RUSGAS | NEW GAS TECHNOLOGIES

TOKEN WHITE PAPER

Blockchain project
for technological
breakthrough
in the gas industry

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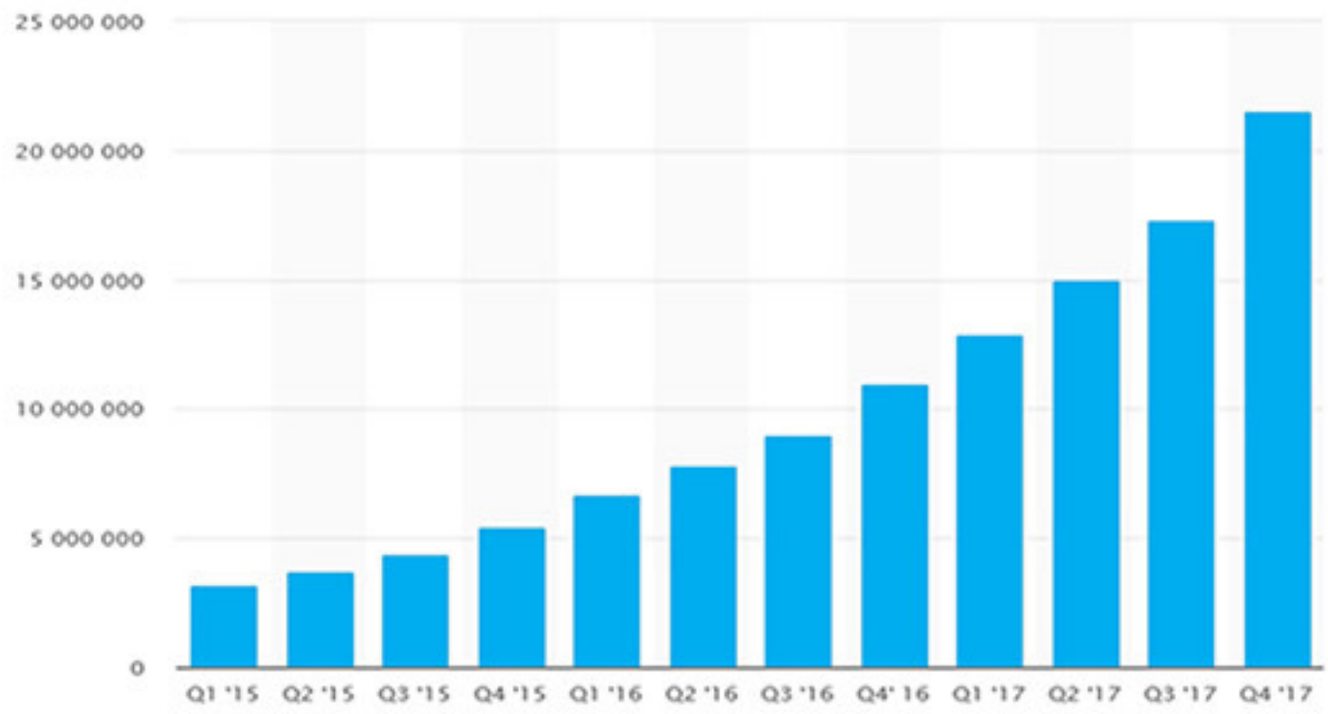
INTRODUCTION

The role of cryptocurrency is growing rapidly in the world as the total cryptocurrency market capitalization increased more than 9 times since the beginning of 2016 and reached almost US$460 billion by early March 2018 (according to PRO BLOCKCHAIN) The number of active users of cryptocurrency wallets is estimated at 20 million. And in view of this fact, the cryptocurrency application area remains the most important issue.

Growth of cryptowallet users in 2015-2017 according to Statista



According to CCN, by 2024, the exponential growth will increase the number of users of only bitcoin to 200 million.

HOW CAN WE FACILITATE SCIENTIFIC PROGRESS WITH THE BLOCKCHAIN TECHNOLOGY?

Cryptocurrencies proved to be an excellent tool of decentralized economics. Owing to cryptocurrencies, many projects find investors for global growth, while investors find a safe and very profitable method of investing.

Decentralization of calculations, automatic smart contracts, network transparency, and invariability are the factors that create a new world of interactions between people and companies. Here are new opportunities for the advancement of science. When researchers are able to find funds and implement projects raising funds directly. Without complicated bureaucratic procedures. Yet, keeping investors secure.

But the blockchain technology itself opens new opportunities for process optimization, for monitoring interaction chains, and for instant performance of contracts.

OUR OBJECTIVE

IS TECHNOLOGICAL ADVANCEMENT OF THE GAS INDUSTRY!

RusGas is a project aimed at funding and subsequent implementation of researches in natural gas processing, production, storage, and transportation.

Our goal is to unite researchers and gas companies to create an ecosystem that will bring gas technologies up to a qualitatively new level. To improve the environment, to optimize the consumption of natural resources, and to reduce the production costs of valuable compounds.

WHY GAS?

We believe that the fuel and energy sector is one of the most promising for economic growth both in terms of demand and of blockchain application, especially in the Russian Federation due to slower development of its technology.

FIRST,

we choose a sector of high profitability and stability of sustainable demand by both various industries and by end users of fuel and of heating and cooling energy.

SECOND,

as will be shown below, the gas market goes through a phase of structural evolution and optimization, which is a favorable period for introduction of technological changes at all levels from gas exploration and production to gas logistics, metering and delivery to end users.

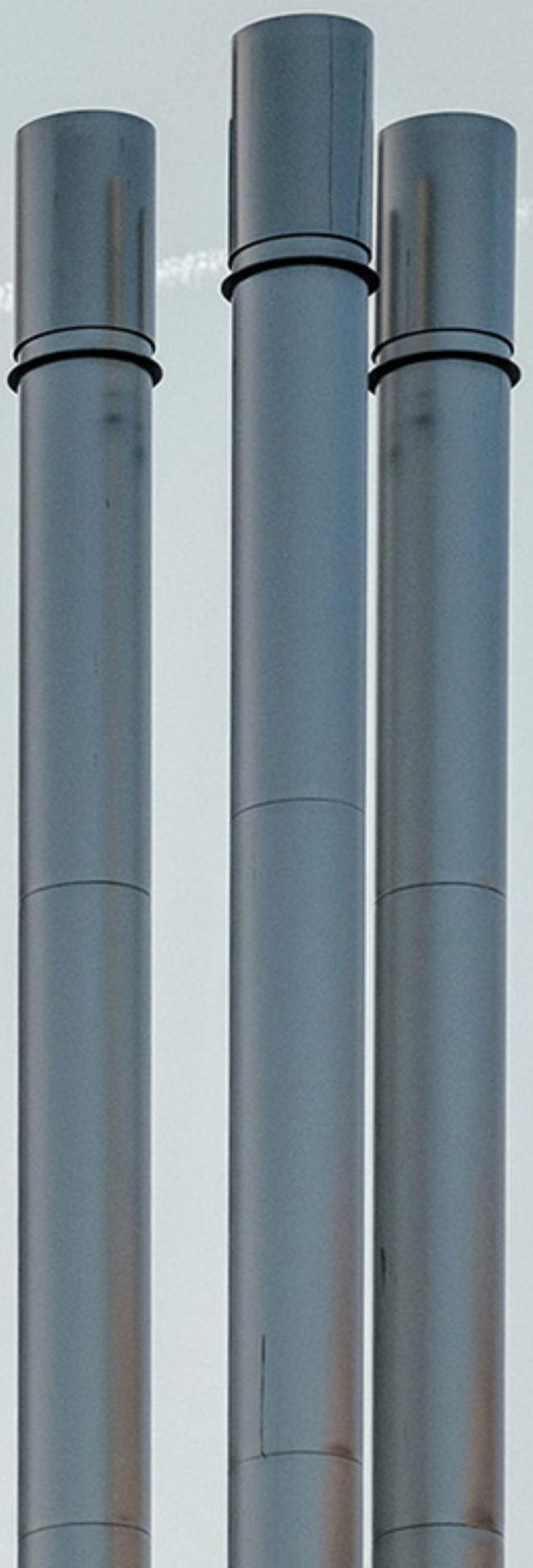
THIRD,

it is the sector that has long chains from initial stages of production to final delivery of the product to consumers. It means shortage of funds for small and medium market players, a complex financing system, and cumbersome leasing schemes, a slow cost recovery, and complicated quality control of future final products pose risks to the financing party. The mission of Efficient Energy Use requires simplification of these chains and removal of intermediaries and superfluous costs.

We believe that all these problems can be solved with the help of blockchain technologies and that it is the gas sector and blockchain technologies which have a high potential for mutual adaptation. The huge capacity of the gas market itself combined with underfunding of innovative approaches calls for investing a new type of money and a new type of contractual relations in this very field.

We summarized statistics and forecasts of OPEC and OECD, reports of the consultants and auditors PwC (https://www.pwc.ru/ru/about.html) on innovations in the oil and gas sector (www.pwc.com/innovationsurvey), views of some Russian and non-Russian experts on different aspects of this industry (in particular O.F. Lapaeva, E.V. Ovcharenko. Development Challenges and Prospects of the Russian Gas Industry; V.S. Dmitriev. Prospects for Globalization of Regional Natural Gas Markets. Proceedings of the Modern Technologies and Prospective Oil and Gas Industry Projects Working Committee 8 of the International Business Congress in Florence dated January 30, 2018), practical experience of OOO Kada-Neftegaz, a private company, in development of the Zaslavsky license block (Sayany and Zaslavsky gas fields), and the experience of our predecessors in introducing blockchain technologies in the energy sector.

According to recent IEA estimates, energy demand will increase by 35% between 2015 and 2040, with an average annual growth of 1.2%. Annual growth of 0.1% is expected in the OECD countries, which are home to 18% of the world's population, of 0.9% in Eurasia in genera; and of 1.9% in developing countries throughout the world.



Total primary energy demand by region (mboe/d)	2015	2020	2030	2040
OECD	110.0	113.5	113.6	112.0
Non-OECD	166.0	184.7	225.8	259.6
Total world	276.0	298.2	339.6	371.6

The greatest growth of consumption is expected in India and China.

Although a record growth of demand for renewable energy is predicted, oil and gas will meet more than half of the consumer demand till 2040. And the role of natural gas is higher in this case

IN ABSOLUTE TERMS, THE DEMAND FOR GAS WILL INCREASE BY

34 MBOE/D

TO 93 MBOE/D IN 2040

Потребление газа, согласно таблице, сильно превзойдет потребление нефти и угля, уступая лишь спросу на ядерное топливо и совокупности возобновляемых источников энергии.

	Levels *mboe/d*				Growth *% p.a.*
	2015	2020	2030	2040	2015–2040
Oil	86.5	92.3	97.9	100.7	0.6
Coal	78.0	80.7	85.8	86.2	0.4
Gas	59.2	65.2	79.9	93.2	1.8
Nuclear	13.5	15.8	20.1	23.8	2.3
Hydro	6.8	7.5	9.0	10.3	1.7
Biomass	28.0	30.1	34.0	37.3	1.2
Other renewables	3.8	6.6	12.9	20.0	6.8
Total world	276.0	298.2	339.4	371.6	1.2

PROJECTED GROWTH IN GAS DEMAND BY REGION AND BY ORGANIZATION FOR ECONOMIC COOPERATION SUCH AS OECD AND OPEC.

	Level in mboe/d				GROWTH (%)	Share of global energy demand (%)			
	2015	2020	2030	2040	2015-40	2015	2020	2030	2040
OECD America	15,8	16,8	18,6	19,7	0,9	26,7	25,7	23,3	21,1
OECD Europe	7,8	8,6	8,9	9,0	0,6	13,2	13,1	11,2	9,6
OECD Asia Oceania	3,9	3,6	3,6	3,8	−0.1	6,5	5,6	4,5	4,1
OECD	27,5	28,9	31,1	32,5	0,7	46,4	44,4	39,0	34,8
China	3,3	4,5	7,1	9,0	4,1	5,6	6,9	8,9	9,7
India	0,9	1,2	2,1	3,3	5,2	1,6	1,8	2,6	3,5
OPEC	8,4	9,6	13,2	16,1	2,6	14,3	14,8	16,5	17,3
Other DCs	8,6	10,2	14,6	19,7	3,4	14,4	15,6	18,2	21,1
DCs	21,3	25,5	36,9	48,2	3,3	35,9	39,1	46,2	51,6
Russia	7,1	7,1	7,5	7,8	0,4	12,0	10,9	9,4	8,4
Other Eurasia	3,4	3,7	4,3	4,8	1,4	5,7	5,6	5,4	5,2
Eurasia	10,5	10,7	11,8	12,6	0,7	17,7	16,5	14,8	13,5
Total world	59,2	65,2	79,9	93,3	1,8	100,0	100,0	100,0	100,0

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IN 2017, IEA PUBLISHED DETAILED REPORTS ON EFFICIENCY OF USE OF ENERGY AND NATURAL GAS.

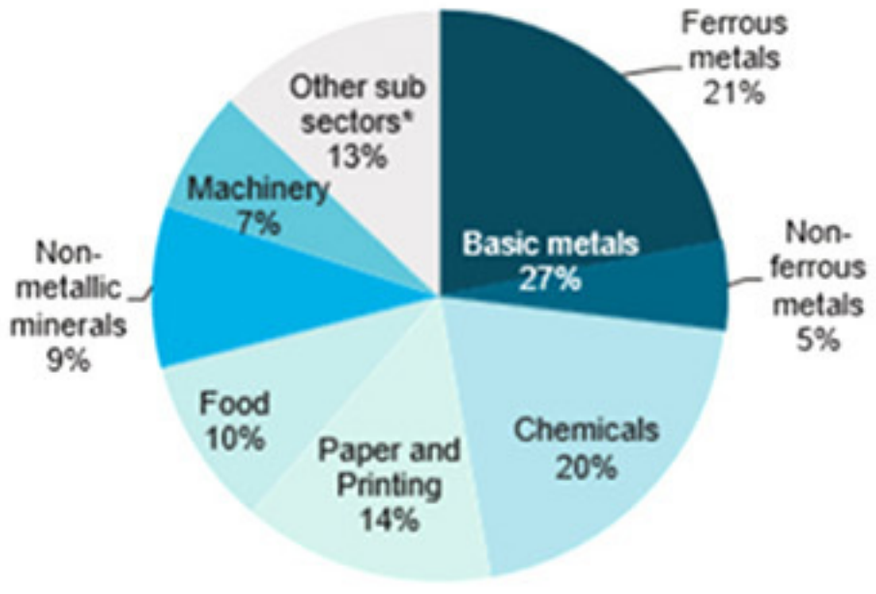

DIAGRAM 1

ENERGY USE BY PRODUCTIVE SECTOR
Ferrous metals 21%, Chemicals and petrochemistry 20%, Paper and printing 14% Tobacco 12%

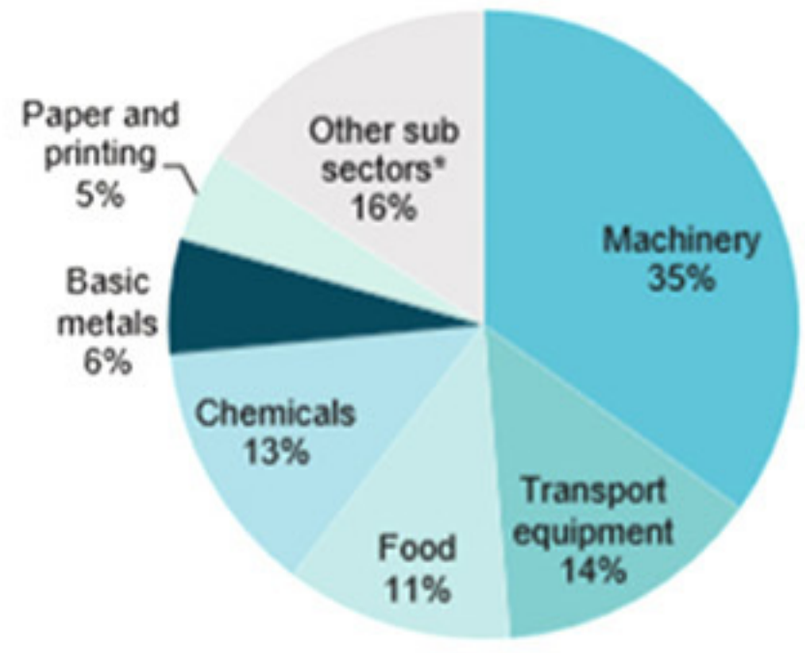

DIAGRAM 2

deals with energy consumption in transportation and machinery.

TABLE BELOW. INTERNATIONAL GAS TRADE IN 2006, 2011, AND 2016.

INDICATOR/ YEAR	2015			2015			2015		
	Pipeline gas	LNG	Total	Pipeline gas	LNG	Total	Pipeline gas	LNG	Total
Export	537	211	748	695	331	1026	737	347	1084
Russia	151	0	151	207	14	221	191	14	205
Qatar	0	31	31	19	103	122	20	104	124
Norway	84	0	84	93	4	97	110	6	116
Canada	100	0	100	88	0	88	82	0	82
USA	19	2	21	41	2	43	60	5	65
Australia	0	18	18	0	26	26	0	57	57
Netherlands	49	0	49	50	0	50	52	1	53
Algeria	37	25	62	34	17	51	37	16	53
Turkmenia	6	0	6	35.	0	35.	37	0	37
Indonesia	5	30	35.	9	29	38	9	21	30
Malaysia	2	28	30	0	33	33	0	32	32
Import	537	211	748	695	331	1026	737	347	1084
Japan	0	82	82	0	107	107	0	109	109
FRG	91	0	91	84	0	84	99	0	99
USA	100	16	116	88	10	98	83	3	86
PRC	0	1	1	14	17	31	38	34	72
Italy	74	3	77	61	9	70	59	6	65
Turkey	25	6	31	36	6	42	37	8	45
Rep. of Korea	0	34	34	0	49	49	0	44	44
France	36	14	50	32	15	47	32	10	42
UK	18	4	22	28	25	53	34	11	45
Belgium	18	4	22	23	7	30	22	13	35.
Spain	11	24	35.	13	24	37	15	13	28
India	0	8	8	0	17	17	0	23	23

of synthetic motor fuel, and resources for the chemical industry. Re-equipment and automation of all processes related to logistics are equally important.

That is why the official agenda of the above-mentioned meeting of Working Committee 8 at the International Business Congress was designated as "Priorities in the Development of High-Tech Equipment for Gas Production, Transportation, Processing and Storage", which reflected the objective of finding smart solutions in all areas of the industry.

In particular, Huang Zhejun, Deputy General Manager of PetroChina, a pipeline subsidiary of CNPC, described the experience of developing, practical application, and prospects of SCADA for automated management of Chinese oil and gas pipelines. The national monopoly in hydrocarbon transportation, PetroChina is also responsible for the Chinese content in the production of necessary infrastructure components. The gas transportation system (GTS) of China of about 40,000 km long is remotely controlled from the central panel in Beijing. Used as basic software, SCADA allows the operators to monitor in real time about 6,000 GTS facilities (totaling about 200,000 sensors). According to Mr. Zhejun, the operator remotely receives information about gas pressure and flow rate and shuts and opens the pipeline with a block valve. The system can be also controlled automatically.

We believe that the fuel logistics is one of the priorities in application of blockchain technologies for the whole fuel and energy sector.

PROBLEMS AND PROSPECTS OF THE RUSSIAN GAS INDUSTRY

About 30% of the world's proven and over 40% of inferred gas reserves are concentrated in Russia. Despite such reserves, Russia is lagging behind the Western countries in the scope of gasification. Although it is known from the world experience that gasification improves considerably the economy efficiency and makes it possible to successfully resolve social problems.

The Energy Strategy after 2000 regards natural gas as key priority in fuel production since it can provide more than 50% of total primary fuel and energy resources. The gas industry is developing primarily due to large fields in Tyumen, Tomsk, Orenburg, and Astrakhan regions. In addition, large natural gas production centers are being created in East Siberia and the Far East. Gas flows can be generated and exported from these areas in future.

Gazprom is a key player on the gas market of the Russian Federation. The sector of independent gas producers is very small. First of all, their business is almost entirely dependent on the monopoly that can force them to sell gas to itself, to a trader it favors, or to a particular consumer. It also can shut off deliveries under contracts already executed.

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The traditional approach to R&D and to funding makes solution of issues such as development of a new generation of gas pipelines, of gas chemical industry in the Russian East, and environmental improvements quite difficult. It is noteworthy that O.F. Lapaeva and E.V. Ovcharenko, researchers from Orenburg University, provided statistical forecasts for gas consumption growth in heating and electricity generation, municipal sector, and agriculture but missed advanced industries in their 2008 paper “Development Challenges and Prospects of the Russian Gas Industry.” (Higher Vocational Education Bulletin. 2008. p. 28).

In their opinion, the Russian fuel and energy complex is characterized by low reliability and high costs of servicing and keeping obsolete technologies and old equipment in working order. High shortage of investment resources and inadequate solvency of major consumers restrain the gas industry development. The fuel/energy price ratio is considerably different from the structure of world market prices.

Steady provision of the country's growing demand for natural and liquefied gas, economically justified increase in the gas share in the total consumption of primary energy resources, higher efficiency and better maneuverability of the Unified Gas Supply System of Russia including expansion of underground gas storage facilities are major goals of Gazprom.

We have no doubt that Gazprom defines its targets and forms the trend correctly, but we think that in this case the concepts of "monopoly" and "maneuverability" have nothing in common but the initial letter.

Especially that Gazprom hardly has any relations with end users. In 2009, Gazprom sold directly to consumers no more than 18% of gas, while 82% fell on gas transport enterprises. Gas trading was joined by gas producers that are now able to sell gas directly at the stock exchange. And it corresponds to global trends for the last 20 years. But the scope of such operations did not exceed 3% at that time.

About 2% of gas was sold to consumers through independent companies in local areas. Most of gas (about 80%) is sold to consumers through intermediaries. There we see the basis, on the one hand, for developing direct contractual relations between producers and intermediaries, and, on the other hand, for application of so-called smart contracts based on blockchain technologies.

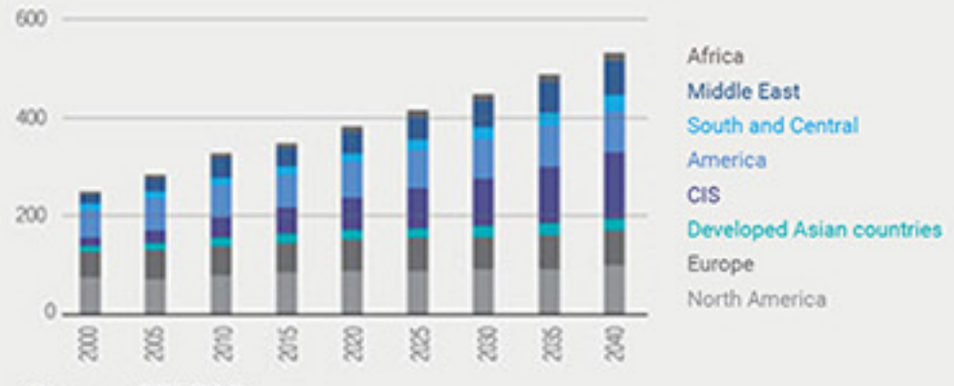
THE LIST OF COUNTRIES WITH PROVEN NATURAL GAS RESERVES

№	Country	Reserves tcm for 2014 (OPEC)	Percentage from global level	Reserves tcm for 2014 (BP)	Percentage from global level
1	Russia	49.541	24.6 %	32.6	17.4 %
2	Iran	34.020	16.9 %	34.0	18.2 %
3	Qatar	24.531	12.2 %	24.5	13.1 %
4	Turkmenia	9.934	4.9 %	17.5	9.3 %
5	USA	9.580	4.8 %	9.8	5.2 %
6	Saudi Arabia	8.489	4.2 %	8.2	4.4 %
7	UAE	6.091	3.0 %	6.2	3.3 %
8	Venezuela	5.617	2.8 %	5.6	3.0 %
9	Nigeria	5.111	2.5 %	5.1	2.7 %
10	Algeria	4.504	2.2 %	4.5	2.4 %
11	Other countries	43.721	21.5 %	39.1	20.9 %

The gas industry needs to keep pace with growing demand and to produce more natural gas, in particular, through qualitative growth, i.e., through technological innovations. Unconventional natural gas holds great promise for further development of the gas industry.

More than 24% of the world's gas reserves are concentrated in Russia. But the development level of innovations in the Russian gas industry is poor. Practically all key areas are lagging behind foreign companies in technologies in particular, the latter can operate offshore much more efficiently, they use everywhere high tech stimulation methods and advanced drilling processes.

PREDICTED GAS CONSUMPTION, BCM

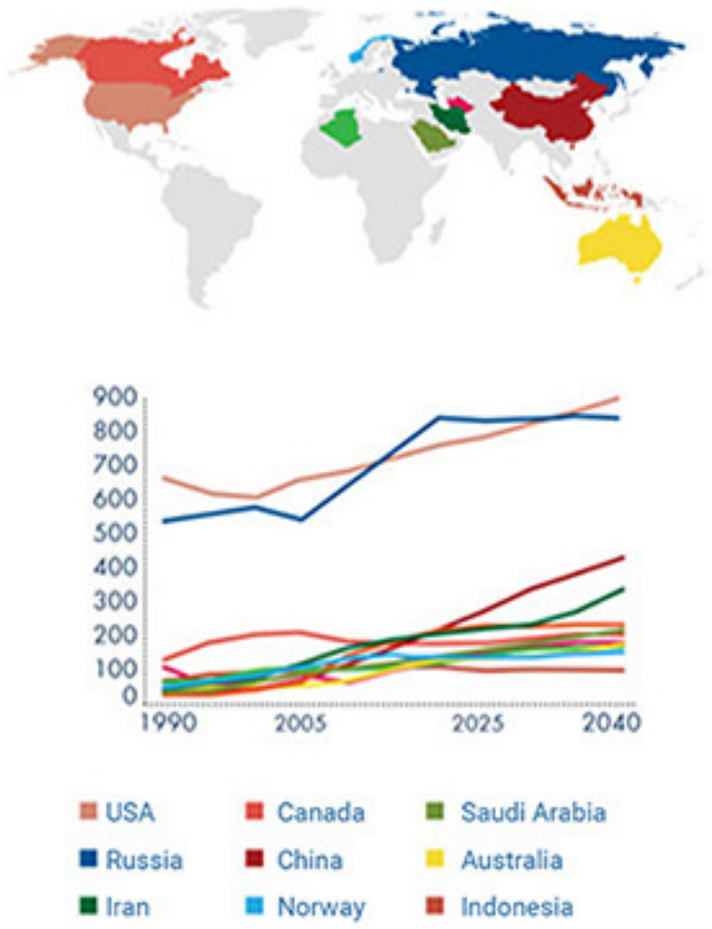


Source: ERI RAS

TABLE BELOW. THE STRUCTURE OF PRIMARY ENERGY CONSUMPTION IN THE WORLD ECONOMY, IN DEVELOPED AND DEVELOPING COUNTRIES, EU, AND RF IN 2016. RELATIVE SHARE, %.

INDICATOR	GLOBAL ECONOMY	OECD	NON-OECD	EU	RUSSIA
Hydrocarbons	85.5	81.3	88.5	75.4	87.1
Oil	33.3	37.7	30.1	374	22.0
Gas	24.4	27.0	22.1	23.5	52.2
Coal	27.8	16.5	36.4	14.5	13.0
Low-carbon energy carriers	14.5	18.7	11.5	24.7	12.9
NPP	4.5	8.1	1.9	11.6	6.6
HPP	6.9	5.7	7.7	4.8	6.3
RES	3.1	4.9	1.9	8.3	0.0

MAJOR GAS-PRODUCING COUNTRIES, BCMPA



DEMAND FOR GAS BY REGION AND MAJOR COUNTRY, BCMPA

BUT Russian companies are rather reluctant to invest in their own technological developments, which do not guarantee commercial benefits and require long-term investments in pilot production. Research institutes working for oil and gas companies or carrying out development projects on their order are often highly bureaucratic and cannot carry out long-term tasks that require large investments and are accompanied by high risks.

All this goes against the global trends.
According to Barclays cost review for exploration and production, growth in oil and gas investment was approximately 7% in 2017.
And international oil and gas companies use smart solutions including new digital initiatives as a means of opposing higher costs for further improvement. Currently, the main goal of corporate strategy is to achieve sustainable profitability. Differentiated opportunities will be key to success in the future.

In recent years, the oil and gas industry has been characterized by a wide coverage of working environments including unconventional onshore production and exploration of new areas in increasingly challenging and quite remote corners of the planet.

In recent years, small exploration and production companies with a special set of opportunities, for example, those can focus quickly and accurately on price efficiency, have managed to acquire fields at a late development stage and to outplay key players in certain segments. Specialization of this kind will likely become common in future.

The model of a single integrated company engaged in exploration and development of oil and gas fields and opportunities for using this model have been exhausted and are being replaced by alliances set up along with changes in the property ownership sphere so that a company which is the most capable of effective management could fully control a field at the relevant stages of its life cycle.

However, according to surveys by PwC Audit and Consulting Company, less than half of the heads of the world's oil and gas companies confirmed the availability of a clearly defined innovation strategy.
Among the questions proposed by PwC to company heads, we noted those that follow our strategy for RUSGAS ICO cryptocurrency. What kind of balance of innovative solutions is needed for our project? What should be the ratio of stepwise, breakthrough and radical innovative solutions? What kind of innovations will ensure the achievement of required/desired business objectives? Do we have at our disposal systems for assessing the relevance of new ideas formulated in other industries? Do we use open innovation models or carry out other strategies, for example, corporate venture projects, to identify and develop new relationships and new ideas?

According to PwC estimates, the effective innovation processes should be repetitive and iterative in nature. They begin with defining priority ideas and experimental verification and end with practical development and monetization of innovative solutions. When properly organized, they will ensure fast practical development of promising ideas and screening out of unsuccessful ones. In the oil and gas exploration and production segment, capital investments are often designed for a long term and some ideas require a thorough analysis before they begin to yield any results. Defining the range of inadequate ideas is therefore a hard task. So, entering into partnerships is an important element of this process for many companies.

HENCE, WE SEE A GREAT POTENTIAL FOR OUR PROJECT THAT IS CAPABLE OF UNITING DIRECT INVESTORS AND ENGINEERS.

In order to implement breakthrough innovations, the companies are considering a number of models for developing innovative solutions, including the model of open innovations (cooperation with external partners); creative search for innovative ideas (consideration of the need for innovations from the standpoint of ergonomic thinking not constrained by stereotypes); corporate venture developments and business incubators (small groups of so-called "intrapreneurs" - initiative corporate employees having powers and financial resources to develop and produce new products and services and using the method of rapid prototyping).

About a third of respondents from oil and gas companies noted the greatest potential of the open innovation model in terms of increasing revenues. But what does the open innovation model actually mean for oil and gas companies where the technology is often protected by a patent owned by another person? In some cases, companies create consortia to solve complex problems. Canada's Oil Sands Innovation Alliance (COSIA) is a striking example combined efforts of oil companies to address issues related to reducing the negative impact of their operations on the environment. COSIA established in March 2012 includes 14 companies today. The companies involved in COSIA activities identify and develop innovative approaches to and advanced ideas in environmental protection in oil extraction from oil sands focusing on waste management, efficient use of land and of water resources, and reduction of greenhouse gas emissions. To date, the members of this organization have exchanged information on 446 developments of unique technological and innovative solutions amounting to over 700 million US dollars.

When determining the success rates of innovative solutions, the leading companies go far beyond the conventional return on investment measure. One of the standard indicators for oil and gas companies is the monitoring of existing licenses. Other qualitative approaches are also quite useful. ENI of Italy has developed an integrated approach to assessing the effectiveness of its R&D11 program. Different business units are guided by different types of innovations, which is reflected in the system of key performance indicators. The indicators adopted by the company are subdivided into four categories including value (benefit) for the company (both tangible and intangible), portfolio efficiency and effectiveness, project efficiency and effectiveness, and consistency with the company's strategy. One of the examples of financial benefit is capex savings/ This indicator makes it possible to determine total savings at the capex level through the use of innovative technology instead of the best available traditional alternative technologies.

According to common opinion of some researchers and top managers of gas corporations described in the paper by D.V. Dmitriev “PROSPECTS FOR GLOBALIZATION OF REGIONAL NATURAL GAS MARKETS”, the world economy globalization is accompanied by gradual demonopolization of the gas industry, which results in quantitative and qualitative changes in the structure of the physical market and of the international gas trade, in the generation of a “double” in the form of stock exchange financial instruments, and in liberalization of pricing models.

There are two groups of factors contributing to the global development of the gas industry: technology and market. The former includes intensive development of LNG transportation technologies changing the nature and directions of commercial gas flows in the world market. The market factors include growing demand for "blue fuel" in the world, the competitiveness of energy resources, formation of active stock-exchange natural gas trade that creates opportunities for managing fuel price fluctuation risks.

The growing world trade of natural gas, its increasing share in the world energy balance, institutional transformations in local markets characterized by a higher number of producers and consumers and by liberalization of key trading platforms all contribute to deep internationalization of the gas industry.

Given fast development of the technologies that expand accessible geography and reduce the costs of producers for recovery and transportation, strengthening the financial ("paper") market positions, we can objectively state today the beginning of the gas industry globalization.

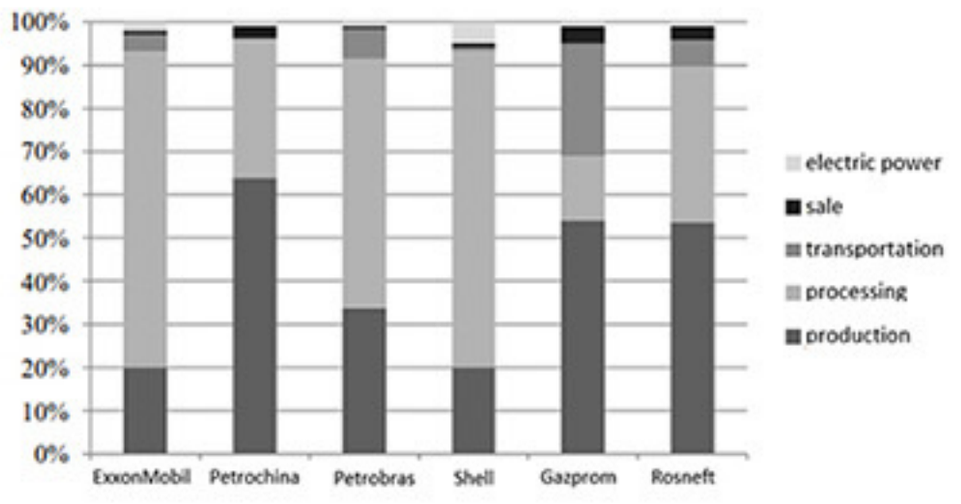
The balance of market forces is indicative of the formation of a competitive environment in the physical gas market whose equilibrium will depend on variations in aggregate supply and demand. The relative share of natural gas consumption in the world fuel and energy balance has also increased in recent years having reached about 22% in 2014. Oil consumption for the same period increased by only 11%; i.e., natural gas is gradually increasing its competitiveness becoming a real alternative to other energy resources in the international market and benefiting from "environmental friendliness" and universality of use.

Dmitriev believes that despite the existing "globalization trend" in the development of the world commodity markets the gas industry remains segmented due to a number of economic, geopolitical and technological factors. The historically formed isolation of key regions predetermined the "multi-vector" development of the global gas market. Hence, today, there is no single approach to formation of a fair gas price. Pricing models differ in regional markets due to a number of factors such as the extent of liberalization, state policy, and geographic features. From this point of view, the markets of North America, Great Britain, and Australia can be considered to be exemplary. The cost of "blue fuel" in these countries is formed under the competitive “gas-gas” model as a result of the supply and demand balance at key gas hubs.

WE CONSIDER THIS MODEL TO BE SUITABLE FOR THE TECHNOLOGY OF SMART CONTRACTS CONNECTING THE SUPPLIER AND THE CUSTOMER THROUGH TECHNOLOGICAL COMMUNICATION.

Dynamics in annual growth of patents

Company name	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
ExxonMobil	1935	1491	1559	1698	1608	1443	1286	1457	1470	1445	1191	16 583
Shell	1375	1374	1480	1520	1491	1467	1132	1027	1004	882	841	13 593
Petrochina	48	103	124	155	332	800	1018	1413	1600	1847	1550	8 990
Gazprom	91	106	100	98	99	126	119	142	165	152	125	1 323
Petrobras	6	9	123	140	133	137	144	98	64	59	81	1 174
Rosneft	10	8	5	4	5	0	0	4	10	28	34	108



So, the globalization of the world gas markets is interrelated with their demonopolization and the appearance of new more marketwise pricing mechanisms.
It is obvious that the use of blockchain technologies will play a decisive role in the ongoing evolution of the gas market. The association between the concepts of "demonopolized market" and "decentralized emission" is obvious.
We are not the first who plan to bring the energy industry up to a qualitatively new level, to give impetus to advanced research developments, to their financing and implementation with the help of these technologies. In other words, the viability of these ideas is proved by practice.

In February 2018, the WePower blockchain platform was launched for trading in clean renewable energy. The main token sale was held on February 1-15, 2018, early investors being given priority. The project presale raised $3 million! The price of 4600 WPR will be 1 ETH prior to collection of soft caps ($5 million). Once soft caps are collected, one can receive 4000 WPR for 1 ETN.

The owners of WPR tokens will get priority when participating in auctions for the purchase of energy company tokens. In addition, the WPR holders will receive at least 0.9% of the total tokenized energy produced by suppliers. Whereupon energy can be used (if possible) or sold.

- The evident problems of the industry did not scare the investors but even heightened their interest. The problems include lack of access to free market both locally and internationally;
- Complicated and expensive investing process;
- Incomplete transparency of the market.

At the same time, clean electric power producers have to face lack of capital for the development of their projects and long and expensive procedures for obtaining loans in different banks or foundations. Such systematic lack of funds leads eventually to stagnation.

Today, the main players in this market - large banking structures, private equity funds, and international hedge funds - form a closed system that is inaccessible to a wide range of interested investors. As a result, the producers' needs for capital and the consumers' needs for electric power are not met.

THE OBJECTIVE OF WEPOWER IS

to solve the problem of access to money for business development for green energy producers and to enable end users to invest in profitable projects in this field. A project is implemented by developing a fast and transparent platform based on blockchain technology and its own cryptocurrency.

The WePower trading platform will allow the buyers to purchase electric power generated by renewables directly from producers without intermediaries at a below-market price. The use of cryptocurrency will help to standardize, simplify and make globally open the currently available ecosystem of investments in the power industry. It will also increase the liquidity level and expand access to capital.

The platform will collect data on all produced and used electric power and on market prices. As soon as a power plant is connected to the WePower platform, all energy to be supplied to it in future will be converted into cryptocurrency tokens at a certain rate of exchange, which is currently set at 1 WPR = 1 KW/h.
When a green energy producer needs financial support of its costs for green project implementation, it can put up for sale some electric power that will be produced in future at the WePower trading platform. The buyer who is now an investor can purchase a certain amount of this energy using the WPR cryptocurrency

WE BELIEVE THAT SIMILAR PROBLEMS ARE CHARACTERISTIC OF THE GAS SPHERE AND THEY CAN BE SOLVED IN A SIMILAR MANNER. AT THE SAME TIME, THE LATTER IS ALSO CHARACTERIZED BY UNSOLVED ENVIRONMENTAL ISSUES MAKING IT AN AREA OF A WIDER RANGE OF INVESTMENT PROJECTS.

• The Smart Energy Summit (smartenergysummit.ru, more than 500 attendees from 15 countries, 175 smart solutions, and 35 projects) to be held on March 27-28, 2018, in Moscow evidences the need for applying blockchain technologies in the energy industry. Three key summit streams: INTERNET OF ENERGY: on the Way to Global Compatibility, EXPERIENCE AND PRACTICE of Smart Energy: Industry. Cities. Buildings.
TECH HUB: Smart Energy Solutions include studying the problems of digital and financial technologies in consumer services, Blockchain technologies, and smart contracts. SMART GRID of digital networks (smart networks mean a system of power transmission from the producer to the consumer, who independently monitors and distributes electricity flows to achieve maximum energy use efficiency with involvement of consumers in the network operation.

State-of-the art information and communication technologies ensure the interaction of Smart Grid network equipment with each other forming a single smart power supply system. The information analysis helps to optimize the use of electric power, to reduce costs, to improve reliability and efficiency of power systems).

Forbes

Web-site http://www.forbes.rudescribes a successful ICO to attract $3.7 million (against $3.5 million planned) in the chemical industry to produce zirconium dioxide (ZrO2) used to produce refractory materials in metallurgy, glass making, ceramics and nuclear industry, which is also used in construction of nuclear reactors. (http://www.forbes.ru/tehnologii/344785-blokcheyn-dlya-himsyrya-pochemu-ico-vyglyadit-luchshe-venchurnyh-investiciy)

Thus, it is obvious that cryptocurrencies and blockchain technologies for creating smart contracts go beyond the cyberspace into real economy sectors filling production, logistics, and education.
We have studied and summarized the experience of smart solutions when holders of tokens acquired during ICO participate in the creation and distribution of an end product thereby increasing capitalization of a project and the price of cryptocurrency. An example is the ODEM project, the first decentralized educational platform on the basis of which students can bypass intermediary institutions represented by state-controlled institutes selecting a set of disciplines and entering into contracts with teachers (https://odem.io).

Thus, our own project reaches the level of practical tasks just in time from both the standpoint of the gas sector problems and development prospects and of the potential for application of blockchain technologies.

The new principle of control and financial support of research developments will reverse the essence of research and distribution of profits from technological breakthroughs.

THIS WILL RESULT IN:

1. Improvement of environmental situation. Reduction of associated gas flaring due to advanced technologies of treatment, production, GTL, and waste processing.

2. Improvement of economic situation. Due to replacement of some oil products by cleaner gas products, development of new storage and transportation methods, and creation of new fuel cells.

3. Technological breakthroughs in other industries based on new gas technologies.

CHALLENGES

Our calculations were based, among others, on a comparative analysis of energy strategies of the Russian Federation till 2020 and 2030 (All That Has and Has Not Come True. Forecasts for the Development of the Russian Fuel and Energy Complex in the Energy Strategies of the Russian Federation till 2020, till 2030 and the Project till 2035, ES Project till 2035 and in Expert Estimates" L. RUBAN, National Research University MPEI. The author compared the forecasts with actual data, cited opinions of experts and of oil and gas engineers on issues at major fuel and energy forums).

According to A.V. Bondareva and I.A. Senyugina (CAUSES AND PROBLEMS OF IMPLEMENTATION OF INNOVATIONS AT OIL AND GAS INDUSTRY ENTERPRISES), oil and gas production today in traditional regions that supply most of oil and gas is characterized by concentration of oil production in fields with highly productive reserves; by a dramatic decrease in the share of active oil reserves and an increase in the share of hard-to-recover oil reserves; by a lower average oil recovery factor both in individual regions and throughout the country; by the end of the era of giant fields with unique oil and gas reserves, whose exploitation began in the 1960-1970s; by rapid depletion of cheap Cenomanian gas from traditional fields in West Siberia; and by depletion of oil and gas reserves at depths down to 3 km.

The main consequence of these trends is the lack of investment resources, a delay in commissioning new gas and oil production capacities as production in major fields declines, and lower scope and efficiency of exploration for oil and gas. Progressive depletion of unrenewable petroleum resources in major fields and lower efficiency of exploration exacerbated the most important problem of the industry such as degradation of mineral resources both in quantity (smaller volumes) and quality (growth of hard-to-recover reserves).

NATURAL GAS PROCESSING STANDARDS

A huge amount of gas is explored and produced in the world today. It exceeds the amount of oil being more than 186.9 tcm. And natural gas conversion into motor fuel and valuable chemical products remains at a low level. More than 95% is used as a heating medium. Mendeleev once said: "Burning oil is like burning banknotes in a stove." The same is true for gas.

A significant portion of associated gas is flared, which leads to irreparable loss of valuable feedstock and generates complex environmental problems in the producing regions. For instance, about 10 bcm of associated gas is flared annually in Russia, which roughly corresponds to the annual natural gas consumption by the country's population.

Recent years have been marked by the trend of increasing energy efficiency of energy resources being used and of reducing energy consumption. In 2006-2016, while the world GDP increased by 26.5% (at constant prices), the global energy consumption increased by only 17.8%, i.e., the energy intensity of products dropped by almost 1/10. The demand for primary energy grew against the background of the conservative energy policy of producing countries that did not try to regulate adequately the fossil fuel production and export.

THE SHARE OF NATURAL GAS USED IN RUSSIA AS CHEMICAL FEEDSTOCK DOES NOT EXCEED 1.5%.

The forecasted development rates of technologies are too low although they indicate a higher consumption of certain gas processing products by 2030, including methanol whose output should be doubled and ethylene and propylene used to produce polyethylene and polypropylene, respectively, whose output should be tripled.
This wasteful attitude to fossil feedstock is unacceptable and requires immediate development of new technologies for processing light hydrocarbons.
Each cubic meter of natural gas can produce much more ammonia, methanol, and dimethyl ether.

RESEARCH AND DEVELOPMENT

It is no secret that R&D is a very long and expensive process. But its result can turn the industry around and change the world. As it happened, for example, with steel, oil or network technologies.

In the gas industry, the research and technological development objectives of the industry are as follows:- increase the efficiency of exploration and to develop the feedstock base of the industry ensuring the implementation of long-term development plans;
– bring on stream Arctic offshore oil and gas resources;
– commission small fields; – use efficiently low pressure gas
– improve extraction of NGL and to recover residual condensate reserves from depleted reservoirs;
– develop unconventional gas resources; – improve the efficiency, reliability, and stability of the Unified Gas Supply System (UGS) in emergency, upgrade it, and develop the network of underground gas storage facilities;
– develop deep conversion of additional gas and condensate volumes to produce motor fuels, synthetic liquid hydrocarbons and other products.

The future of the oil and gas industry depends on the implementation of many research and technological developments, new solutions, and innovations. Its sustainable long-term development depends on its ability to predict and respond flexibly to changing conditions of the external environment, to retain and acquire new competitive advantages in the markets.

The continuous technology improvement and the need to introduce new solutions affect the activities of any company, regardless of its technological trends. The effectiveness of such development is an important component of success in the international competition. The current development of the oil and gas industry is at a turning point. It is caused by unprecedented computerization and informatization of the whole infrastructure, of the search, exploration and development of oil and gas fields, transportation and processing of hydrocarbons, and also by introduction of fundamental developments in everyday practices. In other words, the innovative process in the oil and gas sector of the Russian Federation is still going on. In this case, the dominant position is occupied by large vertically integrated companies. But the number of such companies is very small, and they are rather an exception to the rule.

In the field of innovations, the following range of problems is faced by the Russian oil and gas companies: The equipment used in the industry is obsolete and is often not updated; The investments in the oil and gas complex are insufficient to address both current and future development challenges in this sector. Upon turning to a new investment policy based on self-financing of the oil and gas sector development, the right choice of the most important areas for further investment can be of key significance because insufficient investments in the oil and gas sector can adversely affect the state of affairs, initially lead to the production stagnation and, subsequently, to serious negative consequences for the oil and gas industry and the economy in general. The global practical experience has shown that "the technological renovation and innovative production rates largely depend on a company's investment capabilities going beyond self-financing."
(I.A. Zatolokin, Modern Developmental Features of the Oil and Gas Industry / I.A. Zatolokin // Bulletin of NGIEI. – 2015. – Issue no. 3 (46). S.V. Ramzanova, Innovative Mechanisms in the Oil and Gas Economy / S.V. Ramzanova, E.V. Shults // Neftegazovaya Geologiya. Teoriya i Praktika ("Petroleum Geology -Theoretical and Applied Studies). – 2013. - vol. 8. - no. 1).

LOW FUNDING OF RESEARCH AND DEVELOPMENT.

ExxonMobil and Total are absolute leaders in the industry in the world. These companies invest in R&D 700-800 $ million per year. At the rate of 1 ton of oil equivalent, the costs of the oil giants for R&D reach 1 dollar per 1 ton of oil equivalent on average or 50% in the structure of total costs. In the Russian companies, the share of corresponding costs does not exceed 0.02% of their revenues, and specific costs per 1 ton of oil equivalent are less than $0.2 while up to 90% of all R&D investments go to the exploration and production segment. Insufficient financial support of oil refining and petrochemicals, because most investments (up to 90%) are used in the exploration and production segment; the low productivity of the Russian oil and gas sector (35%) due to the lower technological level. The main factors of productivity growth in the oil and gas industry are the use of new technologies, equipment, and knowhow; new products including higher yield of liquid petroleum products, more products with higher added value; efficiency of management including personnel qualifications, personnel and production management systems; and expansion of production. But recent years have been marked by some changes. Major Russian companies are increasing their investments in research. This is due above all to tough competition not only between Russian companies but also with the world oil and gas leaders. In addition, the research support of the production activities is necessary as a basis for sustainable growth of a company in the long term. The resource base depletion in the traditional production regions - West Siberia, Volga-Ural region, and south of Russia - is the reason for moving to the eastern less explored part of the Russian Federation and offshore. More severe geological and climatic conditions of the new regions do not allow development using available technologies.

Rosneft uses the following R&D techniques: Basin modeling and spectral velocity analysis of seismic data in exploration. In the field production, integrated engineering and integrated approach to development planning based on a single field model including comprehensive overview of reservoirs, wells, surface facilities, and the economics.
(Yu. S. Mamonova and L. A. Ivanchenko as Research Advisor – Siberian Aerospace University, Krasnoyarsk).
It is no accident that names such as Rosneft, Exxon Mobil, and Chevron were mentions in relation to research developments. Only large corporations and government institutes can afford large-scale financing of innovative research. But the funds, grants, and contests for best projects do not solve all problems. Before they start addressing research problems, the researchers have to deal with other challenges: First, a complex bureaucratic system. The sequence of approvals and excessive documentation takes a lot of time and effort.
Second, the companies are not ready to carry out long research and technological developments in the traditionally conservative sector without a guarantee of good result, which the researchers cannot provide.
Third, the conflict of interest of different subdivisions and departments or just a lack of desire to implement new solutions.

The researchers should be engaged in developments while we will address all other problems, such as the search for sources of direct financing of developments and for fields and hubs for the application of research results; the formation of the gas database including surplus gas accumulated by consumers; processes for rapid sale of this gas; reduction of the waste of gas flared “for nothing”; and higher energy intensity and environmental friendliness of gas processing.

TODAY, THE GAS COMPLEX INVESTMENTS IN NEW TECHNOLOGIES AND INNOVATIVE DEVELOPMENTS CAN BE SUBDIVIDED INTO FOUR AREAS.

GEOLOGY, FIELD PROSPECTING AND EXPLORATION

Efficiency of geological exploration and effective construction of exploration wells

Methods for assessing the hydrocarbon resources and reserves

FIELD DEVELOPMENT

Efficiency of extraction of natural gas, liquid hydrocarbons, and high-molecular feedstock

Field development using directional, horizontal and multilateral smart wells with long displacements.

Development of tight and unconventional gas resources in low-pressure reservoirs, gas hydrate deposits, and coal methane.

Production and use of low-pressure gas

GAS TRANSPORTATION AND UNDERGROUND STORAGE

Construction, upgrading, and operation of pipeline systems with optimal gas transportation parameters and resistance to natural factors and process loads

Ensuring the reliable operation of UGSS (Unified gas supply system of gas pipelines, storage facilities, and gas booster stations) including methods and means of diagnostics, repairs, and control.

Transportation of liquid hydrocarbons and of LNG via truck pipelines.

Exploration, construction and operation of underground gas and liquid hydrocarbon storages in porous media, permafrost, and rock salt deposits.

Deep conversion of hydrocarbon feedstock, creation of new and improvement of existing gas processing and gas chemical plants.

Efficiency of sulfur-containing gas processing and production of readily marketable products based on gas sulfur

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HYDROCARBON PROCESSING

GTL

New effective agents (selective absorbents, multifunctional adsorbents, and catalysts) to be used in conversion of hydrocarbons into commercial products.

Construction of field facilities which preserves natural landscapes

Reduction of the environmental impact by the industry's producers and refineries.

ENVIRONMENTAL

Geodynamic monitoring of field production

Reduction of greenhouse gas emissions

ENVIRONMENTAL CONDITIONS

A great number of fields are located in the wild environmentally important regions of Siberia! Conservation of the natural wealth of this region is one of the most important challenges we have to face. The animal world of Siberia is unique, and the Siberian forests preserve unique tree species.
The Siberian environment is severely affected by the current oil and gas production technologies. In addition, the emissions of carbon dioxide, nitrogen oxides, and sulfur affect the atmosphere not only in this region, but also in the whole planet. In the world practice, there are a fair number of examples that show how significant the earth's surface subsidence can be during long-term field production. Displacements of the earth's surface caused by pumping out of water, oil and gas from the subsurface can be much greater than those caused by tectonic movements in the earth's crust. Improving the environmental friendliness of gas production in spite of the fact that it is initially a cleaner source of energy than oil is one of the main environmental problems of our time.

OUR SOLUTION IS

RUSGAS

RusGas is a promising technological project that opens the possibility for everyone to make contribution to the scientific progress in one of the most important and profitable spheres in the 21st century. And also to take part in improving the environmental situation and preserving the planet's species diversity.

WHY DOES RUSGAS CHOOSE BLOCKCHAIN?

Maintaining freedom and achievement drive:
One of the challenging aspects of this market is a high entry threshold. The investors who are ready to join the research projects, understand that few developments will turn into a finished product and put forward very stringent requirements and financial conditions, in fact, becoming the main project owners. We started as a self-sufficient independent project and do not want to transfer the control over decision making to a narrow circle of investors.
To date, we have found investors who are ready to finance our project.

THE PROJECT DEVELOPMENT PLANS DEPEND TO A GREAT EXTENT ON THE CAPABILITIES AND GOALS OF BLOCKCHAIN TECHNOLOGIES.

THEY ALLOW EACH POTENTIAL INVESTOR TO PARTICIPATE:

- in obtaining the share of expected profits from the project;
- in optimization within our platform being set up of different processes for gas production, logistics, and sale, and sale of possible surplus gas from end consumer, including with the help of smart contracts; in creation of final products and business models;
- in creating around the gas industry a huge ecosystem of professionals and those who just want to develop it;
- in increasing the value of our cryptocurrency; and
- in obtaining cheap energy and technical conditions for mining.

When developing the project we will focus on improving the technical support of the system while involving professionals among the token holders to create research teams and for marketing and commercial effort, and we will allow the community to make decisions.
In the future, going beyond the gas industry, we plan to create a universal energy payment system adopted throughout the world turning it later into a generally applicable system. We consider this target to be absolutely realistic and meeting the challenges of the gas sector development. The creation of the integrated cryptocurrency market and the use of our currency infrastructure by the participants should improve the efficiency of the economy's gas sector, overcome the variability of gas pricing due to high regional differences in gas production and consumption.

Remember that due to the need to create and accelerate more marketwise mechanisms of commodity turnover, the direct settlements in fiat currencies were introduced in 2011. For example, in June 2011, the Bank of Russia and the People's Bank of China signed the agreement on switching to payments in national currency. In both China and Moscow, the yuan/ruble (CNY/RUB) trading was launched at the end of 2010.It is evident that the decentralized emission opens up wider opportunities for payments within one economic sector than the intergovernmental agreements on fiat currencies.
The report by PwC in October 2017 "Industrial Revolution 4.0" mentions blockchain among 8 technologies that will have the greatest impact on business over next 5 years and points to specific areas of its application: Identification and access control; P2P transactions; Supply Chain Management; Smart Contracts; Information Traceability; and Registration of Asset/Ownership.

THAT IS WHY WE DECIDED TO LAUNCH THE ICO CAMPAIGN FOR RUSGAS.

It provides a number of advantages for both our project and for holders of our tokens including:

- The possibility of acquiring by any person in any part of the world;
- Security of money transfers and guaranteed receipt of the money;
- High profit margins supported not only by success of a company but also by the interest in it in the market;
- The opportunity for further use of this technology in the company's developments by integrating it into the gas sector and creating IT products thus transforming the industry;
- The opportunity to reward investors and fans with additional bonuses;
- The opportunity to grow beyond the gas industry and to create an ecosystem for research projects in any field.

WHY DO GAS COMPANIES NEED RUSGAS?

"AS THE INTERNET CHANGED THE APPROACH TO COMMUNICATIONS, SO THE BLOCKCHAIN CHANGES THE APPROACH TO TRANSACTIONS. THE SPHERE OF ENERGY AND UTILITIES IS NO EXCEPTION"

, said Steven Callahan, IBM Vice President of Energy and Utility Systems.

Severe bureaucracy.

It's not a secret that start-ups and the development of new technologies are best performed in young companies. In small groups of people captured by one idea and working on it in the way they need it. In large international companies, the decision making process is long and hard. Many giants therefore find such small start-ups, finance their development, and subsequently buy them out if they succeed.

This method has not been developed so much yet in the gas industry, and we can give the Major Gas Companies completed projects for implementation and execution thus solving their problems of technological backwardness.

The possibility to reduce risks for the development of research projects.

Energy start-ups around the world have begun applying blockchain technology to sales of surplus energy by small companies and individuals. In particular, the blockchain allows the owners of houses equipped with solar panels and power storage systems to independently manage electricity supplies. But despite this fact, large corporations will be the first to succeed in the new energy market.

Power distribution systems based on the blockchain appear all over the world - from Texas to Tasmania - according to Reuters. Many companies have already completed testing the technology and start to implement it on a large scale. The market potential is huge - according to the World Energy Council, the share of decentralized systems will grow from 5% to 25% in the electric power market by 2025.

Two scenarios are suggested so far for the blockchain in the power industry. The first scenario allows small electric power producers, utility services, and users to sell surplus electricity. The second scenario involves tokens to pay for electric power. Smart contracts also give new opportunities to all market participants. In its essence, the smart contract has a dual legal nature: according to A. Savelyev, it serves as a "document" regulating the contractual relations between the parties and as an object of IP rights.

The blockchain makes it possible to form the "electricity Internet", which helps to save and changes the approach to electricity production. Many companies are already experimenting with the energy blockchain. They include both giants such as BP, Shell, IBM and small start-ups. Small companies more often offer experimental services but they do not develop full-fledged blockchain solutions. Because of this, experts fear that the new market will be seized by large corporations.

THERE ARE ALSO EXCEPTIONS.

For instance, an Australian start-up, Power Ledger, creates platforms to trade surplus energy in Thailand, India, and Australia. In October, the start-up raised $26 million through ICO. The British start-up Energi Mine offers tokens to users as a reward for electricity saving. Cryptocurrency can be used to pay bills for lighting or charging an electric vehicle. The Singapore company Electrify is going to launch in 2018 a blockchain exchanger for utility services and their customers. And users of the American service Grid + will be able to buy and sell electricity on the Ethereum platform next year.

Only this year, the energy start-ups raised $200 million through ICO. Yet, some problems can hamper their development. First of all, lack of legal regulation. As a consequence, many users are not interested in blockchain and are not ready to explore this area. As a result, only large players will be able to gain a foothold in the new market. For example, Siemens already invests in smart grids in the blockchain.

Some analysts are sure that the blockchain technology will lead to the energy market decentralization and will reduce the influence of intermediaries. But the absolute independence will never be achieved. Experts predict formation of a unified decentralized platform for energy exchange involving both large energy producers and micro-networks.

In addition to the issues related to decision making, the creation of research teams and research projects is a costly and risky process. Having a lot of current issues in everyday work, many companies are just not ready to take on new business lines (or to take risks). It is much easier to buy ready-made developments.

THE RUSSIAN COMPANIES THEREFORE BUY MOST EQUIPMENT ABROAD AND DO NOT DEVELOP IT BY THEMSELVES.

When choosing the area of future activity, we studied the experience and the development concept of OOO Kada-Neftegaz and asked its General Director Vladimir Kadushev for advice.

What was interesting to us in the activities of this company?

- The Zaslavsky license block being developed by Kada-Neftegaz is located in Irkutsk Oblast of East Siberia. It is a priority area of all economic development strategies due to depletion of large West Siberian fields. In fact, East Siberia is poorly gasified.
- this company is not a very large market player with a complicated bureaucratic structure.
- Recently, the Irkutsk Oblast administration has relied on participation in the regional gasification by medium-sized players using their medium-sized and small fields. Local gas prices and relatively low consumption make this region unattractive for Gazprom focused on deliveries to China.

The company's development concept is related to gas processing rather than to gas sales. First, the field is unique in its own way because it is located close to service lines such as roads and power grids. Second, according to calculations, investing huge amounts in a pipeline is less efficient than investing in processing. The recommended gas price is approximately 4000 to 5000 rubles (70-87 USD) for 1000 cu.m of gas. But the price of methanol produced on FOB terms is approximately 400 USD/ton. It is US$300 ex works.

When using state-of the art technologies, gas expenditure per 1 ton of methanol is 860 cu.m of gas. In other words, for all production costs, the profits from feedstock processing is higher than that from gas direct sale.

Methanol is a basic chemical substance. One ton of methanol can yield 460 kg of polyolefins — high-molecular compounds (polymers) - obtained from low-molecular substances — olefins (monomers) - by polymerization of similar (homopolymerization) or different (co-polymerization) monomers in the presence of a catalyst. (Widely used for industrial production of various films and fibers). It is known that polyethylenes and polypropylenes account for about half of the annual plastics consumption in Europe. This process is being improved technologically. Highly active metallocene catalysts (with a single polymerization center) have been used since the mid-1990s; they make it possible to control the length uniformity and the branching degree of the polymer chain.

Thus, extension of the feedstock processing chain increases its monetization.

The RUSGAS project considers such concepts to be a good opportunity for the use of blockchain technologies. With the help of our cryptocurrency, the investors will be able to independently choose any stage of the production chain for investment, and the producers to estimate cash flows in advance. In addition, the East Siberia power industry uses either hydro energy or low-energy and high-sulfur coals polluting the environment. The environmental problem - the need to replace coal by gas - is also one of the ways to monetize gas.

Northwestern China, which solves this problem with the help of Turkmen gas, can serve as an example in this case.

PROSPECTS FOR THE RUSGAS PROJECT

RusGas starts as a project aimed at addressing issues in a rather narrow sphere characterized by some stagnation.
In our opinion, first of all, it is necessary to solve the following problems:
Expand the sphere of responsibilities and capabilities of the system by setting up research teams and launching a few working developments.
Direct funding of developments by investors, direct interaction of investors and investments, on the one hand, and of designer, on the other hand, simplifying complex leasing schemes be using computer algorithms and smart contracts.
Bring the system to the world market of technological research developments by engaging more and more specialists from different disciplines and from commercial, legal, marketing, media and administrative entities. Each token owner will be able to contribute to the system advancement thereby increasing its value.
Consolidation of a huge community around the project and enabling its participants to make payments not only to each others using the RusGas currency but also to buy any goods in the world market.

RUSGAS CROSSES BORDERS BETWEEN COUNTRIES. THE RESOURCES OF OUR PLANET SHOULD HELP EVERYONE REGARDLESS OF POLITICAL VIEWS AND BARRIERS.

The operation of a smart contract - a computer algorithm based on blockchain technology - became truly possible after appearance of the ETHERIUM cryptocurrency on June 30, 2015.
The first smart contracts appeared in the bitcoin blockchain because the decentralized network allowed payments for goods between two people. In this case, the transaction is confirmed only under certain conditions. But bitcoin was limited to using cryptocurrency only.

The Ethereum platform developed by Vitalik Buterin in 2013, on the contrary, attempted to circumvent the limitations of the bitcoin language (that involves hundreds of scripts) by replacing it with a programming language enabling the developers to write their own programs and supporting a wider range of computing functions. Thus, the developers create smart contracts as new programs. In other words, it is not just about transferring cryptocurrency but also about the program that monitors compliance with its specified set of conditions. At some point, it confirms fulfillment of the contract terms and conditions and automatically determines whether the specified asset should go to one of the transaction participants, or it should be immediately returned to another participant (the conditions can be somewhat more complicated). For all this time, the document is kept and duplicated in the decentralized register, which ensures its safety and does not allow any party to change the agreement terms.

The undoubted advantages of the smart contracts are independence, security (each contract is kept in an encrypted form in the distributed register), safety (reproduction of documents in the blockchain), exclusion of different intermediaries such as financial institutions and, accordingly, savings in transaction servicing.

The parties sign a smart contract using the same methods as those used to sign for funds transfer in the existing cryptocurrency networks. The contract comes into force when executed by the parties. Automated performance of the contract obligations is ensured by the environment which provides fully automatic performance of the contract items. That is, smart contracts can exist only within the environment that has unrestricted access of executable code to the objects of a smart contract. All contract terms should have a mathematical description and a clear performance logic. The main principle of a smart contract is complete automation and reliability of contractual relations between people.
The smart contracts combine three important technologies. The first technology is user interfaces allowing the participants to be informed about each transaction and explicitly agree to it. The second technology is tracking which makes possible a diverse monitoring of compliance with the contract terms. The third is cryptographic technology -not only the art of cryptography but also reliable protocols in general, which are used for several purposes. One of them is data rendering or monitoring and converting into permanently stored and non-forgeable records. Another one is embedding of privacy through encryption, incoherent communications and mutually confidential and secure computer protocols. Smart contracts will appear not only in cars but also in the Internet as well as in other areas where property is managed digitally.

- The Ethereum system includes the following main components: accounts, status, gas and commission fees, transactions, blocks, execution of transactions, mining, and Proof-of-Work.

- A detailed explanation of the Ethereum functioning principles is not included in the presentation of the RUSGAS cryptocurrency. We will therefore dwell on the account functioning mechanisms only.

- Account addresses are Ethereum accounts.

- The global "shared state" of the Ethereum consists of many small objects ("accounts") that can interact through messaging. Each account has an associated state and a 20-bit address. The Ethereum address is a 160-bit identifier that is used to identify any account.

- THERE ARE TWO TYPES OF ACCOUNTS:
  -Externally owned accounts are managed using secret keys and do not have an associated software code.
  -Contract accounts are managed by an associated software code.

ADDRESSES OF ACCOUNT OWNERS
AND OF SMART CONTRACTS

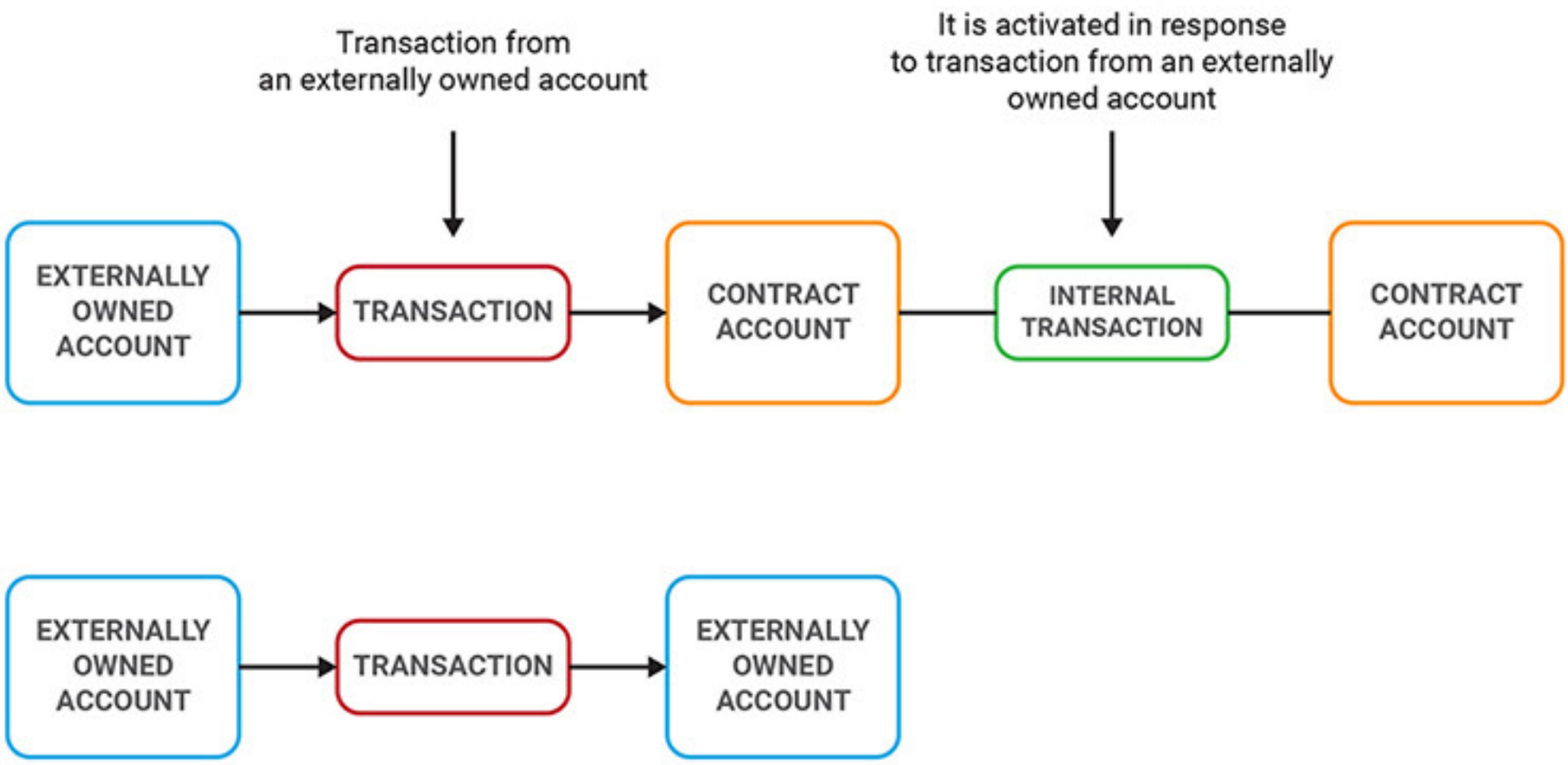
EXTERNALLY OWNED ACCOUNT

CONTRACT ACCOUNT

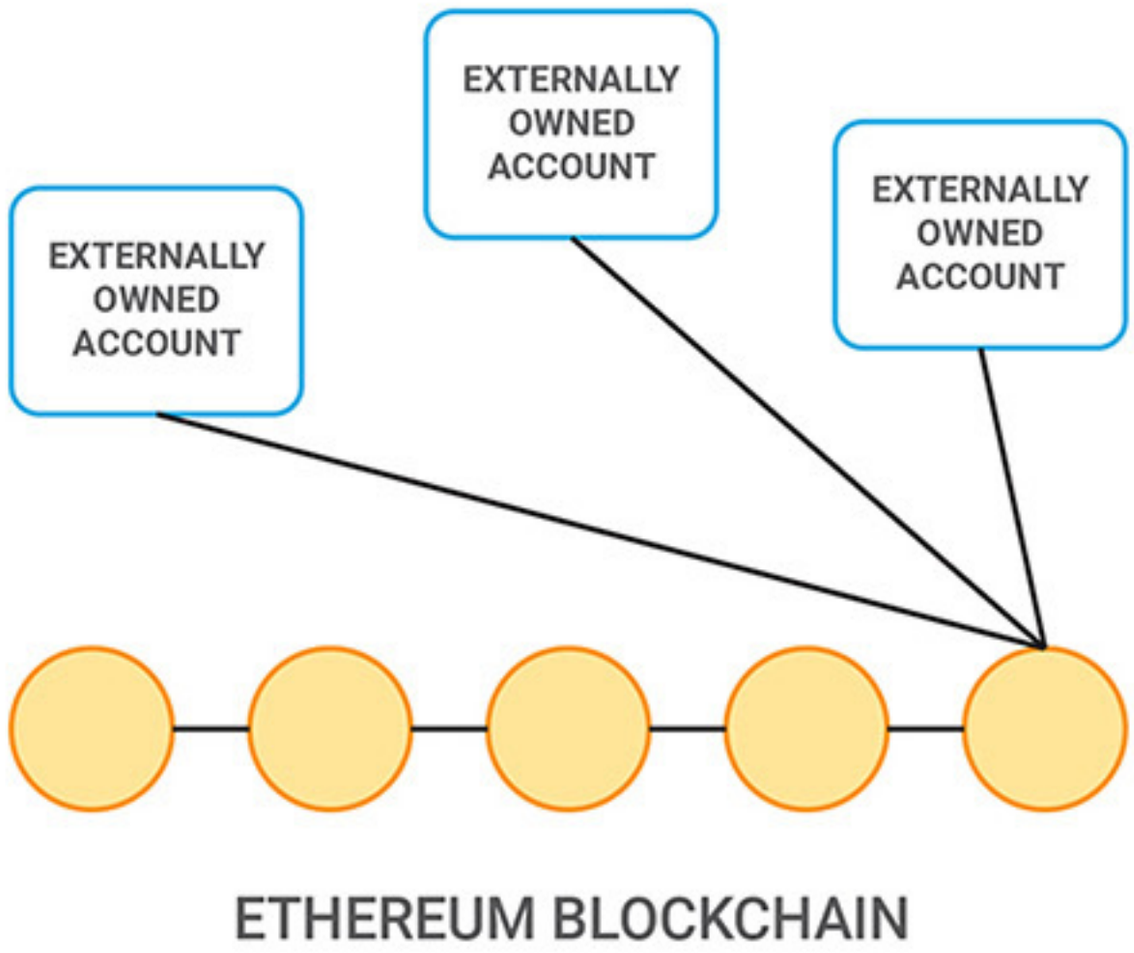
<CODE>
<CODE>
<CODE>

It is important to understand the fundamental differences between externally owned accounts and contract accounts. The externally owned accounts can send messages to addresses of other externally owned accounts OR contract accounts creating and signing transactions with their secret key. The message sent from one externally owned account to another is simply a money transfer. But the message sent from an externally owned account to the contract account address activates the contract code, which allows it to perform different actions (for example, token transfer, some computations, creation of new contracts, etc.).

In contrast to the externally owned accounts, the contract accounts cannot independently initiate new transactions. They do it only in response to received transactions (from an externally owned account or from another contract account).



THUS, ALL ACTIONS IN THE ETHEREUM BLOCKCHAIN ARE INITIATED BY TRANSACTIONS SENT FROM EXTERNALLY OWNED ACCOUNTS.



WHAT ARE THE GUARANTEES OF THE INVESTORS' RIGHTS?

1) As mentioned above, the smart contract means undoubted victory of the computer algorithm over the right and inability to change unilaterally or to breach the contract terms

2) According to A. Savelyev, whom we have repeatedly referred to, the smart contract operation fits perfectly to the Russian laws concerning computers and databases.

3) The US Supreme Court in the SEC v. Howey case once developed a test to establish a connection between a financial transaction and an investment contract as a type of securities. For ICO purposes, the test can determine the legal nature of a token. In particular, the token is recognized to be a security if it corresponds to four key test parameters including Investment Activities; Investing in a Common Venture;

INVESTOR HOPES TO MAKE A PROFIT; AND THE PROFIT DEPENDS ON ACTIONS OF OTHER PERSONS.

As applied to BT, the Howey Test was adapted by Peter van Valkenburg in his paper "Fundamentals of Legal Regulation of Crypto-Currency". The author analyzed the issue of whether cryptographic blockchain tokens with certain characteristics of "non-documentary securities" can be considered securities based on Section 2(a)(1) of the 1933 Securities Act ("Securities Act") and Section 3(a)(10) of the 1934 Securities and Exchange Act ("Securities and Exchange Act").

The token that secures one or more of the following investment interests is likely to be classified as a Security Token. These include:

1. A stake in a legal entity including full partnerships.
2. A stake in the capital.
3. A share of profits and/or losses or a share in assets and/or liabilities.
4. The status of a creditor or lender.
5. The right of claim for assets of a bankrupt entity based on the status of the stakeholder in the capital or a creditor.
6. The status of the entity for which the system or the legal entity - BT issuer - is bound by the obligation to return received funds.
7. The property that allows the owner to convert BTs that are not securities into BTs or financial instruments related to one or more investment interests or the property that entitles the holder to the option to acquire one or more investment interests.

A. Savelyev, an employee of the Higher School of Economics and an investigator of the legal nature of smart contracts whose work we carefully studied before the ICO, is convinced that the number of smart contracts based on the Ethereum platform will constantly grow attracting more and more investments (A. Savelyev. CONTRACT LAW 2.0: "SMART" CONTRACTS AS THE BEGINNING OF THE END OF CLASSIC CONTRACT LAW. BASIC RESEARCH PROGRAM. WORKING PAPERS. SERIES: LAW WP BRP 71/LAW/2016). Some Legal Aspects of the Use of Smart Contracts and Blockchain Technologies Under Russian Law.//Zakon (Law). 2017. No. 5).

Thus, the analysis of problems and trends in the development of the gas sector and of cryptocurrency technologies suggests for investors the ability to directly finance, control, and create the right of shared ownership in R&D and equipment supplies; for financial institutions to apply new financial technologies (for example, smart contracts that replace issuance of letters of credit for equipment delivery or goods shipment, and leasing schemes); and for the holding company to promptly process information on surplus energy owned by consumers and sell it in the market, to monitor the environmental situation in the gas production area, to minimize meaningless flaring of energy resources, to assist investors in obtaining cheap energy for cryptocurrency mining with possible investment in further project development.

LISTING IN CRYPTOCURRENCY EXCHANGE MARKETS

After the Token Sale, tokens can be freely purchased or sold at many cryptocurrency exchanges. As the company grows and user requests from different countries increase, the number of exchanges will also grow. The project team plans to enter more than 8 international cryptocurrency exchange markets.

The exchanges will make it possible to instantly exchange RGS tokens for any marketable cryptocurrency (BTC, ETH).

OUTPUT OF RUSGAS CRYPTOCURRENCY

Within 2 months after completion of the Token Sale, all owners of RusGas tokens will receive a new RusGas cryptocurrency in the ratio of 1 to 2. In the future, the RusGas cryptocurrency will develop as a unit of account within the gas industry and then in everyday life.

PARTICIPATION IN THE TOKEN SALE

You will be able to purchase RGS tokens during the Token Sale by making a direct ETH transfer to the address of a smart contract. We accept ETH only from cryptocurrency wallets. Be careful and remember that you should not make payments from wallets that are incompatible with the ERC20 contracts or from the cryptocurrency exchange account because it can result in loss of control over the tokens you have acquired.

WE RECOMMEND TO USE THE FOLLOWING WALLETS:

METAMASK

EXTENSION FOR GOOGLE CHROME

MyEtherWallet

NO INSTALLATION REQUIRED

ethereum

INSTALLATION REQUIRED

We believe that the smart contract is fully suitable to problem solving in the gas sector considering the volatility of feedstock prices and the long technological chain for delivery of energy and of other end products to the consumer.

The blockchain advantages are: 1) decentralization which minimizes the failure risks in the event of breakdown of a system; 2) higher security through the use of cryptography in each transaction; 3) impossibility of modifying blockchain data behindhand; 4) promptness due to automated data exchange without a human factor; 5) transparency since all actions in the blockchain are documented and accessible to all system users. Thus, it is always possible to determine who and when owns a specific asset and there is the only one true version concerning the asset owner, which cannot be reconsidered at the request of any user or intermediary. The transaction that was not confirmed by most system participants will be rejected and will not become a part of the blockchain for which reason this system is sometimes referred to "consensus-based system." These qualities make the blockchain a trustless trust. In other words, the smart contract is a contract that exists as a software code implemented on the blockchain platform, which ensures autonomy and self-fulfillment upon onset of earlier planned circumstances.

We enter the ICO market when the legal system of smart contracts is taking shape and the contracts are interpreted based on computer and database concepts existing in the RF Civil Code (Articles 1260, 1286 of the RF Civil Code).

According to Savelyev, the transactions in the format of smart contracts fit perfectly into the Russian legal system. Should there be a contradiction between the program code and the law, Savelyev believes that the code will win making it impossible to breach contract terms. Technological connection is much stronger than the legal one. Thus, the principle of Pacta sunt servanda becomes absolute.

It ensures the combination of low and management, so important for business models in the gas sector.

A smart contract written in a universal mathematical language can exist outside of legal systems. Hence, another important advantage of blockchain technologies is the possibility to avoid legal proceedings because the very possibility of different interpretations of the contract is eliminated.

«THE PEOPLE WHO ARE CRAZY ENOUGH TO THINK THEY CAN CHANGE THE WORLD, ARE THE ONES WHO DO»

Steve Jobs

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TOKEN SALE

TOKEN SALE IS HELD BASED ON TWO MAJOR OBJECTIVES:

- ADOPTION OF THE RGS TOKEN;
- FUND RAISING FOR DEVELOPMENT AND PROMOTION OF THE RUSGAS PROJECT.

THE FUNDS WILL BE DISTRIBUTED THROUGH A SMART CONTRACT.
The collected funds will be allocated for research development, search for new technologies, environment recovery, marketing campaigns, and educational projects for promising young researchers. The project will be implemented regardless of the amount of investors' fees.
The amount of collected funds will dictate the system decentralization level and the possibility of setting up a global system.

UPON REACHING HARD CAP,

i.e., the upper limit of the planned collection, the Token Sale will end and all funds received after this moment will be returned to investors. Similarly, if ICO does not reach the lower threshold, Soft Cap, it will be canceled, and the funds will be also returned to investors.

SOFT CAP IS
$2 000 000

HARD CAP IS
$60 000 000

TOKEN TICKET
RGS

STARTING DATE OF TOKEN
3 APRIL 2018

END DATE OF TOKEN SALE
11 JUNE 2018

TOTAL SUPPLY
10 000 000 000

All unsold tokens will be distributed among the first 500 ICO investors in accordance with the investment amounts.

In fact, the investors will go through 2 stages:
1) Acquisition of our tokens for Ethereum.
2) Exchange of these tokens for our own cryptocurrency.

TOKEN DISTRIBUTION

- 10% will be included into the development fund (the stake will be unfrozen by 5% each time after first two periods of 3 and 9 months).
- 20% will be the team's share. The share will be unfrozen by 5% each time after 6 and 12 months and by 10% after 15 months under the supervision of Escrow. The team is motivated to at least 10-fold increase of the token market capitalization. Thus, the interests of the token holders and of the team coincide as far as the token price growth is concerned.
- 5% will be the share of bounty rewards.
- **5% is allocated for advisors; greater emphasis**
- 60% will be received by token holders.

FUNDS DISTRIBUTION

- 20% will be allocated for developing an ecosystem for interaction of researchers and major gas companies
- 10% will be allocated to search for and assess promising research projects.
- 40% will be allocated for financial support of research.
- 10%will be provided to marketing companies.
- 10% will be grants for training of best students in chemistry and physics field with subsequent employment in research teams.
- 8% will be allocated for reclamation of natural environment and assistance to animals.
- **2% are planned for assistance to preserving the life style of indigenous peoples.**

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MyEtherWallet

NO INSTALLATION REQUIRED

ethereum

INSTALLATION REQUIRED

PRE-SALE:

START
3 APRIL 2018

END
16 APRIL 2018

PRE-SALE CAP
$12 000 000

TOKEN PRICE
0,018

ADDITIONAL BONUS
+200% TOKENS

BASIC SALE STAGES:

WEEK 1	WEEK 2	WEEK 3	WEEK 4
TOKEN PRICE: $0,019	TOKEN PRICE: $0,02	TOKEN PRICE: $0,021	TOKEN PRICE: $0,023
BONUS: +138%	BONUS: +100%	BONUS: +75%	BONUS: +44%
CAP: $8 000 000	CAP: $8 000 000	CAP: $6 000 000	CAP: $8 000 000

WEEK 5	WEEK 6	WEEK 7	WEEK 8
TOKEN PRICE: $0,024	TOKEN PRICE: $0,025	TOKEN PRICE: $0,275	TOKEN PRICE: $0,03
BONUS: +33%	BONUS: +25%	BONUS: +10%	BONUS: +0%
CAP: $7 200 000	CAP: $8 000 000	CAP: HARD CAP	CAP: HARD CAP

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PROJECT CREATED STARRING

KADUSHEV VLADIMIR BOSHAEVICH

General Director of OOO Kada-NefteGaz

V.B. Kadushev has a broad work experience in various industries, including oil and gas industry in Russia and other countries.
Prior to joining OOO Kada-NefteGaz in 2007, he held the position of Vice-President of OAO Tambeineftegaz, prior worked as the Director of OOO Uzhpolimetall. Served as a Management Board member at the Russian National Bank. Worked in the Ministry of Foreign Affairs of the USSR. He was responsible for financing of large investment projects, including those related to development of the gas transportation infrastructure and construction of a power plant in Morocco.

MIKHAIL EVGENYEVICH STAROBINETS

Chief Geophysicist at OOO Kada-NefteGaz

M.E. Starobinets has been employed by OOO Kada-NefteGaz since 2007. He has over 50 years of work experience at large exploration, geophysical surveying and mining companies where he was involved in complex interpretation of geophysical data and recommendations on the location of exploration and producing wells.
M.E. Starobinets has been working as chief geologist in the Central Geophysical Expedition in Moscow. Worked as the chief geophysicist at OAO Hantymansiyskneftegazgeologiya. The new data obtained as a result of exploration helped to increase production from 60 to 700 thousand tons of oil per year.

ANDREY PODDEEGINYAN

Communication agency "3.14R", project manager in the field of public communications

NADEZHDA ROBERTOVNA KRAVCHENKO

HR Director of large Russian companies Magistral Group (wholesale and retail trade of light oil products), Neftmagistral Trading House.
Author of articles and trainer in the field of motivation and development of personnel.

MAO XIN

lecturer RosNOU (Russian New University) and MITRO (Moscow Institute of Television and Radio Broadcasting Ostankino). Phoenix Group, Executive Director.

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ROADMAP

Q2-3 2017

- Purpose
- Primary negotiations with gas companies, study of problems
- Negotiations with the scientific community, the study of ideas, patents, investment problems

Q4 2017

- Negotiations with investors on the initial stage of investment startup RUSGAS
- Beginning of project preparation to the ICO

Q1 2018

- Primary Marketing
- Development of RusGas token
- Launch of the project

Q2 2018

- ICO
- Listing on decentralized exchanges
- Start of the main marketing company
- Beginning the process of hiring and selecting the necessary staff and specialists for the implementation of the project tasks

Q3 2018

- Distribution of RUSGAS crypto currency to all Token holders as the first stage of realization of interaction of all entities in the gas industry
- Listing on major exchanges
- Financing of developers of innovative technologies for gas production and processing
- The creation and publication of an updated RoadMap, the refinements will depend on the amount of collected funds

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Q4 2018

- Drawing up a business plan, the structure of the system
- Creation of a legal entity for a full-fledged commercial activity

2019

- Development of software for communication of oil and gas industry and technology.
- Acquisition of patents for development and implementation in the oil and gas industry
- Conclusion of primary agreements with gas producing companies for the modernization of technologies
- Conclusion of primary agreements on investing in the extraction, processing and transportation of gas, through the technology of Blocking in the territory of the Russian Federation, for the first stage of project monetization

2020

- First payment of dividends
- Conclusion and implementation of the main agreements with gas producing companies, introduction of the newest technologies for gas production and processing, based on patents and developments implemented within the ecosystem of RUSGAS, as the second stage of project monetization

2021

- Second dividend payment
- Creation of a decentralized exchange for gas trading, processing products, exclusively using the RUSGAS crypto currency, as the third stage of project monetization
- Establishment of the supervisory board from the circle of holders of RUSGAS tokens, granting them audit-control functions to implement the full decentralization of the system

2022

- Third payment of dividends
- Creation of a Board of Trustees from the circle of holders of RUSGAS tokens
- Develop and approve the updated RoadMap, by voting the community, tokens RUSGAS, making decisions on the size, methods of dividend payment
- Approval of ways to strengthen the decentralization of the platform