



IMPORTANCE OF RENEWABLE ENERGY SOURCES IN CONSTRUCTION OF ENERGY EFFICIENT BUILDINGS IN UZBEKISTAN

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Abstract

In this article Energy efficient buildings in construction again recoverable energy of sources importance and Uzbekistan in the Republic Energy efficient to buildings has been requirements about light up given In our country again recoverable energy sources current reach about climatic, scientific and practical of possibilities use prospects about written.

Keywords: Energy efficiency, recoverable energy sources, building, construction, sun energy, wind energy, geothermal energy.

Introduction

To us known the world scale main energy sources into (oil , gas and coal) reserves is considered Experts to calculations according to , energy sources maximum use duration up to 100 years continue reach possible Many developed countries energy of consumption almost half to houses right will come That's why for resources save main methods one of buildings energy efficiency improve is considered

Again renewable energy source from devices use experience that's it shows that this devices his own purchase the price of it of use starter during the period , complete covers That's why for both, alternative energy sources - our country of iqisadiyoti innovative the road is long in passing important one priority have The sun from energy in practice use for conditions in our region enough modern advanced from technologies not only In our republic , maybe whole Medium in Asia use possible note done

land of the Republic again renewable energy sources current reach for big opportunities there is it is organic fuel resources relatively somewhat comfortable and it is cheap . Our country climate to the conditions according to 300 days of the year excess sunny , windy blowing There are also many regions flowing waters there is Of them electricity energy work in release if used will be Republic conditions for the sun resources , small hydraulic , wind resources , biomass and geothermal energy current is considered From this except , re recoverable energy edge in the territories located , mountainous and to go difficult has been population points for single, economical based , universal energy source to be can [1]



Below are the main sources of renewable energy.

Renewable Energy Sources

sun, wind energy, earth temperature (geothermal), natural movement of water currents, biomass energy naturally regenerated in the environment.[2]

On the other hand, fossil fuels - coal, oil and gas - are non-renewable resources that take hundreds of millions of years to form.

Renewable energy production produces far less harmful emissions than burning fossil fuels. Climate crisis solution in doing now harmful of gases separation main share organize doer fossil from fuel again recoverable to energy transition important important have

Again recoverable energy now mostly countries cheaper and digging removable to fuel than three even a lot the work places creates

Again recoverable of energy one how many common sources below showing let's go :



SOLAR ENERGY

The sun energy the device is the sun radiation (light) . winning , his energy heat or electricity to energy spinning device . Heat and electricity The sun energy device . there is Heat The sun energy in device Hot water , techno-logic vapor , sweet water or artificial Cold harvest will be done . [3]

Although all countries the sun from energy one different level not provided though - directly the sun from energy energy to the mixture big contribution to add each one country for can Especially Uzbekistan in the Republic 300 days of the year sunny that it was because of The sun from energy efficient use for natural climatic parameters enough

Last ten annually the sun panels work release cost sharp down gone , this them electricity energy work release cheap to the shape turned . The sun panels about 30 years service to do to the deadline have and work in release to the type of material used looking different different light type if he sees with different effects types there is



WIND ENERGY

The wind energy on land or the sea or in the lakes is located big the wind turbines using moving of air kinetic from energy using him electricity until or another kind of energy source from scrolling consists of is a process . The wind energy a thousand years during used but recent one how many year inside on land and in the sea the wind energy technologies work issued electricity energy maximum level increase for tall turbines and big diameter rotors to apply through this field more developed . [4]



GEOTHERMAL ENERGY

Geothermal energy of the earth internal in the part there is has been heat from energy using this energy electricity or another kind of to energy transfer through energy work release mean is caught . Heat wells or another tools using geothermal water from warehouses is taken .

Natural in the circumstances enough Hot and water permeable has been water warehouses hydrothermal called reservoirs , enough level Hot was , but hydraulic stimulation with improved water warehouses reinforced geothermal are called systems .

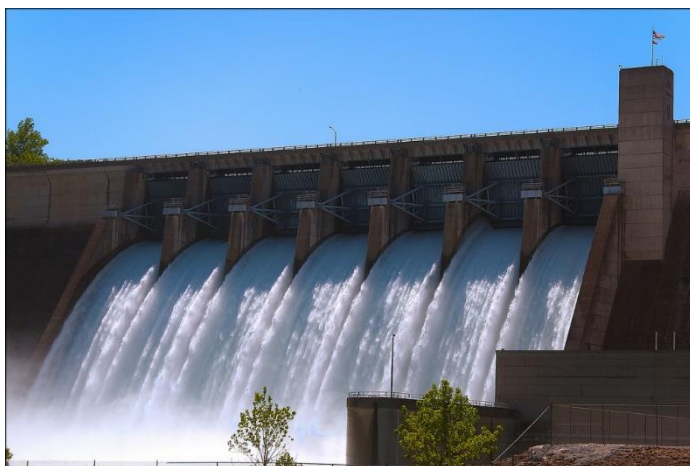


Earth to the surface from the exit after , various temperature liquids electricity energy work release for use can Hydrothermal from reservoirs electricity energy work release technology mature and reliable from 100 years in love to time service to do can.

Hydropower

Hydropower of water from above lower to the heights passable from energy uses It is water warehouses and from rivers harvest to be can Water warehouse hydroelectric power stations water in the warehouse collected to water rests , river along Hydroelectric power stations while of the river there is from the flow energy takes

Hydroelectric water warehouses most of the time one how many to goals have - drink water , irrigation for water , flood and to drought against fight , navigation services as well energy supply . in Uzbekistan this energy source through energy work release efficient organize done



Energy efficient buildings construction present to time come relevance more increased The reason last in , the world according to traditional fuel of types public

respectively use Earth global environmental sphere problems cause is releasing . Statistics to information look throwing if we are , the world according to each 12 billion tons per year oil to the equivalent or each one population soul per head 2 tons when calculated oil to the equivalent equal to hydrocarbon fuel types is being turned on. This traditional fuel i of types use as a result while each 5 billion tons per year industry waste atmosphere and into the air out thrown away Most It 's a pity harmful of waste amount , present in time , past compared to the 50s of the century five equal to increased and this numbers year as increased to go is emphasized .

Earth sphere of the atmosphere harmful from waste contamination as a result of , present at the time climate o' change as global environmental problems cause released . Of this as a result while in the world chronic repeated coming natural disasters come comes out , thousands



people natural disasters and new different diseases to the victim is spinning . One word with so to speak , nature to himself relatively of humanity anthropogenic to the effect own the answer is returning [1].

Current in the day developed countries own development Dangerous didn't happen and to the environment harm does not deliver reliable again recoverable energy sources , ie the sun and the wind from energy to use is looking Even some developed countries safety as from nuclear power also limits its use . Energy with so problems there is it is of buildings is also serious about energy efficiency attention focus that's it in place is important .

Global warming and stable marriage style tooth topic more and more current being is going November 2021 in the month In Glasgow be past United Nations Organization Climate change according to circular convention 26th conference of participants (SOP 26) global average to 1.5 degrees of temperature to increase the way not to put for a person activity as a result coming out greenhouse gases reduce according to all countries by urgent measures to be seen importance again one there is emphasized . Climate o' change according to Paris The deal the goal and tasks reach for Uzbekistan national from conditions come out , gross until 2030 internal product to the unit straight away greenhouse gases emission (2010 from the level) to 35 percent reduce obligation took

National level done being increased in legislation changes and from reforms except , one series international organizations Uzbekistan until 2030 green to the economy transition actions is supporting . UN Development since 2017 of the program in Uzbekistan representative office , Uzbekistan Republic Construction Ministry with in cooperation and Global Environment Facility (GEF) grant funding with the support of " Uzbekistan energy efficient village residential buildings construction to develop help " joint project done is increasing . of the project main purpose Uzbekistan village population improved , cheap and ecological clean to live conditions with from providing consists of

Natural of resources efficient use - all work release in processes energy efficiency increase of the concept the most important is a factor . Again recoverable from energy (QTE) sources wide use not only to the environment negative effect does not show , maybe fuel and energy resources savings enable gives from QTE efficient use , heating , hot water supply and lighting and necessary household technique of means use for consumption to be done natural gas and electricity energy saving through population expenses reduce enable gives

Uzbekistan village in places energy thrifty and less carbonaceous houses of designing main task environment improvement , country population of for more comfortable and healthy marriage conditions from creating consists of Uzbekistan Republic Economy of the President of August 22, 2019 and social of networks energy efficiency to increase directed decision No. PQ-4422 energy thrifty technologies wide current reach and again recoverable energy from sources to use service is doing Presidential Decree No. PF-5577 of November 14, 2018 in accordance with January 1, 2020 all housing construction objects project-research and construction and installation their work done increase stage energy thrifty and energy thrifty equipment with equipment it is necessary of the project support because of republic regions village houses in construction energy thrifty from technologies use , energy economy increases and greenhouse gases waste reduces [3].



In our country again recoverable energy sources current reach about climatic , scientific and practical opportunities existence happy In our country again recoverable energy sources work release for necessary was natural rich reserves of minerals existence this in the direction work production on an industrial basis development opportunities creates

Energy thrifty the house design main principle this of the building strong construction and therefore with together alternative energy from sources use through ventilation and heating from systems without using comfortable internal the temperature save is to get [2]

The world energy balance basis calculated present in the period , mining removable fuel i types — coal , oil , natural gas and of uranium reserve year after year decreased is going Industry of specialists information according to the last 40 years during , organic fuel in the world humanity in history all from the period a lot digging received and energy of resources consumption pace more and more grow up is going Assumptions according to the present level energy resources consumption whatever is done , in the world oil reserve for 45-50 years , natural gas for 70-75 years , coal and for 150-160 years it 's enough .

For this reason alternative energy innovative of development undoubtedly , the most main to the factor becomes Including new technological electricity energy and heat energy work release of the base formation take will come This is energy efficiency increases , ecological the situation stabilizes , dangerous man-made accidents reduces , new the work places appear does , of people marriage conditions improves . Alternative energy from sources of use relevance , especially in the world hydrocarbon raw material of reserves decreased to go conditions important importance occupation is doing With that together , emphasize should be re renewable energy infinite to opportunities has

Summary by doing that's it to say maybe Uzbekistan in the Republic above counting passed energy from sources using energy work release organization building and structures energy efficiency is also important in increasing important ownership shows . The reason present in the day work being released electricity energy nearly 50 percent population stay places at the expense of right will come This energy spending reduce through to our economy and to our ecology efficient benefit to bring possible

List of References

1. Umarov, S. A. (2021). Development of deformations in the reinforcement of beams with composite reinforcement. *Asian Journal of Multidimensional Research*, 10(9), 511-517.
2. Умаров, Ш. А. (2021). Исследование Деформационного Состояния Композиционных Арматурных Балок. *ТА'ЛИМ VA RIVOJLANISH TAHLILI ONLAYN ILMIY JURNALI*, 1(6), 60-64.
3. Abdug'Ofurovich, U. S., O'G'Li, S. F. S., & O'G'Li, E. A. A. (2022). *KOMPOZIT ARMATURALI GILUVCHI BETON ELEMENTLARNING KUCHLANIB-DEFORMATSIYALANGANLIK HOLATINI EKSPERIMENTAL TADQIQ ETISH*. *Talqin va tadqiqotlar ilmiy-uslubiy jurnali*, 4(4), 41-46.
4. Абобакирова, З. А., Эркабоев, А. А. У., & Солижонов, Ф. С. У. (2022). *ИССЛЕДОВАНИЕ СОСТОЯНИЯ ДЕФОРМАЦИИ ПРИ РАСТЯЖЕНИИ С*

- ИСПОЛЬЗОВАНИЕМ СТЕКЛОВОЛОКОННОЙ АРМАТУРЫ В БАЛКАХ. Talqin va tadqiqotlar ilmiy-uslubiy jurnali, 4(4), 47-55.
5. Abdugofurovich, U. S., & Mirzaakbarovna, M. S., & Sodiqjon o'g'li, S. F. (2022). COMBINED COMPOSITE REINFORCED CONCRETE BEAMS. Spectrum Journal of Innovation, Reforms and Development, 8, 317-324.
 6. Mirzaakbarovna, M. S., & Asrorovna, A. Z., & Sodiqjon o'g'li, S. F. (2022). DEVELOPMENT OF EFFECTIVE METHODS OF STRENGTHENING DAMAGED WALLS OF BUILDINGS TO BE RECONSTRUCTED. Spectrum Journal of Innovation, Reforms and Development, 8, 325-331.
 7. Asrorovna, A. Z., Abdugofurovich, U. S., & Mirzaakbarovna, M. S., & Sodiqjon o'g'li, S. F. (2022). INVESTIGATION OF THE STRENGTH AND DUTNESS OF REINFORCED CONCRETE BEAMS WITH GLASS COMPOSITE REINFORCEMENTS. Spectrum Journal of Innovation, Reforms and Development, 8, 310-316.
 8. Asrorovna, A. Z., Abdug'ofurovich, U. S., & Sodiqjon o'g'li, S. F. (2022). ISSUES OF IMPROVING THE ECONOMY OF BUILDING MATERIAL-WOOD PRODUCTION. Spectrum Journal of Innovation, Reforms and Development, 8, 336-340.
 9. угли Ахмадалиев, А. Х., & угли Халимов, А. О. (2022, May). КОМПОЗИТНОЕ УСИЛЕНИЕ ИЗГИБАЮЩИЙ БАЛК ПОД НАГРУЗКОЙ. In INTERNATIONAL CONFERENCES ON LEARNING AND TEACHING (Vol. 1, No. 7, pp. 409-415).
 10. ogli Ahmadaliyev, A. H. (2022, May). BINOLARNI LOYIHALASHDA IQLIMNING TA'SIRI. In INTERNATIONAL CONFERENCES ON LEARNING AND TEACHING (Vol. 1, No. 7, pp. 403-408).
 11. Ахмедов, Т. О. (2021). Архитектурада Готика Услуби. ТА'ЛИМ ВА RIVOJLANISH TANLILI ONLAYN ILMIY JURNALI, 1(6), 26-31.
 12. Сон, Д. О., & Халимов, А. О. (2021). УПРАВЛЕНИЕ МЕТРОЛОГИЧЕСКИМИ РИСКАМИ КАК ОСНОВА ДЛЯ УВЕЛИЧЕНИЯ КАЧЕСТВА ПРОДУКЦИИ. Экономика и социум, (2-2), 202-210.
 13. Мирзабабаева, С. М., Мирзаахмедова, Ў. А., & Дровесиной, и. строителствов//international conferences on learning and teaching.–2022. Т, 1, 96-101.
 14. Мирзабабаева, С. М. (2022). Мирзажонович қғ Бетон ва темирбетон конструкциялар бузилишининг турлари ва уларнинг олдини олиш. Research and education, 91.
 15. Mamazonovich, M. Y., Abdugofurovich, U. S., & Mirzaakbarovna, M. S. (2021). The Development of Deformation in Concrete and Reinforcement in Concrete Beams Reinforced with Fiberglass Reinforcement. Middle European Scientific Bulletin, 18, 384-391.
 16. Мирзажонович ҚҒ, М. С. (2022). Биноларни ўровчи конструкцияларини тузлар таъсиридаги сорбцион хусусиятини яхшилаш. Research and education, 86.
 17. Мирзабабаева, С. М. (2021). Определение Величины Усушки Дровесиной Хвойных Пород Исползуемых В Условиях Сухого Жаркого Климата. Central asian journal of arts and design, 2(11), 40-47.



18. Mirzaeva Z. A. Improvement of technology technology manufacturing wood, wood with sulfur solution //Asian Journal of Multidimensional Research. – 2021. – Т. 10. – №. 9. – С. 549-555.
19. Nazirov A. S., Mirzayeva Z. A. ORDER OF INSTALLATION OF ELEMENTS OF ASSEMBLY-MONOLITHIC FLOORS AND COVERINGS //INTERNATIONAL CONFERENCES ON LEARNING AND TEACHING. – 2022. – Т. 1. – №. 8. – С. 292-296.
20. Мирзаева З. А. К., Рахмонов У. Ж. Пути развития инженерного образования в Узбекистане //Достижения науки и образования. – 2018. – Т. 2. – №. 8 (30). – С. 18-19.
21. ogli Ahmadaliyev A. H. et al. BINOLARNI LOYIHALASHDA IQLIMNING TA’SIRI //INTERNATIONAL CONFERENCES ON LEARNING AND TEACHING. – 2022. – Т. 1. – №. 7. – С. 403-408.
22. угли Ахмадалиев А. Х., угли Халимов А. О. КОМПОЗИТНОЕ УСИЛЕНИЕ ИЗГИБАЮЩИЙ БАЛК ПОД НАГРУЗКОЙ //INTERNATIONAL CONFERENCES ON LEARNING AND TEACHING. – 2022. – Т. 1. – №. 7. – С. 409-415.
23. Hasanboy o’g’li A. A. Stress Deformation of Flexible Beams with Composite Reinforcement under Load //American Journal of Social and Humanitarian Research. – 2022. – Т. 3. – №. 6. – С. 247-254.
24. Мирзабабаева С. М., Ахмадалиев А. Х. Проверка характеристик прочности и устойчивости рекламной конструкции щита //Eurasian Journal of Academic Research. – 2022. – Т. 2. – №. 6. – С. 361-370.
25. Ахмадалиев А. Х., Мирзабабаева С. М. КОМПОЗИТ АРМАТУРАЛИ ЭГИЛУВЧИ ТЎСИНЛАРНИНГ ЮК ОСТИДА КУЧЛАНИБ ДЕФОРМАЦИЯЛАНИШИ //Eurasian Journal of Academic Research. – 2022. – Т. 2. – №. 6. – С. 416-423.
26. Набиев, М. Н., Насриддинов, Х. Ш., & Кодиров, Г. М. (2021). Влияние Водорастворимых Солей На Эксплуатационные Свойства Наружные Стен. TA’LIM VA RIVOJLANISH TAHLILI ONLAYN ILMIY JURNALI, 1(6), 44-47.
27. Haydarov, A. M., & Tursunov, N. S. (2022). IMPLEMENTATION OF ENGINEERING AND PREPARATORY WORKS AND IMPROVEMENT IN THE CITIES. INTERNATIONAL JOURNAL OF SOCIAL SCIENCE & INTERDISCIPLINARY RESEARCH ISSN: 2277-3630 Impact factor: 7.429, 11(07), 80-83.