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ZHANATAS: A TEST CASE FOR INTERNATIONAL FINANCING IN KAZAKHSTAN'S GREEN DEVELOPMENT

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ABSTRACT

Kazakhstan is far too often seen through simplistic lenses –frequently labeled as the center of a 'new great game' of geopolitical competition over the future of Eurasia or as an ex-Soviet petrostate whose political economy faces major challenges as oil demand is set to decline. Neither description encompasses the complexities of Kazakhstan's geopolitical position or the state of the challenges, and opportunities, that will shape Kazakhstan's future. That is not to say the two clichés are not representative of certain factors in shaping Kazakhstan's future, but rather that such oversimplified descriptions can obscure efforts to develop an understanding of the country's political and economic environment.

This paper aims to highlight how Kazakhstan's largest wind power project, the Zhanatas Wind Farm, has been developed and how the success of the project challenges these fundamental clichés. The Zhanatas Wind Farm is a 100 MW renewable energy project in the Jambyl (Zhambyl) region in southern-central Kazakhstan. It is not only a flagship project for fuelling Kazakhstan's energy transition but also a key development project for the town of Zhanatas, a town developed in the 1960's by Soviet authorities as a phosphate mining hub that has experienced substantial declines in population since Kazakh independence. [1]

The project is notable not just for its contribution to addressing Kazakhstan's energy challenges and highlighting its commitment to the green agenda but also because of its unique position as a projected backed by international official sector financial institutions that are often seen as uncooperative at best, and antagonistic at worst, because of their respective political

For the Zhanatas Wind Farm received support not only from the Kazakh government and domestic private actors, but also financing from the London-based European Bank for Reconstruction and Development (EBRD), whose largest capital contributor is the United States, and from the Beijing—based Asian International Investment Bank (AIIB), whose largest shareholder is the People's Republic of China. The former is a core development finance institution of the Western-backed economic order whereas the latter is one of the core institutions in developing China's Belt and Road Initiative. This paper aims to highlight the project as an example of how further international cooperation between international financial institutions can help Kazakhstan and other countries develop similar resources and accelerate their own green agendas, as well as support domestic markets.

The paper begins with an overview of Kazakhstan's energy market and green agenda in order to highlight the challenges that Kazakhstan faces and how projects like Zhanatas help to address them. It then examines the project itself and the respective partners involved before considering the lessons learned from the project for similar efforts and potential expanded international cooperation.

KAZAKHSTAN'S DOMESTIC ENERGY MARKET AND GREEN AGENDA

Kazakhstan has faced a series of significant challenges in its domestic energy market in recent years, in particular in relation to electricity generation and demand. According to the International Energy Agency, in 2020 Kazakhstan produced 110.9 terra-watt hours (TWh) of electricity, while consumption stood at 80.1 TWh, indicating that the country has a substantial electricity production surplus.[2] However, these figures belie the true reality - and challenges the sector faces - in particular Kazakhstan's dependency on coal for 67.3% of electricity generation. [3] While natural gas is the second-largest contributor of electricity at 21.7%, the economics of producing substantial additional natural gas-powered power plants are challenging, particularly given the attractiveness of exporting natural gas to China and efforts to move up the value chain by converting domestic natural gas into petrochemicals. Additionally, although all Kazakh residents have access to electricity, the country has faced challenges due to problems with peak demand spikes and an aging domestic grid that have resulted in increasingly frequent energy sector outages in recent years. [4]

While Kazakhstan's substantial mineral wealth has long provided a boon the nation's economy, its oil and metals wealth have not directly provided a solution to these challenges, many of which are legacies of the Soviet-era economic model, the ramifications of the Soviet Union's collapse, and developments in other regional countries that have posed challenges for Kazakhstan's own agenda. Installed electricity capacity stood at 18GW in 2007 and operational capacity only increased by 5.5% - to 19GW - by 2022 according to the US International Trade Administration. [5] [6]

This is in large part due to a further 5GW being installed but not operational or accessible through the country, which has large power demand imbalances between the densely-populated south and its industrial regions and between which connectivity has proven a significant challenge as well as due to the fact that Kazakhstan's inherited a coal-dominated electricity generation sector upon independence which it has sought to transition away from. Nevertheless, there is also a need to further accelerate the transition away from coal – and not just through allowing legacy production to age out but also by developing alternative and more sustainable sources of electricity – as Kazakhstan remains one of the ten most energy-intensive economies in the world and of these it is the most coal dependent. [7]

Historically, demand spikes in Central Asia have been partially mitigated through the Central Asian Power System (CAPS), the Soviet-legacy interconnected grid and electricity dispatch system that enabled power from Kazakhstan, Kyrgyzstan, Uzbekistan, Tajikistan, and Turkmenistan to flow across borders. Turkmenistan was the first country to withdraw from CAPS in 2003 and the network has faced substantial challenges since, including Tajikistan's departure in 2009 before it was reconnected nine years later. [8] Uzbekistan and Kazakhstan also sporadically left the organization in the years since, with trading decreasing substantially and the latest collapse in the network came in 2021-2022 as Uzbekistan, Kazakhstan and Kyrgyzstan all experienced near simultaneous blackouts and spikes in domestic demand, [9] many of which were seen as related to crypto-currency mining. This has exacerbated challenges in Kazakhstan, whose electricity grid is broadly broken up into three regions, its west, north, and south. [10] While Kazakhstan has developed its own domestic interconnections between these markets – most notable the North-South Power Transmission Line, a project that the EBRD also supported, [11] the fact that Kazakhstan's population is clustered in its south and the country has a number of heavy industry factories, metals refineries, and

mines across its interior has exacerbated challenges in ensuring that all are adequately supplied.

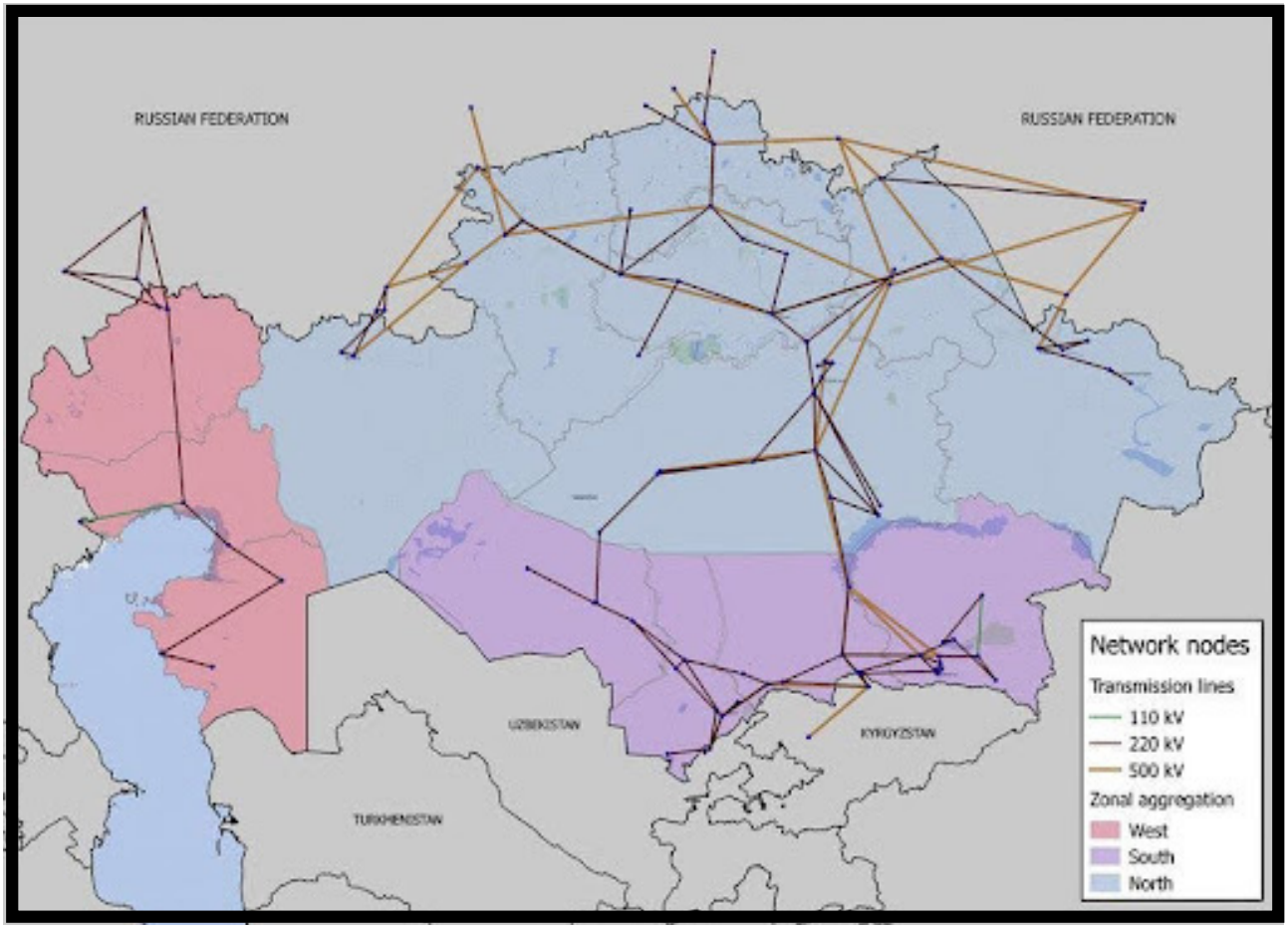

Figure 1: Map of Key Kazakh Electricity Infrastructure [12]

Kazakhstan has an agenda to deal with both its electricity supply challenges- and the polluting nature of its coal, centered on the 'Concept for (the) Transition of the Republic of Kazakhstan to (a) Green Economy,' first approved by former President Nursultan Nazarbayev in 2013. [13] The Kazakh government has since made progress on the agenda with regards to electricity production, with the share of electricity produced by renewables rising from 0.6% in 2015 to 4.4% by 2022. [14] While regional comparisons are difficult given the vast differences in

sizes between the Central Asia economies, as well as significantly differences in landscapes – for example Tajikistan is able to report that more than 60% of energy generation is from renewables due to its large water resources and hydroelectric resources that Kazakhstan lacks – it still trails the most comparable regional economy, that of Uzbekistan where 10.9% of energy generation came from renewables in 2019, again largely from hydropower. [15] [16] Kazakhstan is, however, by far the regional leader in developing renewables from wind power, for which its large steppe land area is particularly suitable, in Central Asia. It is also the second largest developer of such resources in the former Soviet Union, behind only Ukraine, whose wind power development has also been strongly supported by international financial institutions in recent years (though which has also suffered significant damage as a result of the full-scale Russian invasion launched in February 2022). [17]

In 2022 Kazakhstan announced that it was expanding its green agenda, revealing that it plans to have 15% of electricity production come from renewable energy sources by 2030 and 50% by 2050. [18] Such production not only aims to support the international fight against climate change, but also to address the aforementioned ongoing issues in Kazakhstan's electricity market and ensure adequate supplies for industry and residences nationwide. The continued success of projects like the Zhanatas Wind Farm will be crucial in achieving these aims.

THE DEVELOPMENT OF THE ZHANATAS WIND FARM

The Zhanatas Wind Farm was launched in the first quarter of 2018 as part of Kazakhstan's wind power development strategy – with the project already then expected to be one of the largest wind power projects in the country with a 100 MW capacity – i.e. sufficient to supply six percent of Kazakhstan's household electricity consumption – though with urban households consuming nearly two-thirds of electricity domestically, Zhanatas' contribution to the Jambyl (Zhambyl) Region can stretch even further. [19] [20] The location of the project was significant not only for its wind potential, but also for domestic investment as Zhanatas has historically been seen as a 'monotown, [21] the term for a Soviet-legacy city whose development and employment was based around one large asset, in Zhanatas' case the city's phosphate mines. The decline of the city's mines has led to a collapse of wider industry, and substantial depopulation, making such an investment not only an important source for national electricity supplies but also for local economic rejuvenation. [22] Kazakh officials have acknowledged the particular importance of developing electricity resources for the city as recently as September 2023, citing the fact that the town and its environs have long been dependent on imports from Kyrgyzstan. [23] The town also faces challenges from high heating prices, poor health infrastructure, and a lack of economic prospects, which have led to substantial depopulation in recent years. [24] [25]

The project was established as a joint venture between China's state-owned China Power International Holding and Kazakhstan's Visor Investment Cooperatief, a Netherlands-based subsidiary of the Visor Group, a firm founded by Kazakh businessman Aidan Karibzhanov. [26] That Beijing would take a leading role in the

in the project was thus clear from the start, but was further supported by the fact that the AIIB announced in December 2019 that it would provide a US$46.7 million loan for the project, just over one-third of its estimated $130 million cost. [27]

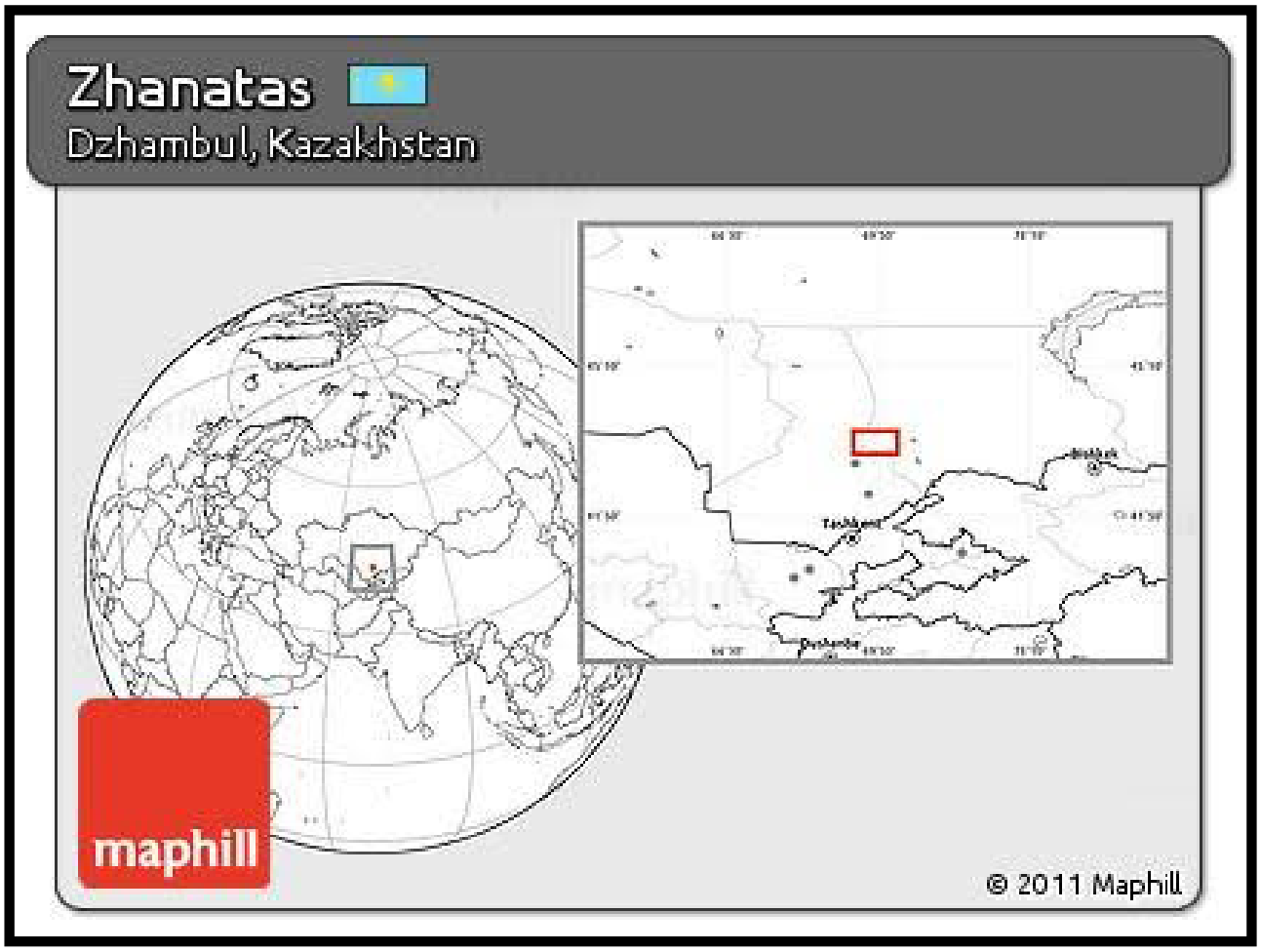

Figure 2: Map of Zhanatas, Jambyl (Zhambyl) Province [Maphill] [28]

However, Zhanatas' sponsors were already in discussions at the time with the EBRD about further support for the project. [29] While the project's sponsors did not respond to requests for information about how such talks were launched, financing from the EBRD – which has also made developing renewables a key

focus of its work in recent years [30] – is typically considered concessional and at a minimum competitive with, and often more economical than, private market financing. There was never any public airing of the discussions, as is standard, nor the fact that the project's sponsors were holding discussions with both the EBRD and the AIIB, though market participants with whom the authors spoke noted that reaching agreement on financing from both sides was seen as not only highly ambitious, but unlikely. Nevertheless, in July 2020 amidst the height of the COVID-19 pandemic, the EBRD announced that it too would provide support for the project, with a loan of 10.8 billion Kazakh Tenge (roughly$25.28 at the prevailing exchange rate at the time). [31] Nevertheless, the influence of China and Chinese companies on the project was substantial, with the Industrial and Commercial Bank of China also providing support, the turbines purchased from China's Envision and the work to develop the project also overseen by Chinese firms alongside some domestic Kazakh contractors. [32] The project's finances were also supported by a power purchase agreement from the Kazakh government, the terms of which are not public (such agreements and the non-public disclosure of terms is standard for the industry). [33]

Construction of the Zhanatas Wind Farm was completed in June 2021, a remarkable turn-around time particularly given the pandemic. Shortly before the project's completion, in April 2021, the AIIB and EBRD signed a new co-financing framework aimed at *"streamlining their cooperation to promote economic development and investment across countries where both institutions are active."* [34] While few details of the framework have been published, such structures typically consist of streamlined approvals processes for co-operationg and joint financing, though they also typically lack any formal legal basis and no binding commitments were announced as part of the new framework. Nevertheless, Zhanatas was the major proof-of-concept project that highlighted that despite the geopolitical rivalries between the United States and China, co-operation is still possible where mutual

interest overlaps.

In the aftermath of the success of the Zhanatas Wind Farm, the project's owners took over another planned Kazakh wind power project that had previously been cancelled, the Shokpar Wind Farm, 400 miles / 645 kilometres from Zhanatas. Unlike the Zhanatas Wind Farm, the Shokpar Wind Farm – which when completed will also add 100MW of green energy to Kazakhstan's grid – will be majority owned by Vision International, though China Power International Holding remains its partner and many of the suppliers and contractors are expected to be those who supported Zhanatas' development. On September 1, the EBRD announced that it will offer a $39 million loan (which will be distributed as a mix of Tenge financing and U.S. Dollar financing) to support the Shokpar project as well – and that the AIIB will also support it under the April 2021 co-financing framework. [35]

Chinese state media has repeatedly highlighted the Zhanatas Wind Farm as a key success under its Belt and Road Initiative – an agenda that invites opprobrium across the U.S. political divide. [36] [37] Such statements ignore the EBRD and thus Western support for the project as well. But such cooperation has proven successful in developing wind power in Kazakhstan, supporting an electricity market in need of further investment, the modernization of a so-called 'monotone,' and helping Kazakhstan move towards its renewable energy targets and thus the global fight against climate change. Further such support, including in partnership with Beijing, can offer Kazakhstan and other countries additional such support, and develop a new narrative from simplistic understandings of geopolitical rivalry around such financing from official sector institutions. Putting projects that support domestic investment and development agendas, in particular their green components, above headline geopolitical rivalries can not only deliver benefits to markets and residents in the countries such as Kazakhstan that receive such support, but also help to establish a new narrative

that support for the environmental and green agenda can and should continue to receive mutual support from U.S. and Western markets as well as from China.

Such cooperation is relatively rare in Central Asia, including in Kazakhstan, the country in which Chinese Premier Xi Jinping launched his 'Belt and Road' Initiative in 2013. Beijing's agenda and that of the US-led 'Western bloc' with which institutions such as the EBRD are closely affiliated are often seen as directly antagonistic. The West sees China's efforts as an example of 'debt trap diplomacy' aimed at increasing third countries' dependence on Beijing and increasing its influence on decision-makers in countries that receive financing and investment for 'Belt and Road' projects. China for its part has claimed that Western influence in the region is aimed at bringing to power governments subservient to the West and as recently as January 2022 Xi accused the West of seeking to foment a 'color revolution' in Kazakhstan, adapting rhetoric directly from Vladimir Putin's Kremlin. [38] These antagonistic viewpoints, however, mean that areas of common interest and overlap are often overlooked. Zhanatas does provide an export market for Chinese wind power infrastructure and for Chinese wind power expertise but it also furthers the societal and development goals advocated for by the West, while proving a test-case for developing large scale renewable projects that are in all stakeholders' interest.

POLICY LESSONS AND RECOMMENDATIONS

The development of the Zhanatas Wind Farm has two key implications for policy-makers as well as the potential for additional lessons depending on what benefits the project ultimately does bring.

The first and key lesson is that co-operation between Western-aligned and Chinese-backed development finance institutions is possible even in a country often seen as the epicentre of the 'new Great Game'. Co-operation on projects such as the Zhanatas Wind Farm is unlikely to shift the overall narrative of US-China competition, but does highlight how it is an insufficient framework for analyzing all stakeholders' positions. There is an argument to be made that publicizing the impact of what cooperation does take place could prove counter-productive, given political winds in Washington and the wider West as well as in Beijing arguably do not favor such initiatives. But Western policy makers in particular should consider that even with further financial support for such projects, achieving Kazakhstan's renewable energy goals – and in turn ensuring that it is a contributor to wider 'net zero' initiatives globally – will likely require buy-in from Beijing given its larger ability to supply wind turbines at competitive prices to developing markets like Kazakhstan. [38] Though Western turbine manufacturers have also secured contracts in Kazakhstan, [39] Western policy makers will have to balance considerations between supporting their own producers and maximizing renewable energy goals.

Secondly, while Kazakhstan has made some progress on transitioning away from coal in recent years, for it to achieve its own goals of increasing renewables to

15% of electricity production by 2030 and 50% by 2050 such support is likely to continue to prove necessary for Kazakhstan to be able to achieve its renewable energy goals and progress on its 'green agenda'. Kazakhstan does however have the potential to provide additional financial support through its own government-backed development institutions and deploying capital from Samruk Kazyna, its sovereign wealth fund, and policy makers should also look to incentivize Astana to more directly support such development as well.

While this paper has outlined how the AIIB and EBRD's co-operation on developing Zhanatas has already enabled co-operation on a second major Kazakh wind power project, it remains to be seen how the social and economic benefits from the project will be received by locals in Zhanatas and wider Jambyl (Zhambyl) province. Local media reports since the wind farm's launch claim that consumer electricity shortages remain, which may indicate that the majority of electricity from the project is diverted to Zhanatas' legacy industrial projects. While this may be justified given support for local industry enables continued employment in the region – with the direct post-construction employment benefits of wind power relatively low in comparison – further observation is necessary to determine whether electricity is being properly allocated to market needs and demand.

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NOTES

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