



ENC ANALYSIS

The New EU Strategy on Central Asia Putting Renewable Energy on the Map

June 2019

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The New EU Strategy on Central Asia Putting Renewable Energy on the Map

What's new in the New EU Strategy?

It has been twelve years since the first European Union (EU) strategy for Central Asia (CA) was adopted back in 2007¹ and since then it has been reviewed and amended four times until June 2015² adapting every time to the changing geopolitical landscape in the region.

During the past twelve years the EU has been successful in increasing its presence in the region – by the end of 2019 the EU is expected to open a new Delegation in Turkmenistan – and creating several platforms and mechanisms for working and improving ties with Central Asian authorities. Human rights, security, stability, rule of law and the EU's model of governance were among the priorities of the first overambitious strategy, which didn't win the hearts and minds of the Central Asians, who were keener on increasing trade with the EU, attracting foreign direct investments (FDI) for big infrastructure projects and obtaining 'fancy' border management equipment.

Despite the fact that EU trade with CA has grown and the EU is now the main trading partner of the region, accounting for about a third of its overall external trade, exports to the EU from CA remains low and focused on certain commodities. The level of intra-regional cooperation remains insignificant "as the five Central Asian countries do less than 1/10th of their total foreign trade with one another."³ Lack of regionalism and cooperation within the Central Asian states is a phenomenon that reveals a regional isolationism.

However the opening of Uzbekistan with a wave of economic and political reforms under the new President of Uzbekistan Shavkat Mirziyoyev⁴ and the recent peaceful power transfer in Kazakhstan from Nursultan Nazarbayev to the newly appointed⁵ President Kassym-Jomart Tokayev signalled that the time was ripe for a new EU strategy to emerge. A strategy with a bottom-up approach rather than a top-down

¹ Council of the European Union. 2007. The EU And Central Asia: Strategy For A New Partnership. <http://register.consilium.europa.eu/doc/srv?l=EN&f=ST%2010113%202007%20INIT>.

² Council of the European Union. 2015. "Relations with Central Asia – Council Conclusions on the EU strategy for Central Asia". <http://data.consilium.europa.eu/doc/document/ST-10191-2015-INIT/en/pdf>.

³ Boonstra, Jos, and Marazis, Andreas. 2019. "How 'Central' Is Central Asia In The EU-Asia Connectivity Strategy?". *EUROPE-CENTRAL ASIA MONITORING*. <https://eucentralasia.eu/2019/01/how-central-is-central-asia-in-the-eu-asia-connectivity-strategy/>.

⁴ Shavkat Mirziyoyev came to power in September 2016 after the death of Uzbekistan's first president, Islam Karimov and on December 4, 2016, he won a snap presidential election.

⁵ On March 19, ex-President Nursultan Nazarbayev announced his resignation after almost 30 years of service and the handing off of the presidency, according to the Kazakh Constitution, to the - until then - chair of the Senate, Kassym-Jomart Tokayev. The latter called for snap presidential elections on June 9, in which he won 70.8% of the vote.

one, a strategy that focuses more on regional cooperation with an emphasis on citizens well-being. It took almost two years from the moment the Council of the EU issued in June 2017 its “Conclusions on the EU strategy for CA”⁶ – basically inviting the High Representative Federica Mogherini and the European Commission (EC) – for the EU to come forward with a proposal for a new strategy by the end of 2019. The lengthy consultation process with the authorities and civil society organisations (CSOs) led by the EU Special Representative (EUSR) for CA, Peter Burian and his team bear fruits and on May 15 – ahead of the 15th EU-CA Ministerial meeting which will take place on July 7th in Bishkek, Kyrgyzstan – the EC issued a Joint Communication to the European Parliament (EP) and Council on “The EU and Central Asia: New Opportunities for a Stronger Partnership.”⁷

Energy is yet another feature that separates the new EU Central Asia Strategy from its older version. Both documents focus on energy, among other things, but in the 2007 Strategy the weight is on capitalizing Central Asia’s potential to be a supplier of oil and gas and on the development of an adequate transport infrastructure of these natural resources as a way of further securing and diversifying Europe’s sources of energy provision. The issue of renewable energy and sustainable development was but a mention back in 2007, while in the new 2019 EU Central Asia Strategy renewable energy and sustainability have become a more prioritized goal and actual guidelines to achieve further development of the sector have been laid out.

This is also reflected by how the strategies talk differently about transfer of European knowledge, expertise and know-how to Central Asian countries: while the 2007 document states that the EU will “support initiatives for know-how transfer and capacity building” for the purpose of promoting economic development, trade and investment in Central Asia, so as to contribute to making the region a future reliable partner for the EU, in the new 2019 strategy the sharing of “EU technology and expertise” is directed towards the advancement of “renewable energy and energy efficiency”, achieved by “building upon the region’s potential in solar, wind and hydroelectric energy.” More importantly, the rationale behind having as a strategic objective “Central Asia’s reforms of the energy sector and transition to a low-carbon economy” is that this will ultimately “contribute to strengthening the region’s energy resilience, helping to meet its climate objectives and creating jobs and business opportunities on both sides.” “Sustainable management of natural resources” is also something the EU aims to share experience in, as written in the 2019 Strategy document.

Right from the first page, the 2019 Strategy says that “renewed efforts to promote Euro-Asian connectivity have increased interest for the EU’s approach to sustainable

⁶ Council of the European Union. 2017. Council Conclusions on the EU strategy for Central Asia. <https://www.consilium.europa.eu/media/23991/st10387en17-conclusions-on-the-eu-strategy-for-central-asia.pdf>.

⁷ European Commission. 2019. Joint Communication to the European Parliament and the Council – The EU and Central Asia: New Opportunities for a Stronger Partnership. https://eeas.europa.eu/sites/eeas/files/joint_communication_-_the_eu_and_central_asia_-_new_opportunities_for_a_stronger_partnership.pdf.

connectivity” and indeed issues related to sustainability, the environment and climate change are a common theme present throughout the whole document – there are even a “Enhancing Environmental, Climate and Water Resilience and a “Promoting Sustainable Connectivity” subsections in the “Partnering for Resilience” and “Partnering for Prosperity” sections of the strategy.

The shift towards renewable energy of course plays into all of this. In this sense, an indicative future strategic action course set out in the 2019 document is that “the EU will cooperate with Central Asia to promote the regulatory frameworks, technologies and skills required to lower the costs, develop renewable energy sources and energy savings technologies and mobilise investment through blending and other financial incentives.” This is done both to meet the needs and interests of Central Asia – which, as the 2019 strategy states, is facing both socioeconomic and environmental challenges – and that of the EU when it comes to securing and diversifying its sources of energy supply.

Also, when talking about funding of EU operations with Central Asian countries, the 2019 strategy document specifically mentions partnerships with the private sector or with financial institutions like the European Investment Bank (EIB) or the European Banks for Reconstruction and Development (EBRD) – other than with third countries or regional organisations – “for environmental projects and environmentally sustainable economic activities” and “to promote sustainability and a level playing field in connectivity to pursue the shared interests of Central Asia and the EU.” The specific initiative outlined in the 2019 document is to use “innovative financing and blending to further encourage green investment, in particular in renewable energy and energy efficiency.”

All of this is to point out the significant shift in focus towards sustainability and development of the renewable energy sector from the 2007 to the 2019 EU Central Asia Strategy. Providing an explanation of why this might be the case and recommending future courses of action for the EU to pursue this new goal is the focus of this paper.

The energy sector in Central Asia and why it makes sense to shift to renewables

Gradually moving away from using oil and coal as sources to produce energy should be a priority for Central Asia and the EU should and can play a significant role in this process.

It should be recognized though that, in the meantime, the EU still has vested interests in hydrocarbons in the region, as its commitment to the extension of the Southern Gas Corridor to Central Asia³ as part of its energy diversification policy demonstrates.

Also, projects for new pipelines such as the Trans-Caspian Gas Pipeline from Turkmenistan – which is part of the Southern Gas Corridor – and the Trans-Caspian

Oil Transport System from Kazakhstan still remain on paper even if the Convention on the Legal Status of the Caspian Sea has been signed by the five littoral states (Russia, Kazakhstan, Azerbaijan, Iran, Turkmenistan) at the 5th Caspian Summit which took place in August 2018 in the Kazakh city of Aktau (but not all parties ratified the Convention yet).

In brief, the EU should clarify its position regarding the possibility of a future partnership with Central Asia as a raw material exporter since the EU itself is moving away from fossil fuels (renewable energy development has a prominent place in the energy policy of both the EU and individual member states) and given that the realization of pipeline projects in the region is currently in a gridlock-like block.

In this sense, instead of primarily relying on export of hydrocarbons from the region and the construction of oil and gas pipelines, it would be better for the EU to rather promote the adoption of legislation directed towards increasing the use of renewables in Central Asia and building capacity among various stakeholders to improve the conditions for further investments in the sector. This is where the EU has a comparative advantage compared to other external partners that it should use to the full extent: financially speaking, the EU is a supplementary player⁸ in the region, vis-à-vis Chinese investments⁹, but its added value lies in the technical, regulatory, environmental and governmental expertise that it can transfer to Central Asian states (which is itself part of the new 2019 Strategy, as mentioned above) as well as the ability to work across borders.

According to data from the International Energy Agency (IEA) (**Figure 1**), Turkmenistan produces 100% of its electricity from non-renewable sources of energy such as oil, gas and coal, and Kazakhstan and Uzbekistan produce respectively 91.12% and 79.34% of their electricity in this manner, which is neither an efficient nor a reliable strategy for the region's energy production. Tajikistan and Kyrgyzstan, on the other hand, rely almost entirely on hydroelectric energy, with 98.47% and 85.12% respectively of their electricity being produced from hydroelectric sources (**Figure 2**).

In general, Central Asian countries are currently moving towards replacing coal-generated electricity with gas-generated one – at this stage, gasification remains a good complement in the mix of sources of energy production¹⁰.

Other than being a priority for the EU according to the 2019 Strategy and a way to overcome the stranded projects to export oil and gas as energy sources to Europe via pipelines, a shift towards using renewable sources of energy would be also in the interest of Central Asian states, as it would guarantee more sustainability of their energy production system – also, power generation from renewable energy sources

⁸ As emerged from an interview with an EBRD source conducted by author Andreas Marazis on June 15th 2018.

⁹ China has directed investments particularly towards Tajikistan and Turkmenistan.

¹⁰ As emerged from an interview with an EBRD source conducted by author Andreas Marazis on June 19th 2018.

would make especially economic sense and would be beneficial for those rural areas of the region, distant from the urbanized centres across Central Asia with limited access to electricity grids¹¹.

Central Asia has a high potential for power generation from renewable energy sources. Solar PV, wind and small hydroelectric power plants (HPP) in Kazakhstan, large and small HPPs in Kyrgyzstan, solar and large and small HPP in Tajikistan and solar energy in Uzbekistan and Turkmenistan have especially high prospects.¹²

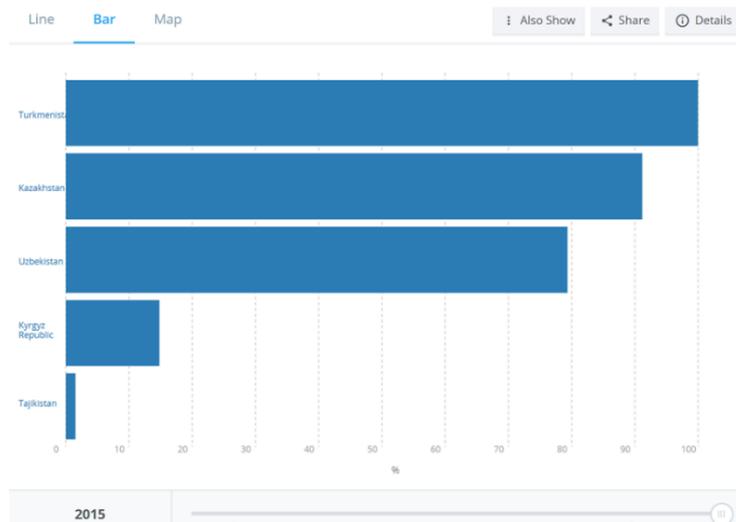


Figure 1: Electricity production from oil, gas and coal sources in Central Asia (% of total).¹³

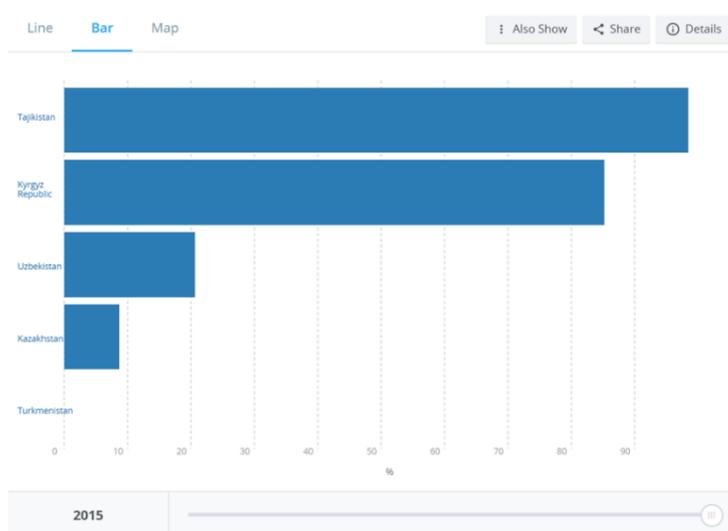


Figure 2: Electricity production from hydroelectric sources in Central Asia (% of total).

¹¹ For many people, powering their homes or small businesses using a small renewable energy system that is not connected to the electricity grid makes economic sense. In remote locations, off-grid systems can be more cost-effective than extending a power line to the electricity grid (the cost of which can range from \$15,000 to \$50,000 per mile). But these systems may also be used by people who live near the grid and wish to obtain independence from the power provider.

¹² Nabiyeva, Komila. 2015. *Renewable Energy and Energy Efficiency in Central Asia: Prospects for German Engagement*. http://www.succow-stiftung.de/tl_files/pdfs_downloads/MDF%20Working%20Paper/MDF%20Paper_RE%20and%20EE%20in%20Central%20Asia_Kominla%20Nabiyeva_2015.pdf

¹³ The World Bank. n.d. *Electricity production from oil, gas and coal sources (% of total)*. <https://data.worldbank.org/indicator/EG.ELC.FOSL.ZS?end=2015&locations=TM-KZ-UZ-KG-TJ&start=2015&view=bar>

On top of that, the local authorities have set quite ambitious goals – one might say unrealistic perhaps – for their respective countries’ gradual shift towards renewable energy usage. In 2013, for example, the President of Kazakhstan adopted the Concept for transition of the Republic of Kazakhstan to Green Economy, whose goal is to produce half of the country’s total electricity generation from “renewable and alternative sources” by 2050 (30% by 2030). Uzbekistan too aims at achieving by 2030 a consumption of renewable energy equal to 16% of the overall energy consumption in the country. In Tajikistan, one of the two main renewable energy policies is the long-term programme for building some 190 small hydropower plants with a total capacity of 100 MW between 2009 and 2020.

Despite excellent renewable energy potential and the ambitious goals the regional governments have set though, the development of renewables in the region remains still very low as **Figure 3** below shows. In the next section, we turn to a survey of the major obstacles impeding development of the renewable energy sector.

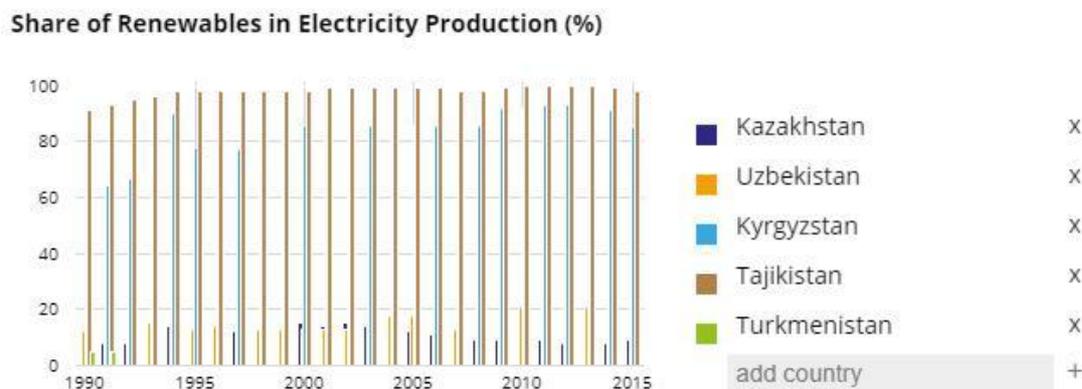


Figure 3: Share of Renewables in Electricity Production (including hydroelectric energy) in Central Asia (%).¹⁴

¹⁴ International Energy Agency (IEA). 2018. *IEA Atlas of Energy*. <http://energyatlas.iea.org/#!/tellmap/-1118783123/3>

Challenges to the development of renewables in Central Asia

An unfavourable climate for investment, an incomplete and unrefined regulatory framework, and the fact that the energy sector in Central Asia is heavily dominated by state-owned enterprises are some of the key challenges of the region. At the same time though, the regional governments have to deal with rising electricity demands from the population, poor maintenance of their ageing energy infrastructure and frequent electricity shortages and cut-offs in rural areas. For example, given that Kazakhstan is sparsely populated and that rural villages of the country distant from urbanized centres often have little access to conventional energy sources, a more decentralized energy generation system could be particularly beneficial for the country's needs. In Uzbekistan, the largest energy consumer in the region (IEA, 2014) and potentially the biggest market for renewable energy, about half of the population lives in rural areas, where electricity shortages and cut-offs are frequent due to illegal energy tapping and the poor state of the country's energy infrastructure. Turning to Kyrgyzstan, more than 60% of the country's population lives in piedmont or mountainous areas, which makes the provision of energy from conventional non-renewable sources difficult and expensive, and therefore power generation from decentralized renewable energy sources, is especially advantageous for Kyrgyz rural households, crop and livestock farms.

The reason why renewables did not gain momentum yet rests entirely on the fact that the hydrocarbon extraction business is so much more lucrative than renewable energy projects. Investments in the latter have a lower rate of return than the ones in fossil fuel. High fossil fuel subsidies and low electricity prices significantly reduce the competitiveness of renewables in Central Asia.¹⁵ Local financial institutions are reluctant to provide loans for renewable energy projects that they consider risky, thus making it impossible for small and medium-sized enterprises (SMEs) or potential investors – local or international – to bear the initial costs and to obtain the technological equipment necessary for the reduction of electricity generation costs.

This explains why:

- Most of the countries have already introduced primary legislation¹⁶ on renewable energy and energy efficiency, but not secondary legislation which would include guaranteed financial incentives such as feed-in tariffs and tax exemptions.

¹⁵ Nabiyeva, Komila. 2015. *Renewable Energy and Energy Efficiency in Central Asia: Prospects for German Engagement*. http://www.succow-stiftung.de/tl_files/pdfs_downloads/MDF%20Working%20Paper/MDF%20Paper_RE%20and%20EE%20in%20Central%20Asia_Kominla%20Nabiyeva_2015.pdf

¹⁶ The Kazakh's government adoption of the Concept for transition to the Green Economy in 2013 has already been mentioned. Just to mention a few other examples of renewables-friendly legislation already introduced in Central Asia states, currently renewable energy producers in Uzbekistan are exempt from profit tax, property tax, and unified tax payments for small and medium enterprises. A Kyrgyz 2009 law on renewable energy sources created a legislative framework for renewable energy feed-in-tariffs but is still to be fully implemented. Several bylaws including the definition of tariff calculation and determination are still under development in the meantime. Also, according to Kyrgyz law, imported equipment for the use of renewable electricity is exempt from customs duties. The Tajik government passed in 2010 a law on the use

- Educational and vocational training programmes targeting renewable energy in the region are lacking.
- Public awareness and media coverage on the benefits of renewables is low.

Why should the EU focus on renewables and why now?

Limited energy access for remote areas, frequent electricity shortages and cut-offs in rural areas, coupled with practices in some countries in the region (like Uzbekistan) of exporting energy resources without first fully satisfying domestic demand may lead to social unrest. This is already a first important reason why focusing on the development of the renewable energy sector should be a priority for the EU's involvement in Central Asia, given that security and stability in the region is in the EU's interest and a crucial precondition for the establishment of a future partnership with countries there (as has been stated throughout the years in the Central Asia Strategy documents and their revisions).

The link between renewables and employment must be taken seriously into account: it is counterproductive, for example, that information on employment opportunities and benefits in large hydropower projects remains scarce. In a region with high unemployment rates, especially in Kyrgyzstan and Tajikistan that are the major labour exporters of the region with a considerable portion of their labour forces emigrating elsewhere, public awareness on the socio-economic benefits of renewable energy is essential for the development of the sector and, if necessary, the re-training of the skilled human capital already available in these countries.¹⁷ This argument also fits in well with the focus in the 2019 New EU Central Asia Strategy on partnering with local actors for the prosperity and resilience of the region: if further development of the renewable energy sector will in fact benefit Central Asian societies and economies, then countries in the region will become valuable partners for the EU. Through a trustworthy assistance along this process of advancement of renewable energy and societal and economic progress, the EU can establish long-term relations with Central Asian countries and the region as a whole and achieve that increased European-Central Asian connectivity that the 2019 Strategy document talks about.

With regards to timing, now especially the time is ripe for the EU to focus on renewables in close cooperation with partners in the region like Kazakhstan. In 2017, Nur-Sultan hosted EXPO 2017 which centred on the topic of "Future Energy", encompassing issues such as reduction of CO₂ emissions and energy efficiency. Kazakhstan, when it comes to legislation, investments and technical capacity for renewable energy and energy efficiency, is by far the regional leader.

of renewable energy sources and is promoting renewable energy with project-specific feed-in tariffs guaranteed for 15 years. Independent small hydropower plants are exempt from a number of taxes, including the water royalty tax, customs duties, value-added tax (VAT) on imported materials and equipment, and taxes on profit, land and capital. In Turkmenistan, on the other hand, a specific legislative framework on renewable energy is lacking and the government shows no interest in developing the sector.

¹⁷ As emerged from an interview with an EBRD source conducted by author Andreas Marazis on June 15th 2018.

Furthermore, Uzbekistan's opening to renewable energy sector development projects under the new President Zhavkat Mirziyoyev and the improved relations with neighbouring countries, especially with Tajikistan and Kyrgyzstan where the Uzbek President expressed his readiness to invest in the Rogun and Kambarata HPP projects¹⁸, is an excellent starting point for the EU to further promote a shift towards renewable energy usage in the region.

Towards a sustainable future

This section contains a few recommendations, driven from the new EU Strategy on Central Asia, concerning new goals, intentions and plans, directed to the EU on what could be the next steps on the path towards development of the renewable energy sector in Central Asia.

- The EU should work closely with financial institutions such as the EIB and the EBRD. As briefly mentioned in the introduction of this article, the new Strategy explicitly refers to partnerships with financial institutions – among other local and international actors – as an important cornerstone for the implementation of projects directed towards economic growth and advancement of renewable energy in Central Asia. Currently, major donors supporting renewable energy and energy efficiency projects in Central Asia include the Asian Development Bank (ADB), the European Bank for Reconstruction and Development (EBRD), the Eurasian Development Bank (EDB), the International Finance Corporation (IFC), the World Bank and the Global Environment Facility (GEF). The country offices of the UNDP and the Gesellschaft für Internationale Zusammenarbeit (GIZ), the Regional Environmental Centre for Central Asia (CAREC) and local nongovernmental organizations often act as implementing agencies on the ground as well. Therefore, there is a wide range of donors and partners in the region available to the EU that should be taken advantage of to implement the 2019 Strategy.
- Practically speaking, the EU should support, the EBRD in its effort to engage with local governments in areas concerning energy waste and reform of energy tariffs¹⁹ (which are very low and non-competitive at the moment) in order to attract investments from private companies.
- Additionally, the EU should provide through development banks zero or low-interest loans and loan guarantees for individuals (e.g. farmers, SMEs, etc.) in the region. Brussels could support, for example, the EBRD's Sustainable Energy Financing Facility in Kyrgyzstan (KyrSEFF), a project supporting energy efficiency improvements in households and businesses in Kyrgyzstan to which a USD 20 million credit line has been allocated. The rationale behind these kinds of

¹⁸ Mashrab, Fozil. 2018. *Uzbekistan and Russia Reach Agreement on Construction of New Nuclear Power Plant*. Eurasia Daily Monitor 15(102).

¹⁹ Ibid.

partnerships is to build upon what is currently in place and avoid duplication, thus maximizing efficiency.

- Among the other areas highlighted in the new Strategy, particularly strong emphasis was given to educational and vocational training programmes. Joint research projects between European and Central Asian Universities or think tanks (for example on the linkage between employment and renewable energy projects) and development of curricula specifically focused on renewables are all practical examples of how the EU can and should foster the creation in Central Asia of the necessary human capital for the shift towards renewable energy.
- The EU should also prioritize raising public awareness on the benefits of renewables through university lectures with the involvement of private sector. An excellent opportunity to reach out to youth and inform them about renewables and sustainable development as well as linking them with the business community. Equally important is the spreading of information about European energy companies actively operating in Central Asia by organizing, for example, more industrial fairs in the region dedicated to renewable energy and energy efficiency or by designing and implementing programmes such as the current “Sustainable Energy Programme for Central Asia: Renewable Energy Sources - Energy Efficiency” (CASEP).²⁰
- European-based energy companies should be encouraged to invest more in the development of renewables in the region. According to experts, the European-based energy companies can lead the way on new innovative storage technologies²¹ and on upgrading energy transmission systems.²²
- There are quite a few examples of European companies that are already involved in the renewables sector in the region, financing or sponsoring various types of projects. UK-based United Green is collaborating with the EBRD for three projects in Kazakhstan²³, while the French Urbasolar is currently overseeing the

²⁰ CASEP is currently the only EU-funded project on renewable energy and energy efficiency in Central Asia. The Programme is part of the larger INOGATE Programme on regional energy cooperation between the EU and 11 countries in Eastern Europe, Caucasus and Central Asia. The purpose is to assist in the formulation of the necessary policy and regulatory and institutional mechanisms that would enable the inclusion of renewable energy sources in the energy production mix of the beneficiary countries, thus increasing the countries’ energy efficiency. All of this is thought in light of the EU’s overall objective in the region, which is to guarantee more security, reliability and efficiency of energy supplies in the Central Asian countries and thereby to improve the preconditions for regional integration of efficient and sustainable energy systems and, in turn, for future increased cooperation with EU countries.

²¹ As emerged from an interview with an EBRD source conducted by author Andreas Marazis on June 19th 2018.

²² As emerged from an interview with an EU source conducted by author Andreas Marazis on June 19th 2018.

²³ As emerged from an interview with an EBRD source conducted by author Andreas Marazis on June 19th 2018.

construction of the EBRD-funded 14 MW Zadarya solar PV plant in South Kazakhstan.²⁴

A few Danish companies are also present in the region. Wind turbine maker Vestas Wind Systems A/S (CPH:VWS) started, in the third quarter of 2018, delivery of equipment for a 52-MW wind park in Kazakhstan²⁵ as part of a deal sealed with the country which covers supply, installation and commissioning of the turbines, along with a full-scope service agreement²⁶. Solar Energy Ltd., then, provides photovoltaic systems to Uzbekistan²⁷. Finally, several donor-funded programs have contributed to the development of a small but significant local solar energy supplier industry in Tajikistan: one of these is Grundfos Central Asia, the Central Asian subsidiary of Grundfos Holding A/S, a Danish company that specializes in pump manufacturing, distribution, and sales in 55 countries.²⁸

The Netherlands is bilaterally less involved in the Central Asian region than large EU member states such as the United Kingdom and Germany, but it is more involved than the smaller and most of the medium-sized EU countries.²⁹ The Netherlands and Kazakhstan agreed on a lucrative tax and investment treaty in 1997, which made it relatively easy for multinationals to work through Dutch holding companies upon the decision to invest in Kazakhstan (transnational business giants like Coca Cola, the Italian oil company ENI, Russian Lukoil and Dutch multinationals like ABN AMRO and Royal Dutch Shell take advantage of the favourability of this “Dutch holding construction”, for example). Many smaller Dutch companies are also active in Kazakhstan: their work varies from mining and agricultural development to engineering, dredging and transport³⁰. In Uzbekistan, Van der Valk Solar Systems BV provides the country with solar mounting systems³¹, while Eternal Sun B.V. provides solar testing advice, technology and services.

Germany – i.e. the German Federal Government and German companies combined – is by far the most active EU member state in Central Asia in the renewable energy sector. In first place, the EU is financing a programme in Central Asia on renewable

²⁴ Beetz, Becky. 2018. French company attracts \$12.7 million funding for Kazakhstan solar project. <https://www.pv-magazine.com/2018/01/15/french-company-attracts-12-7-million-funding-for-kazakhstan-solar-project/>

²⁵ Hill, Joshua S. 2018. Vestas Secures First Wind Order In Kazakhstan. <https://cleantechnica.com/2018/01/22/vestas-secures-first-wind-order-kazakhstan/>

²⁶ reNEWS Editorial Board. 2018. Danes seal Kazakh debut. <http://renews.biz/109877/danes-seal-kazakh-debut/>

²⁷ Environmental Expert. n.d. Solar panels Companies serving Uzbekistan. <https://www.environmental-expert.com/companies/serving-uzbekistan/page-3/?keyword=solar+panels>

²⁸ Asian Development Bank. n.d. Private Sector Development Road Map. <https://www.adb.org/sites/default/files/linked-documents/45229-001-taj-oth-03.pdf>

²⁹ Hartog, M. And Kettle, L. 2012. European National Policies Series – The Netherlands and Central Asia <https://eucentralasia.eu/2012/09/european-national-policies-series-the-netherlands-and-central-asia/>

³⁰ Ibid.

³¹ Environmental Expert. n.d. Solar panels Companies serving Uzbekistan. <https://www.environmental-expert.com/companies/serving-uzbekistan/page-5/?keyword=solar+panels>



energy sources and energy efficiency, which is implemented by the German federal enterprise for international cooperation (GIZ), in collaboration with GFA Consulting Group and CAREC. Germany and Kazakhstan have been cooperating on developing renewables. In February 2012 the two countries sealed a partnership for German companies to explore and extract rare earth materials in Kazakhstan in exchange for technological transfer. The German firm FWT Trade built 22 turbines for the first wind park (with an installed capacity of 45 MW) in Ereymentau, some 150 km from Nur-Sultan³², which is co-financed by Samruk-Energy (a Kazakh partner) and the Eurasian Development Bank. Also in 2012, Germany donated solar panels to be installed on the roofs of the Baikonur space launch facility and the L. N. Gumilyov Eurasian National University in Nur-Sultan: the project was part of the export initiative Solar Roofs Program, sponsored by the German Energy Agency (DENA) and the Federal Ministry of Economics and Energy. DENA was also commissioned by Kazakhstan's Ministry for Industry and New Technology to develop recommendations and strategies for carrying out energy audits, and was involved in the establishment of an energy advisory centre and supported companies in meeting the law's requirements. Furthermore, DENA was in charge of the first German-Kazakh Energy Forum in 2015, aimed at improving the networking of decision-makers from both countries. DENA will continue its involvement in the country through its support for the Kazakhstan Energy Efficiency Campaign, whose goal is to provide a new way of thinking about energy policy.

Uzbek firm Uzbekenergo chose a group of German companies to provide consulting for the construction of a number of Photovoltaic plants in the country: it has selected GOPA International Energy Consultant, Suntrace GmbH and Renewables Academy AG. INTRA photovoltaics and TSMC solar also supply the country with solar panels, while SMA solar provides solar energy equipment, like asola technologies. EAI GmbH, J.v.G Thoma GmbH, Sonnen GmbH provide home energy storage systems for private households and small businesses. Finally, Phaesun GmbH ships to Uzbekistan off-grid photovoltaic and wind energy systems.

Kyrgyzstan hosted an international conference on sustainable development in 2016. The conference was organized by the National Statistics Committee, in collaboration with the State Agency of Environment Protection and Forestry under the Government of the Kyrgyz Republic, and with the support of the German Federal Enterprise for International Cooperation (GIZ) and the UNDP – UNEP Poverty-Environment Initiative (PEI).

In Tajikistan, the German development bank KfW is supporting a 5 million € grant project for the rehabilitation of a small hydro power plant. In 2012, the German Federal Enterprise for International Cooperation (GIZ) co-organized the projects “Solar Dryers” and “Youth of 21st Century”, where 4 different solar dryers were

³² Samruk Energy. 2018. The wind power plant in Ereymentau city produced over 500 mln.kWh. <http://samruk-energy.kz/en/press/news/i3888>

installed in private households in Nosiri Khusrav (in the Khatlon region). Seminars and trainings were held for the rural population in Nosiri Khusrav and in Kumsangir (also in the Khatlon region). GIZ also implemented in 2007 the “Warm Comfort Program” which provided microloans and products for energy efficiency to households and also included the establishment in 2010 of a 16-worker cooperative of local craftsmen and engineers – named “Zindagi” – dedicated to the development of energy efficient products and smart green energy solutions (SGES) (capital was provided to the new-born cooperative to import the required equipment from Germany). This cooperative also has a reliable network of suppliers of products that it does not produce itself, such as energy efficient cook stoves and heating ovens. Furthermore, the Physic-Technical Institute of the Academy of Sciences of Tajikistan and the German company Centro Herm Si Tec GmbH signed an agreement with each other to join forces in order to successfully cooperate in the assessment, development and implementation of construction projects and the advancement of industrial production of polycrystalline silicon in Tajikistan.

In Turkmenistan, particularly noteworthy is the partnership between the German company Goetzpartner and the Ministry of Energy and Industry of Turkmenistan that conducted a wind measurement programme in the Balkanabad area: calculations based on measurements and existing data of weather stations showed that 1 MW of installed wind power capacities would be able to generate 3.6 million kWh per year, which means that this site could support power capacities of around 200 MW.

- The EU should encourage and facilitate synergies between EU-based energy companies and companies based in other states active in the region. There are many Asian companies, for example, that are currently present and operative across Central Asian states.

Just to provide a few examples, the Chinese Photovoltaic (PV) panel manufacturer Risen Energy has recently been contracted by the EBRD for the construction of a 63MW PV project in Kazakhstan³³. Actually, “for Asia as a whole, including Central Asia, renewable energy capacity has nearly doubled over the past five years, reaching 918GW in 2017” and “China and India were the biggest contributors to the increase.”³⁴ Furthermore, “another contract was awarded to Chinese solar manufacturer JinkoSolar Holding for the supply of 50MW of photovoltaic modules for the Burnoye-2 project”³⁵ in Kazakhstan. In general then, China plans to utilize its “One Belt One Road” project – which consists of a network of infrastructure and trade routes aimed at interconnecting China and the other involved regions, of

³³ As emerged from an interview with an EBRD source conducted by author Andreas Marazis on June 19th 2018.

³⁴ Okutsu, Akane. 2018. Asia leads the charge in growth of renewable energy. <https://asia.nikkei.com/Economy/Asia-leads-the-charge-in-growth-of-renewable-energy>

³⁵ Marques, João Gaspar. 2018. Renewables in Central Asia. <https://www.thebusinessyear.com/the-challenges-of-renewable-energy-in-central-asia/focus>

which Central Asia is one – to promote the development of renewable energy and, according to China’s National Energy Administration (NEA), “In the past five years, according to the principle of joint construction and sharing, international cooperation in energy resources has become the top priority of the Belt and Road construction.”³⁶

Another example is South Korea, which could be an important future partner for the EU in the renewable energy sector in Central Asia: under President Moon-Jae, there has been a decisive shift in the country’s internal energy policy and the country aims at gradually abandoning coal-fuelled power plants and at partly diminishing the amount of energy produced using nuclear power plants. It should be noted that these adjustments are part of a broader and more long-term development in South Korea of an internal and global strategy aiming at boosting the country’s “green” sector and overall economy. Nevertheless, South Korea aims at becoming a leader in the global transition towards a renewable energy-based economy, and therefore it is worth looking to it for future cooperation.

In 2017, Kazakh and Korean authorities stated that they sought to achieve broader cooperation in the renewable energy sector. The intention of the Kazakh government is to gradually shift away from coal-based power plants and other non-renewable means of producing energy, while Seoul plans to keep investing in the region and sharing its expertise³⁷. Also, the South Korean company New Force expressed its intention to build a 200MW solar power plant in the Uighur district of the Almaty region³⁸. South Korea also invested in other sectors of Kazakhstan’s economy: in 2012, Samsung Engineering won a \$2.1 billion contract to build a thermal power plant at Balkhash lake³⁹, which is planned to generate around 7% of the country’s total electricity production⁴⁰, and, according to Jarosiewicz (2011) from the Centre for Eastern Studies (OSW), “in Kazakhstan, Korean companies will invest in the strategic petrochemical complex in Atyrau (these investments will come to about US\$4 billion), getting 50% of the profits from this project in return.”⁴¹

South Korea has yet to invest in the renewable energy sector in Tajikistan. However, the two countries built over the years different channels for diplomatic discussions and cooperation: for example, in 2013, a treaty regarding the suppression of double taxation was signed, which could be a bridge for future

³⁶ Prateek, Saumy. 2019. China Eyes One Belt One Road Initiative to Expand Renewable Energy <https://mercomindia.com/china-eyes-one-belt-one-road-initiative-renewable/>

³⁷ Lee, Joel. 2018. Kazakhstan seeks Korean expertise in green technologies, investments. <http://www.koreaherald.com/view.php?ud=20180305000796>

³⁸ strategy20050.kz. n..d. Almaty rgn plans to build solar power station. <http://strategy20050.kz/en/news/48893/>

³⁹ Tengrinews. 2013. Kazakh PM visits South Korea. https://en.tengrinews.kz/politics_sub/Kazakh-PM-visits-South-Korea-24625/

⁴⁰ Jarosiewicz, Aleksandra. 2011. South Korea’s Expansion in Central Asia.

<https://www.osw.waw.pl/en/publikacje/analyses/2011-09-07/south-koreas-expansion-central-asia>

⁴¹ Ibid.



Korean investment opportunities in Uzbekistan⁴². On a more general note, it has to be underlined that ties between Korean and Tajik authorities and businesses have deepened over the past two decades and South Korea “continues to provide assistance to Tajikistan through the Korea International Cooperation Agency (KOICA) in the fields of technical cooperation, education, health, industry and energy, information technology and protection of the environment. Seoul’s main interest in Tajikistan continues to be the country’s natural resources and energy markets. However, Dushanbe has been looking to diversify its economy and center this on rich deposits of gold, silver and antimony located in its Sughd province. Tajikistan also has a significant amount of natural uranium which would help satiate South Korea’s booming nuclear industry.”⁴³

Like Tajikistan, Kyrgyzstan also has a similar agreement on double taxation risk protection with South Korea to foster foreign investments. South Korean multinational company POSCO decided to invest in a plant construction project in the mineral raw material sector⁴⁴, even given the country’s severe corruption problem (which could deter foreign investments). In the field of renewable energy Korea Hydro & Nuclear Power Co., Ltd. (KHNP) signed a memorandum of understanding (MoU) with the Kyrgyz Republic of Central Asia back in 2015 to cooperate in the hydraulic sector: this was the first time for the Kyrgyz Republic to sign a MoU with the Korean firm for hydroelectric projects. Under the agreement, KHNP and the Kyrgyz Republic will be exchanging manpower and information in the hydraulic sector. Also, they will be cooperating in water power projects implemented by Korea’s Economic Development Cooperation Fund (EDCF) and the Kyrgyz government.⁴⁵ On top of this, Korean companies also expressed interest in investing in small hydroelectric energy projects in Kyrgyzstan.^{46 47}

South Korea and Turkmenistan already cooperate in the gas and oil sector. LG and Hyundai opened in October 2018 a chemical complex which will produce polyethylene and polypropylene⁴⁸ and also “completed the development of the largest gas deposit Galkynysh in Turkmenistan. Moreover the consortium also works on the project of the oil refinery factory in Turkmenbashi. Besides oil and gas

⁴² Orbitax. n.d. Tax Treaty between South Korea and Tajikistan has Entered into Force.
<https://www.orbitax.com/news/archive.php/Tax-Treaty-between-South-Korea-21237>

⁴³ Berkshire Miller, Jonathan. 2012. Korea woos Tajikistan. The Central Asia-Caucasus ANALYST.

⁴⁴ Jafarova, Aynur. 2013. South Korea’s POSCO to build magnesium plant in Kyrgyzstan.
<https://www.azernews.az/region/55454.html>

⁴⁵ Suk-ye, Jung. 2015. KHNP to Transfer Hydroelectric Power Generation Expertise to Kyrgyzstan.
<http://www.businesskorea.co.kr/news/articleView.html?idxno=11933>

⁴⁶ Rodina, Elena. 2015. Kyrgyzstan is working on a concept to develop small hydro energy.
<http://www.kg.undp.org/content/kyrgyzstan/en/home/presscenter/pressreleases/2015/02/17/kyrgyzstan-is-working-on-a-concept-to-develop-small-hydro-energy.html>

⁴⁷ According to the Kyrgyz legislation, hydro power plants with an installed capacity of less than 30MW should be built, owned and operated by the private sector. Larger plants will be organized in Private-Public Partnerships, or developed by the Kyrgyz government.

⁴⁸ Reuters Editorial Board. 2018. Turkmenistan opens \$3.4 bln chemicals plant.
<https://www.reuters.com/article/turkmenistan-chemicals/turkmenistan-opens-3-4-bln-chemicals-plant-idUSL8N1WX1IP>



industries, Seoul and Ashgabat pay attention to the cooperation in transport sector in the context of development of transit and logistics infrastructure under East-West and North-South lines with the European and Middle East markets' access."⁴⁹ ⁵⁰ ⁵¹ Even if Turkmenistan has abundant wind resources, it seems that South Korean companies have yet to invest in this potentially lucrative sector though.

South Korea is one of Uzbekistan's most important partners, with the two countries being signatories of a 2006 Declaration on Strategic Partnership. In the field of renewable energy, according to Ramani (2015) from *The Diplomat*, "natural gas-related technology is a major source of South Korean investment in the Uzbek economy. South Korea's stakes in the Surgil gas field, the joint construction of a major Uzbek gas processing plant and the Bukhara region's natural gas development project are worth a combined \$12 billion. However, South Korea's current economic leverage in Uzbekistan is primarily a product of the ROK's efforts to assist Uzbekistan in diversifying its economy beyond the natural gas sector. One field where South Korea's diversification strategy has been particularly successful is renewable energy. Uzbekistan has publicly declared its desire to build a four gigawatt solar power plant by 2030. The Asian Development Bank also included Uzbekistan as an Asia Solar Energy Initiative assistance recipient in 2010, due to its abundant sunlight and wide-open natural spaces. In light of these commitments, South Korea realized that investing in solar energy would be an effective way to increase its economic leverage over Uzbekistan. In December 2013, South Korea agreed to invest \$300 million in Uzbekistan's first solar energy project, based out of Samarkand."⁵²

Concerning the production of energy from wind power, in 2010 a first wind turbine with the capacity of 750 kW was built in the Tashkent region in the Charvak reservoir. The total volume of investments in the project amounted to more than \$2 million coming from Uzbek state enterprise Uzbekenergo in cooperation with the Korean company Doojin Co. Ltd., which also provided the equipment.⁵³

⁴⁹ Mustafayev, Ali. 2017. Turkmenistan, South Korea seeks to deepen high-level cooperation.

<https://www.azernews.az/region/117105.html>

⁵⁰ Hehr, Michael. 2017. Korean Gov't Shows Big Interests in Turkmenistan Construction Projects.

<http://www.businesskorea.co.kr/news/articleView.html?idxno=17781>

⁵¹ Reuters Editorial Board. 2012. South Korea's Hyundai in \$534 mln Turkmen refinery revamp.

<https://www.reuters.com/article/turkmenistan-oil-hyundai/south-koreas-hyundai-in-534-mln-turkmen-refinery-revamp-idUSL5E8MG8EA20121116>

⁵² Ramani, Samuel. 2015. South Korea's Growing Ties with Uzbekistan.

<https://thediplomat.com/2015/09/south-koreas-growing-ties-with-uzbekistan/>

⁵³ REVE Editorial Board. 2014. GEO-NET studies Uzbekistan's wind power potential.

<https://www.evwind.es/2014/06/08/geo-net-studies-uzbekistans-wind-power-potential/45792>