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ENERGY ECONOMICS AND DEVELOPMENT

In this paper propose to build a system of indicators of greening economy to assess the impact of the energy factor in the value of GDP using economics – mathematic model, reflection the dependence of factor. In particular, most of the strategies for economic growth and development, implemented over the past decades have encouraged rapid accumulation of financial capital opposite a natural capital. Current development model is detrimental to the well-being of generations, creates great risks and challenges for future generations and necessitates the transition to a green economy to achieve sustainable development in the long run. The article noted the recognized world leader in the field of energy and resource savings. In all countries where there are significant advances in addressing the issues of energy efficiency, the decisive role belongs to the state. It is noted that in the Republic of Kazakhstan the development of the legal framework in the field of energy conservation has a positive effect on energy efficiency. However, legislative initiatives are not applied universally, which are advisory in nature, in contrast to the US and EU. The article gives practical recommendations to strengthen the energy efficiency of the work, the diversification of energy sources and the creation of strategic reserves of energy raw materials. The paper suggests possible ways to cover the increasing demand of electricity.

Key words: energy efficiency, energy factor.

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Энергетикалық экономиканың дамуы

Осы тұрғыдан бұл мақалада экономиканы көгалдандыру өлшемдер жүйесін құру үшін ЖІӨ-нің көлеміне әсер етуші энергетикалық факторлардың байланысын экономика-математикалық модельдер арқылы бағалау ұсынылады. Дамудың осы модельдері қазіргі ұрпақтың аман-саулығына әсер ететіні сөзсіз. Әсіресе үлкен тәуекелдіктер мен болашақ ұрпақ үшін қиындықтар тудырады, сонымен қатар ұзақ кезеңге экономиканың тұрақты дамуына жасыл экономикаға көшудің қажеттілігін айқындап отыр. Мақалада сонымен қатар, энергия және ресурсты үнемдеу саласындағы әлемдік көшбасшылар атап айтылады. Энергетикалық тиімділікті арттыру мәселесі бойынша едәуір жетістіктер байқалатын барлық елдерде мемлекет шешуші рөлге ие. Қазақстанда энергия үнемдеу сферасындағы нормативтік-құқықтық базаның дамуы – энергетикалық тиімділікті көтеруде оң әсерін тигізіп отырғандығы байқалады. Алайда ұсынымдық сипатқа ие заңнамалық бастамалардың АҚШ пен ЕО елдеріне қарағанда жергілікті орындалуы жүзеге аспай отыр. Мақалада энергия тиімділігін арттыру, энергия көздерін диверсификациялау және энергетикалық шикізаттардың стратегиялық қорларын құрсау бойынша жұмыстарын арттыруға байланысты практикалық ұсыныстар берілген. Электр энергиясына деген артып келе жатқан қажеттіліктерді жабудың мүмкін болатын жолдары ұсынылды.

Түйін сөздер: энерготиімділік, энергетикалық факторлар.

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Развитие энергетической экономики

В данной статье предлагается для построения системы измерителей озеленения экономики оценивать влияние энергетического фактора на величину ВВП с помощью экономико-математической модели, отражающей зависимость факторов. Большинство последних стратегий экономи-

ческого развития и роста, реализуемых в течение последних десятилетий, поощряло быстрое накопление физического, финансового и человеческого капитала за счет чрезмерного истощения природного капитала. Существующие модели развития пагубно сказываются на благополучии нынешних поколений, что создает огромные риски и проблемы для будущих поколений и обуславливает обеспечение устойчивого развития в долгосрочном периоде. В статье отмечены признанные мировые лидеры в области энерго- и ресурсосбережения. Во всех странах, где наблюдаются значительные успехи в решении вопросов энергетической эффективности, решающая роль принадлежит государству. Отмечается, что в Республике Казахстан развитие нормативно-правовой базы в сфере энергосбережения положительно влияет на повышение энергетической эффективности. Но законодательные инициативы, носящие рекомендательный характер, не находят повсеместного исполнения, в отличие от США и ЕС. Также даны практические рекомендации по усилению работы по повышению энергоэффективности, диверсификации источников энергии и созданию стратегических запасов энергетического сырья. В статье предложены возможные пути покрытия возрастающей потребности в электроэнергии.

Ключевые слова: энергоэффективность, энергоэффективные факторы.

Introduction

Modern economic development as we know it today, which is the product of the industrialization process of the last two centuries, is fuelled primarily by non-renewable mineral resources extracted from the lithosphere (the outermost shell of Earth). It benefits from relatively abundant and low-cost energy obtained from fossil fuels, namely oil, natural gas and coal, and, to a much lesser degree, fissile fuels such as uranium. The other, traditional sources of energy such as biomass, wind and water power have been marginalized in the energy mix of the industrialized countries. After the summit “Rio + 20” Kazakhstan society started the work under the transfer to the “green” economy. By the initiative of the President Nazarbayev N. Was developed a Concept on transfer to the “green” economy. First of all the Concept promotes the range of prior tasks directed to the reformation of certain sectors of economy. Against this backdrop, inequalities of access to available energy remain glaring. More than 20 per cent of the world’s population still has no access to electricity, while 40 per cent have to use traditional biomass for cooking, mainly in rural areas of Africa and Asia. The fight against extreme poverty and malnutrition calls for resolute action to combat these inequalities. Even in the ten leading hydrocarbon-producing countries in Sub-Saharan Africa two-thirds of the population have no access to electricity; yet, a considerable amount of gas goes up in smoke as a result of gas flaring in this region.

Discussion of analysis results. The main priority tasks before country on transition to the «green economy» are:

– increase of the resources usage effectiveness (water, land, biological and etc.) and managing them;

– modernization of existed and construction of new infrastructure;

– increase of population well-being and quality of the environment through the viable ways of pressure softening to the environment;

– increase of the national safety, including the water safety.

The Concept will be implemented in the 3 stages:

The first stage – 2013-2020 – optimization of resources use, heightening the effectiveness of environment protection activity and creation of a “green” infrastructure;

The second stage – 2020-2030 – rational use of natural resources, integration of renewable energy on the basis of new technologies;

The third stage – 2020-2050 – transition of the national economy to the principles of the “third industrial revolution” which is based on the use of natural resources if they are renewable. The huge scale gets the issue of further conservation of mineral resources. Our state is recognized as a country with natural resources. Oil and gas - all over the world are classified as one of the largest energy resources, but even they are exhausted, so it is necessary to find new resources for living. In this case, the fact that Kazakhstan has good air ecosystems, soil, water and forest, greatly enhances its position to other countries.

The second direction – energy efficiency in housing and communal services.

Due to the fact that a significant portion of the urban housing stock was built in the post-Soviet era, most apartment complexes are equipped with ineffective heating systems designs, resulting in significant heat loss. Currently, Kazakhstan has energy service companies, designed to carry out activities in the field of troubleshooting work heating appliances.

The third direction – organic farming in agriculture.

Primarily, this type of failure by considering the direction of synthetic fertilizer products (pesticides), different fodder additives. We are talking about the use of organic fertilizer for crop yields, crop growth. “Greening” of agriculture will provide food to the population, without harming the natural resources at the same time. Kazakhstan plans to operate in the following areas:

- management of soil fertility;
- Efficient use of water;
- management of health of plants and animals;
- mechanization of farms.

The fourth direction – improving the waste management system

Became particularly popular the problem of waste management. Increasingly, there are dirty streets, landfills and the lack of any control over what’s happening. In view of the prevailing circumstances and conditions offered to use waste as a by-product of the production cycle. So, for example, the technology of complex processing of municipal solid waste and produce alternative fuel is already being implemented in Almaty[1].

The fifth direction - improving the management of water resources

Water is a key natural component of ensuring the existence of mankind and the integrity of ecosystems. In this regard, the management of water resources is an increasing problem tremendously.

Sixth direction – development of “clean” transport [2].

The seventh direction – conservation and efficient management of ecosystems

Activity in this area is mainly aimed at preserving the unique natural wealth of our country.

Transition to the “green” economy is becoming more and more popular and has a large scale interest. It first of all helps the progress and will secure:

- The growth of domestic gross product;
- the growth of income of the state;
- creation of working places lessening the indexes of unemployment [3-4].

Transition to the “green” economy lessens risks from the global threats, such as climate change, exhaustion of natural resources and deficit of water.

Within the frames of development of “green” economy programme, Kazakhstan plans to invest in top 10 sectors of economy: agriculture; housing and communal services; fishing; forestry; industry; tourism; transport; utilization and recycle of wastes; water resources management.

Conclusion

We have compiled a list of recommendations as soon as possible today to create a “clean” future.

Unplug equipment, if not in it, and do not leave plugged-in appliances when not using them at the moment.

Discard the synthetic instruments / tools! We are all used to wash the dishes, using the new cleaning products with the use of various chemicals. Such means primarily as harming the environment and the person.

Take care of energy. Already we can to purchase and install solar panels at home, and use energy-saving light bulbs.

Start sorting trash! One important aspect of the transition to a “green” economy is the disposal of waste, and use them as a secondary product.

Use electronic media! Using paper requires large amounts of felled trees.

Buy eco-friendly products! It greatly improve the state of health of each of us, and will help to create environmentally friendly agriculture

Walk by feet. Gases are one of the most significant sources of environmental pollution. In the power of each of us to make sure that these emissions have become a little less.

Stop poaching! From illegal actions of people, rare plant and animal species at the moment simply disappeared. Preserve the uniqueness of nature – our common task.

Protect the environment! Elementary compliance rules such as not to leave rubbish behind him, not to break tree branches or tearing armfuls of flowers, a significant impact on the state of nature.

References

- 1 Afza, T. and M.S. Nazir, Is it better to be aggressive or conservative in managing working capital. Journal of quality and technology management, 2007. 3(2): p. 11-21.
- 2 Juan García-Teruel, P. and P. Martinez-Solano, Effects of working capital management on SME profitability. International Journal of managerial finance, 2007. 3(2): p. 164-177.
- 3 Raheman, A. and M. Nasr, Working capital management and profitability–case of Pakistani firms. International review of business research papers, 2007. 3(1): p. 279-300.
- 4 Smith, K. liquidity tradeoffs in working capital management. Readings on the management of working capital, 1980: p. 549-562.