Keep To Fail Likeg'I-Lubricating Materials Extraction And Production Problems And Innovative Solutions.

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ABSTRACT

This article in fuel and lubricating materials extraction to get and them re - work in the process of occurrence is the coming technological, environmental and economic problems of the analysis is. In particular, raw materials quality decrease, the energy consumption of high ministry, the environment, the negative effects and work the production of effective be limited as topical issues covering is given. Also, these problems eliminating in modern innovative technologies, digitization, automated management systems and environmental clean re - work the method of importance of the scientific basis considered are. The research results of fuel and lubricating materials use production in the field of sustainable development to ensure that service the offer, and recommendations for their into gets

Keywords: fuel and lubricating materials, digging to get technologies, oil re-work, work , production problems, innovative solutions, automation, environmental safety, energy efficiency, modern technology.

Introduction: Fuel and lubricating materials (ym I) the sector of the development of modern energy in the market is of strategic importance to the professional is, because of them the safe and effective use to be out of energy security, provide, transport of the system stability to maintain and industry to work out constantly guarantee to be an important factor is. The world on the scale of oil and fuel industry 's annual consumption of about 36 billion barrels of oil that is equal shows, that while the global energy balance of the main part and work out of complex nature reveal your will.

My ym mining get , and re - work processes of a number of complex technical, economic and environmental problems face comes. In particular, oil reserves are stable in the conditions of deep and complex geological structures located are, their production is taken costs and energy consumption of a significant level of carries. That is in addition to, the oil re - work the process of complex physical-chemical prosess please request it makes, the same with along with high levels of environment pollution causing produces, because re - work in the process of toxic waste and carbon dioxide , such as greenhouse gas formed is.

1. Statistical data of the oil re - processing in the field of complex situation more clearly shows: European Union refineriyalari in the year of 2023 total 537,4 million tons of oil products work out of that was noted who it is, this previous year , compared with growth and decline trends of a time at otherwise has held.

Energy and resources are effective low, because deep dig to get to the process of high technological equipment and large quantities of energy demand makes;

2. Environmental risks and carbon emissions of a lot, this global climate change negative effects shows;

3. Complex technological processes, especially in heavy oil fractions of re when working additional technologies required are, that while use production costs increases.

This with alongthe global scale fuel demand dynamics also changed and has been — the international Energy Agency, the latest price, 2026 in the year of oil talabida the growth from the previous estimate of the level low if, per day, only 850 000 barrels per day increase is expected.

You I work production in the process of occurring of the main problems the following own into takes:

Same time at in the area of innovative solutions is also rapidly developing. Digital technology, for example , artificial intelligence (AI) and to study based models om I (upstream) , and re - work processes to optimize the opportunity it gives, this while working out the process of more effective and safe makes. The blockchain and the io such as advanced technology , while oil production production chain is the consistency and the transparency increases, poor-quality products and fraud incidence decreases.

The literature analysis.In recent years, fuel and lubricating materials in the field of scientific studies of the global energy system efficiency, environmental safety and work production process of complex technological nature around markazlashmoqda. For example, studies of heavy oil and bitumen in the extraction taken and them in situ technologies through again to work on issues of a deep analysis of offers, the including the sag like the heat with the help of the technology, an important role has that shows, this while heavy oil resources with high efficiency with the use , ensure that help will. Again a search in the oil re - work the process of environmental impact and waste cleaning issues separately have been studied. Experts oil re - processing in the plant generated that is waste, maintenance of water biochemical processing technology offer of, to the environment and damage which caused by factors reducing on innovative solutions previously has been pushed. Also, digital, transformative , and digitization strategies in oil and gas extraction , production of the company's operating efficiency to increase the serve will. This direction of research on digital technologies introduction to through resources effective use, the decision to accept to the process speed up and risk management of significant positive results to bring that would come , it was noted. The literature analysis that shows, the technological process complexity with togetherglobal technological changes and climate on reception to the new policy, oil re - processing enterprises in innovations the introduction of the importance dramatically increases. For example, 465 units, oil re - processing the object of study results on 2023 , the year the global capacity of approximately 21 % part carbon waste reduction and economic pressure due to the risk of under that remain have shown, that while the industry 's rapid technological update need dalillab was.

Material and Methods:The research methodology is a multiple scientific methods for their into the gets:

1. Mathematical modeling and statistical analysis

Fuel and lubricating materials extraction to get and re - work in the process technological parameters of mathematical models through analysis is. For example, complex processes in the image statistical regressiya and stokastik the variability model is applied, this not only process the effectiveness of assess, but also socio-economic factors effects the forecast to the possibility it gives.

2. Experimental studies and data collection

Research available industry information, including the oil re - processing plant technological index use. This information oil products use production process waste , reducing the direction towards innovative solutions in identifying an important role to have.

3. Systematic literature analysis.

Research scientific articles, patents, industry analysis and global statistical data analysis is.

This method of fuel and lubricating materials for use in and out of the technological and environmental problems, with associated available scientific ideas integrated help will.

4. Innovative technologies evaluation

AI (artificial intelligence), Io (Internet of Things) and digitization technologies research assess the way with their work production process applied to the effectiveness of study planned to. Such a method of the processes optimization, of emergency in advance to identify and energy efficiency increase the opportunity to gives.

Discussion: fuel and lubricating materials (ym, I) mining get , and re - work process, the effectiveness and the environment the effects of global energy policy in the context of serious research subject to have become. In recent years this area out carried scientific research, technological, economic and environmental factors in the united reference a lot of along with problems will identify.

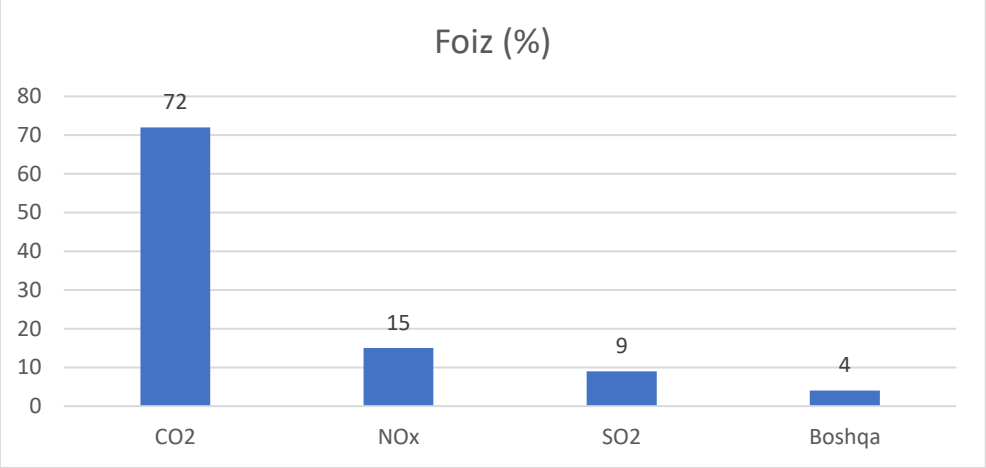
Statistical data accordingto global oil production to get the sector annual energy production of about 36 billion barrels of oil near the product, deliver the will, that high level of extraction require which fields are increasingly on the rise. This while digging getting in the process of energy consumption and operating costs increase taking comes in. Geological complex illnesses because of the deep layer from the oil get to additional technological solutions required will be, that while their turn in work release cycle prolong the efficiency reduces.

Global oil extraction to get the size and digging getting to the effectiveness of (2015-2025)

This diagram 2015-2025 years during extracted getting effectiveness and oil production, the production , the size of the interaction effect shows. 2020 is the year starting on technological updates for efficiency indicators for sustainable growth path taking despite, resources , and deep layers and difficult geological conditions, work , production costs significantly in the level of the increase clearly seen is.

- Re - work and environmental problems

Oil re - work the process of high energy demands, makes and into the atmosphere carbon waste and toxic compounds separates. Iec (international energy council) data according, the oil is re - used from come out that carbon gas the entire energy waste 20-25 % accounted for up to will. This statistical indicator of my ym sector environmental load is significant that confirms it.



1-picture. Oil re - work the process out carbon waste composition (%)

This diagram from the oil re - work from the process come out the main waste shows. CO2 of high share of climate change directly impacts the shows and these practices further environmental clean technologies with the replacement of the necessity enhances.

- Innovative solutions and technological transformative

Analysis that shows, digital technologies, the including artificial intelligence (AI), the io and big data analysis (Big Data), fuel and lubricating materials use production process efficiency

significant level of increase in the opportunity it gives. International Energy Agency (EA) to the forecasts according, 2028 to the year of come to oil and gas production, production in the sector of AI and the io current of the use of production process efficiency 20-30 percent increase is expected.

This technological approaches to energy consumption to reduce, such a system of pre - determined and the operating processes in the real time mode, to optimize the opportunity to gives.

Results:

- technological interruptions reduced;
- work production costs will optimallashtirildi;
- environmental security level carried.

You are the innovative solutions introduced ifby 2030, the year to come and the oil industry in the global carbon waste of 2019 year from the level by 10-15% increased can. This , while global climate goals contrary to isthe paris agreement by determined the limits of sharply breaks.

In other hand, technological transformative and re - work in the process of automated management of the system - wide implementation to through carbon waste by 2030 is the year to go 2019 year-to-year as compared to 25-30 % by reducing can. This while I have ym of the industry, the stability of the consolidation with together, the environmental negative impact to a significant extent decreases.

Conclusion: this is the scientific research of fuel and lubricating materials in the field on the following main results confirms. First of all, global and local at the level of the oil and gas extraction get and fuel and lubricating materials use production process in the existing technological and environmental problems strong track keep. For example, the republic of uzbekistan in the conditions of oil and gas extraction get and gasoline work out the indicators of the last years, a constant decrease in the trends showed, that while the 2024 of the year 's first 11 months in gas extraction to get 4,7 %, oil extraction to get while per 7.3 % ha a reduction get come. This process of energy and industry at produktiv of balance is a significant effect shows. Secondly, the oil re - work process of the environment on a large burden throws. This process atmosphere used out of CO_2, Unpleasant and SO_2 a combination of through global carbon footprint increases, climate change significantly negative effect shows. In this situation, the world community in waste management policy back to see out the require will, because gas from burning comes out which 389 million tons of carbon waste 2024 in gathered equivalent, France like countries of the annual emissions equal is. Third, innovative technology — digitization, AI, Io, automation and bioyoqilg'i solutions — the industry's efficiency to increase and environmental load - reducing for the central role it plays. For example, bioyoqilg'i work production on the 2030 year , up from 43 more than the projects introduced in the to be expected, that while the aviation and transport sector carbon waste to reduce the serve will. Also, huge oil production of production in the area elektrlashtirish by CO_2 emissions by 80 % to reduce the possibility of the analysis was that if, this technology of global proven strategic transformations of a part become can. The future forecast accordingyou the present technological and economic development trends continue ifby 2030, the year to go and the oil and gas sector operating efficiency 25-30 % up to increase, as well as, carbon waste significant level reduce can. However, this only innovative solutions on a wide scale introduced was , and global energy policy support in the context done will increase. Otherwise in the case, the energy in the field of climate risks further deepening and energy infrastructure stability of a violation of can.

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