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Andlaid analysis and Sharing Principles and building a kombynyrovannoho Using ochystytelnoho Rabocheye body korneuborochnыh machines.

Woroch korneplodov, impurities, yntensyfykatsyya, эllypsnыe screws, ochystytelnыe elements.

An analysis and general principles of construction and use of combined cleansing working organ of machines is expounded for cleaning up of root crops.

Lots of root crops, admixtures, intensification, ellipse valcy cleansing elements.

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Present-dayAND SITUATION AND PROSPECTS OF UKRAINE Wind Energy

VM Polishchuk, Ph.D.

The structure of electricity production in Ukraine. The state of development of wind power in 2010 and its future prospects. The characteristic of existing wind farms and wind farms Ukraine.

Wind, fuel and energy complex, vitroelektro- station, wind farms, wind turbines.

Lentnovka Sectionroproblem. One from humanity thnerCategoria saimpesLemma eqspluatatsiy mineral resurB prizeled to toandLowering roment,

rezultati what's known reserves of liquid oil on the planet last for 45 years, natural gas
insufficient to ensure the functioning of all fuel

na 60

atomsMnykh power. World coal reserves somewhat greater, would last more than 200 years of production, but burning associated with significant pollution. In Ukraine's oil domestic production only enough for 18% of the demand. Natural gas Ukraine annually consumes more than 50 billion. M3, of which 20.1 billion. M3 of domestic production, or about 35%. Fuel for nuclear reactors in Ukraine about 100 years of use, but after the accident at
Chorcatastrophe, nuclear power related with caution. Only coal reserves in Ukraine are quite significant (they will last for 600 years of production), as thermal power is transferred from gas to coal. However, coal is considered the dirtiest of all fossil fuels. Wanted carcinogenic isotope of carbon in large quantities produced by burning coal. [1]

Ukraine in the energy industry currently employs 42 large (capacity of over 20 MW) TPP and TPP total capacity of 31.3 thousand. MW (total capacity of thermal power plants and CHP Ukraine is 33.89 thousand. MW) 4 NPPs (Rovno, South Ukraine, Zaporizhia and Khmelnytsky) with a total capacity of 13,835. MW and 12 large and medium power and hydroelectric PSP total capacity of 5.3 thousand. MW [2]. Most domestic thermal power plants and coal-fired CHP plant, although some burn natural gas (Kiev HPP-5 and CHP-6, Kharkiv CHP-5, Lviv, Odessa, Kremenchug, Kherson) or oil (Bilotserkivska). All major domestic thermal power plants, power plants, nuclear, hydro and PSP (except Tashlyk) were built before Ukraine gained independence.

Zhibottom [3], the advantage of Ukrainian energy sector there are sufficient supplies of coal and nuclear fuel components, uranium and zirconium. However, given the high cost of imported natural gas and fuel oil produced from imported raw materials, severe consequences for the ecology of the environment caused by emissions of harmful substances by burning coal and oil, the enormous cost of funds and loss of life in the liquidation of the accident, the energy in Ukraine can be obtained from renewable sources: rivers, sun, wind. National Energy Program aims to increase energy and energy resources through the use of alternative and renewable energy sources such as wind power and expression [4].

AnaLease Finalnnih dperssurvey findings.

Triallemam Rosedevelopment

wind power in Ukraine devoted a number of works. In [5] indicates that most wind turbines should be used in regions of Ukraine with an average wind speed of 5 m / s and more. This includes the Azov-Black Sea coast in Odessa,

Dicksonskiy, Zaporozhye, Donetsk, Luhansk, Mykolaiv regions, Crimea and the Carpathian region. The above potential wind energy in different regions of Ukraine. The state of Ukraine wind power by the end of 2009 in [6; 7] analyzed the technical equipment WEC Ukraine, stated that in 2011 the total domestic capacity was 151 MW wind farm. According to [8], by 2025 it is possible to bring the total capacity of the wind farm Ukraine to 16 GW.

Metand research. Difof the fact wind power in Ukraine Rosevyvayetsya very active. Since the recent research status of wind energy in Ukraine doubled its capacity. Starts to operate as separate wind farms, and entire wind farms that are equipped with the most modern technology. The purpose of our research is to analyze the situation and perspectives of wind energy Ukraine for the past few years.

Dresults dperssurvey findings. Pochynayuchy from 2010 p. byshaping overall migra-
sweatzhnist domestic wind farm has more than quadrupled (from 87 MW to 5 MW 371). Most facilities were introduced In 2011. □□ 171,5
Last year put into operation 96 MW wind farm.

Since 2011 electricity produced Botiyivska WPP in Zaporizhzhya region. Wind farm "Novoazovsky" in the Donetsk region. Ochakovskaya wind farm in the Mykolaiv region., Novorossiysk wind farms in Kherson, from 2012 - Tuzla wind farm in the Mykolaiv region. During 2013 and entered Krasnodonsky action and Lutuhinsku wind farms in the Luhansk region. Ostaninsku and wind farms in the Crimea.

At the end of 2013 in Ukraine operates 18 wind farms,
asand produced 630 million a year. kVt □hod elec
of the total electricity production in the country.

Andnformatsiya thatto motroelektrostations asand funktsionuyutb to Ukraine is presented in Table. 1. Also, operating more than 10 wind turbines T 600-48 unit capacity of 600 kW [1]. Since 2010 new domestic wind farms equipped with modern wind turbines «Fuhrlander AG» unit capacity of 2.5 MW are going to Kramatorske and V-112 unit capacity of 3 MW Danish company VESTAS [9; 10].

Dat the end of 2014 planned output Botiyevskoyi wind farms at full capacity [11]. Power wind farm "Ochakiv" is planned to increase to 125 MW [12]. This year in the Donetsk region planned to build the first stage of Kramatorsk 8 MW wind power plant, with the installation of two wind turbines of type FL-2500 for towers of height 141 m and a wind turbine FL-3000 capacity of 3 MW hybrid tower height of 140 meters.

1. Information To sendabout motroelektrostantsiy, asandFocusingion in Ukraine, at the beginning of 2013

Number	Fulle name subjectand management, uO is to use the facility Electricityand	Name of renewable energy, location	Begin construction	Power, MW	
				About-Ekt-on	In theLena hund
1	NNEGC "Energy atom "(OP" Donuz-lavska WPP ")	Donuzlavskaya WEIGHT, Crimea		45	8.71
		WEIGHT Sudak, Crimea *	1993	50	1.72
		Mornomorska WEIGHT, Crimea *		5	1.20
2	VEAbout Vitroenernoprom	Novoazovska wind farms, Donetsk region. Novoazovsky c. Nameless	1998	50	25.53
3	SE "ETU "Vodenerhoremnal adka"	Saki (Myrnivska) wind farm, AR KRome, Saki district ur. Ash *	1996	17	20,23
		Prisnovodnenska WEIGHT, Crimea, Leninsky district, pp. Station *		25	5.27
4	Lvivoblenergo	Truskavetska WEIGHT, Lviv obl., m. Borislav	1996	50	0.7
5	Settingsand "Office 28 chiefand works "	Tarhankutska WEIGHT, Crimea *	2001	70	20
6	DP "Crimean generuyuchi system "	NEidno-Crimean Wind (Aktashskoye area), Crimea, Leninsky district, m. Shchelkino *	2008	9.6	2.813
7	TOJ "Syva-shenerhoprom "	Sivashskayaand WPP, Kherson region.	2010	180	2.32
8	TOJ "WIND POWER "	Botiyivska WEIGHT, Zaporozhye., Primorsky district	2011	200	108.0
9	TOJ "Vindkraft Ukraine "	Novorossiysk WEIGHT, Kherson region.	2011	154	6.0
10	TOThe "Windy Park	VEC, Donetsk region. Novoazov-ment district, p. Nameless	2011	107.5	57.5
11	TOJ "Windy Park Ochakiv "	Demetrius (Ochakovskaya) wind farm, Mykolayivska region. Ochakivsky district, p. Dmytrivka, p. Islands	2011	125	37.0
		Tuzlivska WEIGHT, Nikolaev region. Berezanskii district, p.	2012		12.5
12	TOJ VP "Kerch"	Ostaninska (Kazantip) wind farm, Crimea, p. Ostanino *	2013	100	25.0
13	Signature "Windy Park "Krasnodonsky"	Krasnodonskyand WPP, Lugansk region., Krasnodonsky district, p.	2013	425	25.0
14	Signature "Windy park "Lutuhinskyy"	Lutuhinska WEIGHT, Luhansk region., PMT Yuryevka	2013	25	12.5
				In	371

*located in the Crimea, temporarily occupied by Russia.

Onfurther development of the project involves bringing installed capacity to 150 MW wind farm. It is also planned to install two wind turbines of type FL-2500 with a capacity of 2.5 MW wind farm Novoazovsk. In the Kherson region underway are projects to build wind farms with total capacity of 7 GW 1.371. In the 2014-2015 biennium. Mykolayiv region. plans to build wind farms Zorynsk (32.5 MW) wind farm Matiyasivskoyi (35 MW) wind farm Tuzlovsko-Limanskaya (37.5 MW); in the Odessa region.
(50 MW) wind farm Bilyaivka (150 MW); Luhansk region.
"Lutuhinskyy" (2 turn
MW 2 turn
[13]. If proof of domestic capacity WES 10 years before the planned 16 thousand. MW, their share in electricity production in Ukraine may exceed 15%.

Due to the fact that Ukraine has a large number of available areas with high wind potential, local experts with experience in design, construction and operation of power plants based on wind farms and domestic enterprises have experience of serial production of wind power equipment, power generation approaching wind farm to the consumer reduces cost power transmission and its loss, and in Ukraine wind power receives government support in a number of state programs adopted, including by providing "green" tariff for electricity generated at the wind farm.

Difof the same, due to the fact that Ukraine's economy is in pereddefoltnomu state government froze any projects related to capital construction. However, the vast majority of domestic wind farm is not for public funds for private investors. However some of these international investors imposed financial sanctions, or they are under their threat. Therefore, it is obvious that in the near future the rate of introduction of new wind farm capacity slightly pryhalmuyetsya.

Conclusion. To forinets 2013 p. to In theedgesneither Funktsionuye 18
wind power plants with a total capacity of 371 MW per year produced 630 million. kVt
production in the country. If the plan proving their capacity to 16 GW for 10 years, the share of energy generated by wind power in the energy balance of Ukraine may exceed 15%.

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Proanalyzyrovana structure of electricity production in Ukraine. STATUS Rassmotreno development vetroэnerhetyky with 2010 g and ego buduschye prospects. Present characteristics vseh suschestvuyuschyh to sell vetroэlektrostantsyy and wind farms.

Wind, fuel and power machinery complex Vetroelektrostantsija, wind farm, vetroahrehat.

The structure of electricity production in Ukraine. The state of

development of wind power in 2010 and its future prospects. These characteristics all existing wind farms in Ukraine and wind parks.

Wind, fuel and energy complex, wind power generation plants, wind farm, wind turbine.