part in such special regime of subsoil use. It is the increased fiscal pressure gas on companies operating under JAAs (70% royalties), which significantly limits their ability to increase production, reduce competition and the investment attractiveness, and thus favors conversion of JAAs to production sharing agreements (PSAs). The government currently is trying to use this scheme to deal with problem JAAs.

³¹ google.com.ua/url?sa=t&rct=j&q=&esrc=s&source=web&cd=4&cad=rja&uact=8&ved=0ahUKewjxbOascbPAhXBFSwKHQ9rBalQFggMAM&url=http%3A%2F%2Fmpe.kmu.gov.ua%2Fminugol%2Fdoccatalog%2Fdocument%3Ffid%3D181496&usq=AFQjCNHbg462QhwFch1p5GURUeKp9uX9Xw

³² menr.gov.ua/press-center/news/123-news/14124-rozrobka-rodovyshch-nafty-ta-hazu-vidbuvatymetsia-za-novymy-pravylamy

³³ zakon4.rada.gov.ua/laws/show/594-2011-%D0%BF

³⁴ zakon2.rada.gov.ua/laws/show/615-2011-%D0%BF

³⁵ zakon2.rada.gov.ua/laws/show/2755-17/page

³⁶ zakon5.rada.gov.ua/laws/show/1039-14



Law «On licensing of economic activity» (02.03.2015 No. 222-VIII)³⁷ determines an exhaustive list of economic activities subject to licensing, establishes a unified procedure for licensing, supervision and control, as well as responsibility for violation of legislation.

OIL AND GAS MARKET LEGISLATION

Law «On natural gas market» (09.04.2015 No. 329-VII)³⁸ sets rules for functioning of the natural gas market of Ukraine based on the principles of free competition, adequate consumer protection and security of supply. It is fully compliant with requirements of the Third Energy Package.

Draft Law «On changes to the Budget Code of Ukraine» (04.09.2015 No. 3038)³⁹ shall order the revenues system and use of funds from royalties for use of subsoil for the extraction of oil, natural gas and gas condensate.

Draft Law «On the National Energy and Public Utilities Regulatory Commission» (22.09.2016 No. 2966-d)⁴⁰ shall establish an independent status for regulator of energy markets, with a wide list of responsibilities in regulations, licensing, tariffs, monitoring and control. It has been recently adopted and shall come into force soon.

Law «On Pipeline Transport» (15.05.1996 No. 192/96)⁴¹ defines the legal, economic and organizational principles of pipeline operators' functioning.

Laws «On Basic Principles (Strategy) of the State Environmental Policy of Ukraine by 2020» (21.12.2010 No. 2818-VI)⁴², «On Environmental Protection» (22.05.2003 No. 824-IV)⁴³ set environmental standards to minimize the impact of, among others, extractive companies.

CoM Ordinance «On Approval of the Concept creation in Ukraine of oil and oil products stocks up to 2020» (08.12.2009 No. 1498-r)⁴⁴ assumes the creation of minimum reserves using the input of all par-

³⁷ zakon3.rada.gov.ua/laws/show/222-19

³⁸ zakon3.rada.gov.ua/laws/show/329-19?test=XX7MfyrCSgkyZVGIzIjLWZ4HI4eQs80msh8le6


³⁹ w1.c1.rada.gov.ua/pls/zweb2/webproc4_1?pf3511=56386

⁴⁰ w1.c1.rada.gov.ua/pls/zweb2/webproc4_2?pf3516=2966-%D0%B4&skl=9

⁴¹ zakon3.rada.gov.ua/laws/show/192/96-%D0%B2%D1%80

⁴² zakon3.rada.gov.ua/laws/show/2818-17?test=4/UMfPEGznhh8xV.ZixAu5SzHI4Dcs80msh8le6

⁴³ zakon5.rada.gov.ua/laws/show/1264-12?test=XNLMf5x.qwjgZVGwZiljLWZ4HI4eQs80msh8le6



Participants the oil and oil products' markets, regardless of ownership, and inclusion of 25% of the domestic oil production to minimum reserves. However, this concept is currently under revision as the governments develops the new system of oil stocks.

Such a variety of regulatory documents is not always an indicator of the effectiveness of state regulation. However, Ukraine's aspirations for European integration gradually bring legislation to European standards. To implement the Third Energy Package, Ukraine makes definite steps to significantly change legislation, which positively affect the energy market, the transparency of its operations and protection of foreign investors. The transition towards better governance is also indicated by such steps as creation of an public interactive database of issued licenses available on the SE «Geoinform» website⁴⁵ and the first UAEITI report presented in 2015.

GOVERNANCE

The system of subsoil use management in Ukraine is quite complicated. Analyzing the competences of state authorities with powers in the field, we can define main functions: management of state fund of mineral resources, issuance and registration of special permits (licenses), state expertise, maintaining state cadaster of deposits and identified mineral resources, maintaining the state balance of reserves, state control over the rational use and protection of natural resources, state oversight of safety of the activities associated with the use of natural resources, and mining and environmental monitoring.

Given these many functions, the permitting system is complicated and expensive: according to industry associations, it includes 19 agencies and over 66 permits, which takes about 36 months to start works on the well⁴⁶. A significant amount of permits is required to grant

⁴⁴ zakon2.rada.gov.ua/laws/show/1498-2009-%D1%80?test=dCCMfOm7xBWMx9GEZitxox0gHI4rQs80msh8le6

⁴⁵ geoinf.kiev.ua/wp/interaktyvna-karta-rodovyshch-korysnykh-kopalyn.htm

⁴⁶ agpu.org.ua/upload/files/10147513434975.pdf



land access and comply with standards of environmental protection (conclusion of state environmental expertise, permits for emissions of pollutants, special water use, operations in the field of waste management)⁴⁷.

The key government agencies, which regulate hydrocarbons' production, are:

MINISTRY OF ENVIRONMENT AND NATURAL RESOURCES (Minister – Ostap Semerak) is a central executive body, which develops and implements state policy in the field of environmental protection, environmental safety, hazardous waste management, hazardous chemicals, pesticides and agricultural chemicals, and the state environmental supervision. Among its competences⁴⁸:

- > approves the award of special permits (licenses) for oil and gas exploration and production.
- > accounting of work and research related to geological exploration of mineral resources;
- > accounting oil and gas wells and accounting the amount repaid and extracted minerals their losses, and reporting forms of mineral reserves calculation for the state account of deposits, stocks and displays of minerals;
- > execution of works on standardization, metrology, by the results of certification geological exploration, protection and use of mineral resources, including the rules of regulatory support geological study;
- > approval of granting subsoil usage;
- > search and exploration of mineral deposits

STATE SERVICE FOR GEOLOGY AND MINERAL RESOURCES (Acting Chairman – Mykola Boyarkin) is a central executive body, directed and coordinated by the Cabinet of Ministers, which ensures the implementation of state policy in geological exploration and rational use of mineral resources⁴⁹. Among its competences:

⁴⁷ [slideshare.net/kt-energy/kt-energy-ugi-project-presentation-2-1618122014](https://www.slideshare.net/kt-energy/kt-energy-ugi-project-presentation-2-1618122014)

⁴⁸ eng.menr.gov.ua

⁴⁹ geo.gov.ua

- > awards, suspends, cancels and reviews special permits (licenses) for oil and gas exploration and production, with a subsoil use agreement being concluded;
- > provides renewal of licenses, their amendments, extension and issue of duplicates;
- > executes state control over compliance with rules and regulations of subsoil use.

STATE COMMISSION ON MINERAL RESOURCES (Head – Georgiy Rudko) is conducting state expertise of materials for geological and economic evaluation of mineral resources. This body is a vestigium of Soviet system of subsoil management and a de-facto monopoly in expertise of mineral reserves, i.e the number, quality and degree of scrutiny of proven reserves and their feasibility for commercial development⁵⁰. Among its competences:

- > evaluation of the reliability of mineral resources and their available mineral components based on research and analysis of materials geological study on patterns of and allocation of mineral resources, their material composition and technological properties, geological, hydro-geological and other conditions;
- > setting conditions on mineral raw material for deposits' reserves calculation on the basis of rational use of natural resources and their available mineral components;
- > determine the quantity and quality of mineral resources and components, the degree of their exploration and readiness for industrial development;
- > estimate the commercial value of mineral resources and components subject to the most complete, cost-efficient and complex extraction and use on the basis of modern industrial technologies.

⁵⁰ dkz.gov.ua/ua/derzhavna-komisiya-ukrajini-po-zapasakh-korisnikh-kopalin

⁵¹ mpe.kmu.gov.ua/minugol/control/uk/publish/article?art_id=208582&cat_id=185790



MINISTRY OF ENERGY AND COAL INDUSTRY (Minister – Ihor Nasalyk) is a central executive body, which develops and implements state policy in the field of electricity, nuclear, coal, peat, and oil and gas industry⁵¹.

The Central Commission for development of gas, condensate, and oil fields and operation of underground gas storage facilities at the Min-Energy provides an objective assessment of the project design – its technical and economic feasibility, scientific and technological level, and compliance with requirements of applicable regulations, the current level of scientific and technical knowledge, trends in science and technology, principles of state science and technology policy, requirements of environmental safety, etc. Among its competences⁵²:

- > makes decisions on the introduction of a separate deposit of oil and gas in the research and commercial development;
- > decides on the introduction of a separate deposit or oil and gas in industrial development;
- > approved technology projects, industrial development of deposits, complex projects of its arrangement, investment projects (programs) and industrial research and commercial development of oil and gas.

LOCAL (SELF) GOVERNMENT

Councils of Ukrainian regions (oblast) are local self-government authorities, which represent the common interests of territorial communities of villages, towns and cities, and execute the powers transferred to them by village, settlement and city councils⁵³. Among their competences:

- > approval of the award of special permits for oil and gas exploration and production;
- > provision of the mining lease for mineral deposits of national importance;
- > giving consent to the placement of oil and gas facilities on subordinated territory;
- > involved in developing of comprehensive plans of oil and gas supply

⁵² zakon3.rada.gov.ua/laws/show/382/2011

⁵³ zakon5.rada.gov.ua/laws/show/280/97-%D0%B2%D1%80

to consumers on subordinate territory;
 > involved in developing and implementation of emergency measures in operations of oil and gas industry.

INTERAGENCY COMMISSION FOR ORGANIZATION OF CONCLUDING AND IMPLEMENTATION OF PRODUCTION SHARING AGREEMENTS (Head – Vice PM Hennadiy Zubko) formed under the Cabinet of Ministers of Ukraine⁵⁴.

Among its competences:

- > preparation and submission of proposals to the Cabinet of Ministers on holding competitions for conclusion of production sharing agreements;
- > support and coordination of activity for preparation and adjustment of draft PSAs;
- > organization of implementation of PSAs.

STATE SERVICE ON LABOUR (Head – Roman Chernega) exercise state supervision of industrial safety standards and checks compliance with:

- > accuracy of mineral deposits in their safe operation;
- > rules of geological and surveying works during pilot development and exploitation of mineral deposits;
- > regulations and mineral processing technologies;
- > accuracy and timeliness of measures to guarantee the safety of people, property and the environment, mines and wells from the harmful effects of activities related to subsoil use;
- > conditions of special permits (licenses) for subsoil use in state mining supervision.

In the recent time, despite ambitious plans, there was no significant change in the governance of the industry among the mentioned government agencies. However, some problems and intentions are systemic. First, the head of the State Service for Geology and Mineral Resources – a key regulator in terms of subsoil use – has not been

⁵⁴ zakon2.rada.gov.ua/laws/show/644-2013-%D0%BF#n23



assigned for nearly two years. The agency is managed by Acting Chairman, this fact does not contribute to independent regulation and reform due to limited ability to enforce decision. Second, the Ministry of Energy and Coal Industry is trying to take over the authority to issue special permits for exploration and production of hydrocarbons. These intentions slow down the approval of fields' development rules and other decisions of subsoil use reform.

Also, the Plan for Deregulation of Economic Activity is expected to eliminate duplication of functions of state supervision (control) in the sphere of subsoil use, adoption of the new edition of the Subsoil Code, introduction of a simplified procedure for land use in geological exploration, adoption of new Rules of oil and gas fields' development harmonized with EU standards, and improving the registration process of oil and gas wells⁵⁵. At the same time, it also provides for the introduction of simplified digital real-time access to the «secondary geological information» and improved regulation of the natural gas market with the main requirements of EU legislation⁵⁶.

Is also worth noting that, following the stage of production, extractive companies face a number of issues related to marketing and sale of hydrocarbons – which could be the subject of a deeper research.

INVESTMENT OPPORTUNITIES

A) PRODUCTION

The plans to increase oil and gas production are well known, and the recent changes in regulation are quite promising. The Prime Minister Volodymyr Groysman argued that domestic gas production will increase by 7 bcm in the next 5 years⁵⁷. However, in order to achieve this goal Ukraine has to spend 84.5 bn UAH (over 3 bn USD) to develop new fields⁵⁸.


According to the State Service for Geology and Mineral Resources,

⁵⁵ zakon0.rada.gov.ua/laws/show/615-2016-%D1%80/paran9#n9

⁵⁶ dkrp.gov.ua/info/5144

⁵⁷ `Ukraine is going to increase its own gas production in next 5 years`. Radio Svoboda. October 1, 2016

⁵⁸ `Ukraine will spend 84.5 bn UAH in order to develop new gas fields`. Koruptsia Market. May 28, 2016



there are 16 oil and gas fields, which could be put on auction and explored, namely Proletarske (Dnipropetrovsk region), Monastyrchanske (Ivano-Frankivsk region), Strashevyske (Lviv region), Vyshnianske (Lviv region), Orchovyske (Lviv region) and others⁵⁹. In January-September 2016, the State Service for Geology and Mineral Resources organized only one auction, with 11 special permits for subsoil use put on sale⁶⁰. For comparison, during last 6 years only 12% of 170 licenses were sold on the auctions⁶¹.

Plans for increasing the production levels through increasing the number of licenses is justified by the fact that in 2016 the Cabinet of Ministers adopted a resolution, which aims to make new auctions more transparent and open. In particular, now subsoil users have 75 days to prepare for the auction compared to 30 days earlier⁶².

New investment could be focused either on the development of new fields or stimulation and re-equipment of existing fields. Starting from early 2014, oil and gas permits in most cases were sold to domestic companies⁶³. However, foreign companies – in particular, JV Poltava Petroleum Company, Cub Energy, Tysagas etc⁶⁴ – had an opportunity to extend the duration of licenses obtained in previous years.

One should also consider approval of the licenses from the local councils, which often delay the process, bargaining for social development funds. However, positive trend is observed in Lviv region, where the State Service for Geology and Mineral Resources signed a memorandum of cooperation with the local councils.

Another possibility for starting a business in Ukraine is production sharing agreements (PSAs), where foreign companies dominated as partners. Such agreements were signed with Chevron, Shell, ExxonMobil, Vanco Prykerchenska etc⁶⁵. However, the agreements were signed

⁵⁹ 'Mineral deposits interactive map'. The State Service for Geology and Mineral Resources.

⁶⁰ 'Auction announcement'. The State Service for Geology and Mineral Resources. March 4, 2016

⁶¹ Meeting with the Minister of Environment of Ukraine on issues related to subsoil regulation. Association of Gas Producers of Ukraine. September 28, 2016

⁶² 'Cabinet of Ministers adopted a reform resolution at the initiative of the State Service of Geology and Mineral Resources'. The State Service for Geology and Mineral Resources. April 18, 2016

⁶³ 'Selling at auction'.

⁶⁴ Getting a permit without an auction. The State Service for Geology and Mineral Resources

⁶⁵ Pursuant to the PSA. The State Service for Geology and Mineral Resources



for either offshore or unconventional gas exploration, and are not operational due to Crimea annexation and some investors' decision to leave the Ukrainian market. Also, state-owned UGV is considering to develop cooperation in the framework of PSAs, converting from joint activity agreements (JAAs). The latter way of partnership was widespread between UGV and private companies, but now is less favorable due to corrupt practices of private companies⁶⁶.

Notably, UGV is trying to cancel all JAAs it has signed through lawsuits. For instance, two of the three JAAs signed between UGV and private companies Nadra Geotsentr and HUS Company LLC in the so-called «Onyshchenko gas scheme» have been cancelled. According to the investigation of the National Anti-Corruption Bureau, the produced gas was sold through auctions at reduced prices to intermediary insider firms, which then resold it to industrial customers at market prices⁶⁷. A fundamental issue in attracting investment are market rules, in particular market prices. In 2015, Ukraine adopted a new Gas Market Law, which aims to lift price regulation and provide a legal basis for unbundling of gas transmission and distribution. According to this law, gas market should be fully liberalized by April 2017, so that all customers could freely choose suppliers. For this purpose, starting from 2015, the National Energy and Public Utilities Regulatory Commission raised retail gas prices for households so that they equal import parity prices. At the same time, government has decided to introduce full market prices not by mid-2017 as planned, but as early as from May 1, 2016⁶⁸. However, a big part of gas prices for households covered by the subsidies. According to Deputy Prime Minister of Ukraine Pavlo Rozenko, Ukraine's Cabinet of Ministers intends to foresee at least UAH 52 billion for housing subsidies in the 2017 national budget⁶⁹. Given this fact, there is an opportunity for producers to sell gas for market price.

⁶⁶ UGV wants to withdraw from all its JAAs. *Economiczna Pravda*. June 22, 2016

⁶⁷ Five suspects in Onyshchenko's "gas case" make plea deal, - NABU. *Censor. Net*. August 28, 2016

⁶⁸ Ukraine's Gas Market Reform: A Future Win-Win for Ukraine and Europe. *DiXi Group*. May 10, 2016

⁶⁹ At least UAH 52 bln to be foreseen for subsidies in 2017 national budget. *Interfax-Ukraine*. September, 12, 2016

B) TECHNICAL INVESTMENT

Ukrainian companies are just starting to develop deep drilling but need to attract partners with experience and technical arsenal. For instance, a project to produce 4 bcm of natural gas requires around 300 mln USD investments⁷⁰. Currently, few private actors are using deep drilling technologies: Naftogazvydobuvannya which completed a well 6650 m deep and received more than 100 tcm of natural gas⁷¹, Geo Alliance group used modern technologies and changes in wells' projects, and drilled a well 5960 m deep⁷². Another Ukrainian company, which attracted foreign investors with new technologies in order to explore big depth, is Ukrigasvydobuvannya. UGV has implicated equipment and experience of world leaders, such as Halliburton and Weatherford, Schlumberger Services. Also, company will cooperate with Schlumberger in hydrocarbons' deposits 3D modeling. Considering this, UGV will have a complex analysis of its deposits, which also will lead to increasing efficiency of deposits development⁷³.

State-owned companies, which control the biggest field portfolio, have declared far-reaching programs. UGV has announced a program to achieve 20 bcm output by 2020 using new equipment for drilling and gas field intensification⁷⁴. UGV already cooperated with global leaders in service industry. In addition, it recently held a tender for purchasing 100 operations on hydraulic fracturing in the next 2 years. For instance, in the past 5 years UGV used this technology only 15 times. The company announced contracting Belorusneft and Tacrom Services⁷⁵ for these purposes.

In September, UGV has already upgraded its fracking equipment, attracted expert team from Eastern Europe, and starting using modern materials. For instance, company has introduced advanced technologies of water preparation⁷⁶. On September 18, 2016, UGV held frack-

⁷⁰ 'Is it possible to reanimate the capacity of gas production in Ukraine'. ICPS. September 9, 2015

⁷¹ Deep drilling can give a new lease of life to Ukrainian gas production. Naftogazvydobuvannya. May 21, 2016

⁷² Geo Alliance CEO: "We don't need cosmetic changes, we need structural reforms". Visnyk. September 12, 2016

⁷³ UGV conducted first successful fracking operation. Ukgasvydobuvannya. September 29, 2016

⁷⁴ UGV reforms: reforms in the first 6 months. Ukgasvydobuvannya. December 2015

⁷⁵ UGV conducted first successful fracking operation

⁷⁶ Ibidem



ing operation in the southwest of the Kharkiv region, at a depth of 4050 m. If UGV used only own resources, it would have implement the stimulation program in 8 years at best, so the way to use external contractors is optimal one⁷⁷.

Ukrnafta has also announced its wells' modernization plan. Over 100 wells have been identified for either deepening existing Electrical Submersible Pump (ESP) units or deploying higher capacity units at deeper levels⁷⁸. A pilot installation on 3 wells had an immediate effect, with cumulative production increase by 2,000 tons for 2 months. In order to increase production Ukrnafta also brings on such projects as hydraulic fracture stimulation, sidetracking idle wells, optimizing gas production, revitalizing existing waterfloods, and new drilling⁷⁹.

One of the ways foreign companies can work in Ukraine is establishing and running a subsidiary. For instance, JV Poltava Petroleum Company is a successful Ukrainian-British investment project in the upstream industry of Ukraine. PPC is one of the first joint-venture companies in the sector⁸⁰, with British JKN Oil&Gas controlling 100%⁸¹; currently PPC is among top 10 biggest producers in Ukraine⁸².

According to media reports, the Ukrainian oligarch Igor Kolomoyskyi was trying to seize control over JKN using his rights as minority shareholder⁸³. However, he did not succeed. After JKN restricted the voting rights of two minority shareholders (Kolomoyskyi firms among them), it filed a lawsuit and has won the case⁸⁴. At the same time, JKN argued that the news is broadly neutral for the company. On the one hand, JKN lost the opportunity to buy back its shares, which have had strong potential to increase. On the other hand, disapproval of the board remuneration

⁷⁷ `First hydraulic fracturing in newborn Ukrsgasdobycha`. Oil and Gas of Ukraine. September 30, 2016

⁷⁸ `Ukrnafta to increase oil production by retrofitting existing wells`. Ukrnafta. August 9, 2016

⁷⁹ Ibidem


⁸⁰ About PPC. JV Poltava Petroleum Company

⁸¹ JKN Oil & Gas filed a lawsuit against Ukraine on a 180 million USD. Dzerkalo tyzhnia. February 15, 2015

⁸² Top 10: The biggest private gas production companies in Ukraine. 104.ua. February 12, 2016

⁸³ Co-owner of PrivatBank Kolomoyskyi buys 1 percent more shares in JKN Oil & Gas. Interfax-Ukraine. May 25, 2016

⁸⁴ Kolomoyskyi wins court battle with JKN management. Concorde Capital. December 3, 2015



report might have encouraged key decision makers to reduce their personal appetites in future periods, which could be beneficial for all JKX shareholders⁸⁵.

Despite oligarch influence, company is highly transparent and listed on the London Stock Exchange. According to the UK legislation, JKX disclosed information in a consolidated report on payments to governments, which also included payments made of the group's subsidiaries for 2015. According to the report, company paid 30.859 mln USD in taxes and other payments to the Ukrainian government. Also, material payments on project level were disclosed: notably, JKX paid 20.231 mln USD in the Novo-Mykolaivske field activity, 9.932 mln USD in the Yelyzavetivske field, and 0.696 mln USD at entity level⁸⁶.

JKX invested in Ukraine over 20 years ago to help meet the demand gap and was rewarded with licenses covering some of the best oil and gas fields⁸⁷. Now company works on 6 fields: Yelyzavetivske, Zaplavske, Rudkivske, Novo-Mykolaivske, Ignativske, Molchanivske⁸⁸. One of the biggest assets is Novo-Mykolaivske with reserves from five distinct fields connected into one processing facility. In addition, company owns a LPG production facility, which converts some of its gas for sale into the expanding Ukrainian market. According to the JKX information, it invested over 550 mln USD in Ukrainian oil and gas development projects over the past 22 years⁸⁹.

⁸⁵ Ibidem

⁸⁶ JKX Oil & Gas plc ("JKX" or the "Company"). Consolidated report on payments to governments. London Stock Exchange. June 30, 2016

⁸⁷ JKX Oil & Gas plc Annual Report 2015. JKX Oil & Gas plc

⁸⁸ 'Mineral deposits interactive map'. The State Service for Geology and Mineral Resources

⁸⁹ JKX Oil & Gas plc Annual Report 2015

WITHOUT AUCTION

1 Submission of the application and required documentation to be registered

3 DAYS

2 State Service for Geology and Mineral Resources publishes application and documents on a website or publishes refusal

if Geological exploration and reserves estimation at applicant's expenses/ Expanding the boundaries of previously acquired field by 50% max/ Geological exploration at the expense of the state budget/ Execution of special obligations/ Implementation of PSAs

AUCTION

1 Applying for invoicing subsoil use license for auction

10 DAYS

3 State Service for Geology and Mineral Resources agrees proposals with regional councils

90 DAYS

State Service for Geology and Mineral Resources agrees proposal with the Ministry of Environment and Natural Resources

30 DAYS

2 State Service for Geology and Mineral Resources decides to start preparing fields or refuses

4 State Service for Geology and Mineral Resources approves the decision to hold an auction and the list of fields, publishes the announcement 90 days before the auction. The applicant has to purchase the auction documentation package for 3.12% of the initial price of license

3 State Service for Geology and Mineral Resources agrees proposal with the Ministry of Environment and Natural Resources

30 DAYS

State Service for Geology and Mineral Resources agrees proposals with regional councils

90 DAYS

4 State Service for Geology and Mineral Resources submits a request to law enforcement agencies and the State Fiscal Service on verification of applicant documents

30 DAYS

5 State Service for Geology and Mineral Resources provides the license within 30 days after receiving the responses, if no interference occurs

5 State Service for Geology and Mineral Resources submits a request to law enforcement agencies and the State Fiscal Service on verification of applicant documents

30 DAYS

6 Meeting of the auction committee is public. Time and place are published on the website at least 5 working days before the meeting

7 The decision on the admission of the applicant to the auction or rejection of the application (within 30 days but at least 10 days before the auction)

30 DAYS

8 AUCTION
At least 2 buyers on license

5 DAYS Signing of the sales contract for license

30 DAYS

3 DAYS Publishing the list of winners on the website of State Service for Geology and Mineral Resources

9 The winner pays for acquired license (paying the difference between the sale price and the guarantee fee)



PRODUCTION SHARING AGREEMENT

1 Investors addressed the Cabinet of Ministers or the Interagency Commission regarding the competition for PSA

3 MONTHS

2 Investor is reported on the decision made

2 MONTHS

3 Interagency Commission publishes announcement of the competition (deadline for submitting applications for participation at least 1 month)

3 MONTHS

4 **COMPETITION** (by decision of the Cabinet of Ministers and local government PSAs can be concluded without competition. Given the license in place, under consent of the Cabinet of Ministers a PSA can be concluded without competition)

5 Winner determined by the Cabinet of Ministers



DiXi Group is a Ukrainian think tank established in 2008. Our mission is to be a motor of high-quality changes in the energy policy, to achieve new standards and practices of decision-making in the sector.

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- > strengthen the role of expert communities and civil society, uniting them into coalitions with higher policy impact,
- > create open platforms for cooperation and professional discussions,
- > and share best practices, knowledge and skills for successful reforms.

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- > **INTERNATIONAL PROGRAMS.** Facilitating Ukraine's integration in European and global energy space, building common European energy space.

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