Solar energy for the environment kazakhstan

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Currently, solar power plants produce 697 MW, which is half of the renewable energy production in Kazakhstan. Solar power has a great potential as a renewable energy resource due to sparsely populated large areas...

Solar power plants, with 45 facilities harnessing the sun"s power, produce 1.2 GW of electricity. Spanning regions such as Abai, Zhetysu, and Karagandy, these solar farms capitalize on Kazakhstan"s ample sunlight to...

The update of the 2019 Kazakhstan report is the thirteenth in a series of SolarPower Europe market reports that include: Mozambique, Senegal, C?te d"Ivoire, Myanmar, Kazakhstan, India, Tunisia, Latin America, Algeria, the Middle East, and Vietnam.

According to KOREM"s report for 2018, electricity generation from solar power plants (SPPs) was 137.9million kWh in 2018, which is 53.6% higher than the 89.9 million kWh in 2017 (https://). Solar generation capacity is provided by the Kapshagay SPP (2MW) in the Almaty Region; Burnoye Solar-1 and Otar in the Zhambyl Region; SKZ-U LLP SPP in the Kyzylorda Region; and the Ochistnoy and Akbay SPPs of Aksu-Energo LLP in the South Kazakhstan Region (https://& lang=rus).

Kazakhstan"s climatic conditions are favourable for wind power generation: 50% of Kazakhstan has average wind speeds of 4metres per second (m/sec) at a height of 30m. In 2018, generation from wind power plants was 400.5million kWh, which was an 18.3% increase from 2017 (https://). The largest wind power plants (Yereimentau-1 [45MW] and Korday [19.6MW]) are situated in the Akmola and Zhambyl regions. Small wind power plants (3.5MW and 2MW) began operating in the North Kazakhstan Region in 2013 ().

Kazakhstan possesses considerable mid- and low-temperature thermal water resources. Total thermal water resources are estimated at 520megawatts thermal (MWth) (free-flow operation) or 4300MWth (pumped). Proven resources from the Cretaceous formations in southern and south-west Kazakhstan (Panfilov field) for electricity production are 12MWth. The main thermal water areas are located near the cities of Shymkent, Almaty and Kyzylorda, and on the Caspian Sea coast ().

According to the Ministry of Ecology, Geology and Natural Resources, of all the industrial waste produced in 2016, 26.8% was processed and utilised; 30.9% was used in 2017 and 32.2% in 2018. The share of municipal solid waste (MSW) recycled and used amounted to 11.5% in 2018, 9% in 2017 and 2.6% in 2016

Construction of the GreenRecycle LLP waste sorting complex in Almaty was completed in 2018. The plant has a capacity of 550kt, with production of 50kt of secondary raw materials planned (31% polyethylene

terephthalate [PET], 24% cardboard, 8% cellophane, 29% glass, 7% plastic and 7% metal) (https://kursiv/news/vlast-i-biznes/2018-12/nazarbaev-poruchil-otkryt-musoropererabatyvayuschie-zavody-v-astane-i?page=89). The Green Economy Concept aims to have 40% of all waste recycled by 2030 and 50% by 2050 (Accessed 21.02.2017).

A programme of expanded producer and importer liability took effect 1January 2016, requiring importers and goods manufacturers to pay recycling fees. An approved list of products (goods) is subject to extended producer (importer) obligations, and the ROP Operator LLP oversees the recycling programme, collecting payments and administering collected funds. The ROP Operator also launched a compensation programme for disposing of old vehicles (https:// and https://recycle /).

Under the Green Economy Concept, investments are needed for the creation of gas infrastructure in the North, East and South regions to enable co-generation plants to switch from coal to gas in all large cities. This would result in lower local emissions and better air quality and would ensure flexible backup capacity for intermittent renewable energy sources. Electricity generated by coal plants would remain at the current level until 2030, but gas in power generation would double to 8bcm/y by 2030, from 4bcm/y in 2012 ().

In 2014, the government approved a General Scheme for 2015-30 to delineate the country"s access to gas. A realistic scenario involves expanding distribution pipelines in regions that already have access to gas and constructing new branch pipelines to regions located near main pipelines (in western and southern Kazakhstan). More than 3million citizens have been provided with piped gas in the past seven years (as of 2020), extending gas access to more than 9million residents (a rise from 30% in 2013 to 51% in 2019) (https://).

Kazakhstan suffers from land degradation, desertification and water scarcity as a result of past military nuclear testing programmes and industrial and mining activities. As similar conditions prevail throughout the Central Asia region, in 2010 Kazakhstan established the Green Bridge Partnership Programme for sustainable development within the region and beyond. In Central Asia, the programme addresses issues related to energy and water linkages.