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Contents

Strategy

Sinelnikov A.A.
Methodological grounds of formation of innovative projects portfolio4

Economics

Bessel V.V.
Some aspects of energy efficiency assessment of the Russian economy9

Idigova L.M., Khubaeva M. S.-M., Umaev M.A., Mollaeva L.D.
Resource-oriented economy in the frames of stable development 15

Akhmedov K.S., Arshinova N.M., Semenyak A.A.
Some method of economic efficiency assessment of geological-technical activities to be performed at wells' fund of gas fields 18

Egorova E.N.
Oil spills in offshore territories: minimization of economic losses22

Salcheva S.S.
Effectiveness of investments in oil refining with regard to quality of oil products27

Organization and management

Ozdoeva A.Kh., Zubareva V.D.
Selection of technologies of associated gas utilization36

Sargsyan Zh.L.
Economic relations differentiation in oil and gas business40

World oil and gas business

Manolov D.D., Grishina I.N.
Improvement of oil processing economic efficiency in the Eastern Europe44

Goryacheva A.O.
Prognosis of development of fuel oil world markets up to 2040 by applying optimization model48

Information on the articles 58

INFORMATION ON THE ARTICLES

METHODOLOGICAL GROUNDS OF FORMATION OF INNOVATIVE PROJECTS PORTFOLIO (p. 4)

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The aim of the present study is to provide a useful tool to support decisions on investment rational allocation into innovative projects. The main stages of the process of building of an innovative projects portfolio in the technological management system of an oil and gas company are considered. Some formalized approach to formation of innovative projects portfolio based on the simulation system of forecasting and analytical support for the integrated assessment of scientific and technical priorities (PRAN) is developed. This approach is dynamic and should be taken as a part of the strategic technological management, in which corporate knowledge, along with the appropriate resources, create conditions for achieving stable competitive advantage of an oil and gas company. Risk accounting of innovative design solutions is proposed to be based on a decision-making model for choosing an innovative projects portfolio in the form of an integer mathematical programming problem. This model is considered as a module of PRAN simulation system that in future envisages its alignment with the corresponding modules of the system. The model can be modified with account of interdependence of innovative projects portfolios of production systems of a vertically integrated oil and gas company. Application of the proposed approach to formation of innovative projects portfolio contributes to the effective implementation of technological strategies by a vertically integrated oil and gas company, both on the basis of already mastered, traditional technological processes and with account of changes in traditional technologies and possibilities of some new processes development.

Key words: strategic technological management; technological strategy; innovative development scenario; innovative project proposal; innovative project; mathematical model; risk of innovative design solutions; innovation portfolio choice.

SOME ASPECTS OF ENERGY EFFICIENCY ASSESSMENT OF THE RUSSIAN ECONOMY (p. 9)

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The problem of involving alternative energy sources in the development, which include unconventional raw hydrocarbon resources and renewable energy sources, is widely discussed in the Russian expert community. Some experts prove the fact that such amount of hydrocarbons and coal resources, which Russia has at its disposal nowadays, makes introduction of alternative energy resources impractical, the other experts, bearing in mind some serious gap, existing in the problem's salvation as compared with all leading world countries, say that the problem of involvement of alternative energy sources requires to be solved. The author of the present paper, having analyzed statistical changes of gross domestic product (GDP) and energy consumption in Russia and other countries of the world during the 2009 crisis and the 2010 post-crisis shows that only 22—25 % of the consumed energy is spent on reproduction of GDP in Russia. And insofar Russia is a super-sized northern country the energy consumption will only continue growing. Taking into account the above-said, the author concludes that the problem of alternative energy involvement in the country's energy consumption balance is urgent and permits of no delay in its decision. The fact is that all major energy projects appear investment-intensive and inertial, that's why it is very naïve to expect results from their implementation within the period of three-five years; the results might be evident not earlier than in eight-ten years.

Key words: gross domestic product (GDP); energy consumption; dynamics of GDP changes; dynamics of energy consumption; specific energy consumption required for production of 1000 \$ of GDP; specific energy consumption per one unit of the country's territory; specific energy consumption per one inhabitant of the country; dynamics of specific energy consumption; energy efficiency of the economy.

RESOURCE-ORIENTED ECONOMY IN THE FRAMES OF STABLE DEVELOPMENT (p. 15)

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Contemporary understanding of a resource-based economy as an economy, which is being developed thanks to the proper accounting of consumed resources (energy return on investments, material return on investments) is analyzed in detail. In the authors' opinion effectiveness of such economy is based on resource management technology. Ideas of resource-based economy are inextricably linked with the usage of renewable energy resources and, namely, those that do not pollute the environment.

In the authors' opinion, economic support necessity of more efficient use of limited natural resources becomes the main objective of both economic practice and economic theory. Thus, reducing of the national economy dependence on fuels and materials that become more and more scarce and increasing of the resources use effectiveness, we are raising the national economy safety, making it more resistant to future growth of the global problems and prices for energy and raw material resources.

Key words: resource-based economy; stable development; energy and raw materials.

SOME METHOD OF ECONOMIC EFFICIENCY ASSESSMENT OF GEOLOGICAL-TECHNICAL ACTIVITIES TO BE PERFORMED AT WELLS' FUND OF GAS FIELDS (p. 18)

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Methodology of cost-effectiveness assessment of geological-technical activities allows unifying criteria and techniques of initial geological-field data processing for further assessment of predictive and actual economic and technological efficiency of the planned and carried out geological-technical activities in the wells.

Key words: geological-technical activities; well; workover; planning; economic efficiency; assessment methodology; net present value; profitability index; internal rate of return; return on investments.

OIL SPILLS IN OFFSHORE TERRITORIES: MINIMIZATION OF ECONOMIC LOSSES (p. 22)

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Some methodological approaches to economic assessment of environmental damage are analyzed, advantages and disadvantages are determined. Comprehensive scheme of formation of economic damage composition from accidental oil spill in the offshore waters developed on the basis of the recipient approach is presented. The problem of economic damage minimization caused by accidental oil spills in the sea areas is formulated and some principal schematic block-diagram of the problem solution is proposed.

Key words: economic assessment of environmental damage; minimization of damage from oil spills; oil spills in the sea areas.

EFFECTIVENESS OF INVESTMENTS IN OIL REFINING WITH REGARD TO QUALITY OF OIL PRODUCTS (p. 27)

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The main idea of the paper is that substantiated assessment of investment projects effectiveness aimed at refineries modernization, requires consideration of the produced oil products quality.

The following system of indicators to assess the investments' effectiveness in oil refining is proposed: specific capital investments per unit of growth rate of oil products quality; net present value obtained due to the increase of oil products quality; net present value per unit of growth rate of oil products quality, profitability index based on product quality.

The paper proves that at the moment excises incentive function in improving quality of the produced motor fuels is performed limitedly, so the current mechanism of excise rates determination on petroleum products needs to be improved. The author of the paper concludes that transition from determination of motor fuel rates on the basis of class to excises establishment on the basis of the proposed aggregated quality factor, will allow the state to act as a co-investor while implementing secondary oil refining processes. It will help to refocus the domestic refineries from extensive to intensive type of development thus meeting the growing demands of the community in high quality fuel of European standards in view of its environmental safety.

Key words: petroleum products quality; investments in refinery upgrading; aggregated quality factor; method of multidimensional comparative analysis; alternative investment projects; managerial decisions of oil companies; secondary oil refining processes; specific capital investments per unit of growth rate of petroleum products quality; net present value due to of petroleum products quality; index-adjusted return with account of oil products quality.

SELECTION OF TECHNOLOGIES OF ASSOCIATED GAS UTILIZATION (p. 36)

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Approaches to projects evaluation, implemented by Russian oil and gas companies, are considered classical/traditional in

terms of theory and practice of investment management and are based on the calculation of basic performance indicators such as net present value (NPV), project's payback period, internal rate of return (IRR) and investments profitability index (pi). However, this analysis doesn't ensure significant reduction of environmental and economic losses caused by projects' implementation. Therefore, salvation of the revealed problem requires defining of the concept and methodology to be applied for assessing of the projects relating to associated gas utilization with account of some additional factors that will remove associated gas flaring and environmental pollution.

Changes in the legislation of the Russian Federation and additional economic potential obtained because of the Kyoto Protocol mechanisms implementation when evaluating projects relating to associated gas utilization require taking into consideration the following factors:

to adapt economic parameters of projects' implementation evaluation with account of specific structure of capital expenditures and taxation of these projects;

to include environmental factors in economic evaluation of projects, in particular: fines for excessive gas flaring and air pollution, income from selling quotas for greenhouse gases got due to reduction of associated gas flaring through the project.

Key words: associated petroleum gas (APG); APG flaring; greenhouse gases; penalty for excessive flaring; synthetic fuels; environmental effectiveness; economic evaluation of projects; net present value (NPV); return on investment (ROI); internal rate of return (IRR); discount rate (r); payback period (PBP).

ECONOMIC RELATIONS DIFFERENTIATION IN OIL AND GAS BUSINESS (p. 40)

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Economic policy in relation to an energy company is defined as a higher-level system of an enterprise management, ensuring coordination of interests between the parties to relationship of subsoil assets use and is implemented by forming of a set of corporate and functional strategies in the form of tactical and operational decisions that are subject to the use of a single design and coordination of competing factors of a company's external and internal environment.

The criterion of economic policy typing as the predominant focus on one of its parties to relationship of subsoil assets use is determined for the first time.

Key words: economic policy; typing; oil and gas company; relationships of subsoil assets use.

IMPROVEMENT OF OIL PROCESSING ECONOMIC EFFICIENCY IN THE EASTERN EUROPE (p. 44)

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Development of modern oil refining industry is nearing some unfavorable situation, namely, margin decrease and transaction costs increase in order to obtain high-quality oil products. This scenario appeared due to gradual deterioration of oil running to refineries and requiring higher operational costs for upgrading and bringing the produced fuels in compliance with the new Euro-5 standard. Starting from 01.01.2009 the European Union (EU) adopted some measures restricting ecological quality of the fuels to be sold in the market, controlling mainly sulfur content, aromatic hydrocarbons and arenes content.

The current situation forces refineries to reduce process utilizations duty because of impossibility of getting finally high-quality product that meets the requirements of the European market. So, at the beginning of 2010 some refineries had to stop their operational activities for some indefinite period of time and to look for some ways of solving the problem by means of attracting the leading engineering companies. After performing definite analytical computations engineering companies could recommend application of some appropriate technologies ensuring maximum load of the existing process utilizations and perfection of process scheme flexibility with simultaneous operational costs decrease.

The ongoing reform of the managerial structure of vertically integrated oil companies (VICs) and growing financial crisis made oil refineries increase the performance criteria of selected and implemented projects. The problem of improving oil refining economic efficiency should be solved because of the predicted deficit of "Euro-5" light oil products, in particular, diesel fuel. Deep and comprehensive analysis of the accumulated analytical data on fuel markets in the EU, which has been carried out since the beginning of 2005, proves the trend of demand increase for light oil products and replacement of fuel oil for more ecologically pure natural gas.

Key words: economic efficiency of oil refining; operational expenses; margin; ecological fuel; light oil products; European standard.

PROGNOSIS OF DEVELOPMENT OF FUEL OIL WORLD MARKETS UP TO 2040 BY APPLYING OPTIMIZATION MODEL (p. 48)

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The current situation in oil fuel markets is rapidly changing, competition caused by non-traditional resources usage and the share growth of electricity and renewable energy sources (RES) in the transport sector is increasing. To analyze possible scenarios of the situation development and timely take some strategic decision it is important to use approaches that allow taking into account a combination of factors, their interrelationship and mutual influence. The paper presents World Liquids Model (WLM) — the developed static economic-mathematical optimization model providing long-term prognosis of the situa-

tion that can be characteristic for oil fuel global markets. The model was applied for making calculations for the period of 2010—2040 using two scenarios: "The Baseline Scenario" and "Shale Breakthrough". The performed analysis allowed identifying the key changes in oil fuel world markets and assessing po-

tential threats to the Russian Federation's positions in foreign oil markets.

Key words: long-term prognosis; optimization model; WLM; oil fuel markets; oil products; shale oil; global markets.