



# Developing local renewables supply chains in Kazakhstan

May 2022

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## Overview

Transitioning to a green economy creates new economic and employment opportunities across supply chains. The European Bank for Reconstruction and Development (EBRD) is supporting Kazakhstan's Ministry of Energy in developing local components of renewable energy supply chains with a policy aligned with international trade rules. The analysis has identified a small number of areas in the supply chains with significant potential for development. Given the existing barriers related to the small size of the market and lack of capacity and skills, the recommendations focus on setting a long-term strategy for developing renewable energy and a network of local suppliers, and enhancing skills in an inclusive way.

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## What was the context of the policy engagement?

Energy sectors are transforming rapidly, shifting away from “old” fossil fuel technologies towards “new” renewable energy (RE) ones. In many developing countries, these RE technologies have huge potential to contribute to energy transition. However, local supply chains are often not yet able to support this new manufacturing and services industry. Developing local capacity for renewables can be a very efficient way of achieving green growth and mitigating supply chain risks, which are affecting the post Covid-19 recovery.

Kazakhstan has recently increased its climate ambition by announcing a target of 15 per cent of total electricity production to come from RE by 2030, and setting a goal of net zero by 2060. The increased targets could create new market opportunities that can help accelerate a green and resilient economic recovery from Covid-19.

It was in this context that the Ministry of Energy asked the EBRD to provide advisory services to help it develop local components of RE supply chains in line with international trade rules.

**Kazakh suppliers in wind and solar photovoltaic (PV) supply chains are involved almost exclusively in the construction and installation stages.** Despite the relatively low starting industrial base, Kazakhstan can use its skills and experience from other industries, such as automotive and aerospace, and apply them to manufacturing components. It also has a strong academic and institutional environment for supporting the expansion of skills and knowledge development.

## What were the key findings of the assignment?

As identified in the previous report,<sup>1</sup> local content requirements (LCRs) and local content premiums (LCPs) are distortive and expensive policies, which tend to raise energy prices for the population, reduce the drive for cost effectiveness and innovation, and pose high risks to attracting foreign investments.

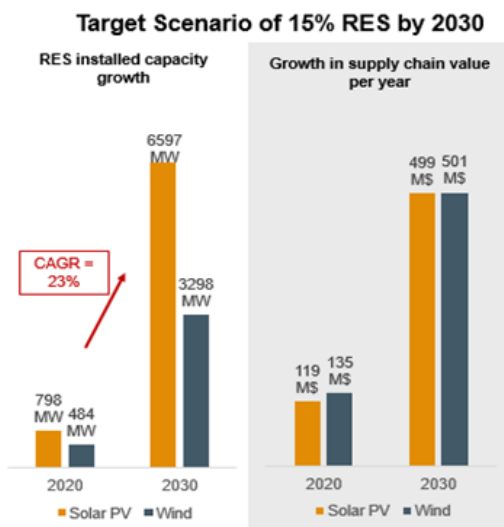
Such policies are also inconsistent with the international trade rules of the World Trade Organisation.<sup>2</sup> Furthermore, the introduction of LCPs and LCRs could lead to a shortage of financing for RE projects. From 2011 to 2020, development banks provided more than €730 million in debt financing for RE projects in Kazakhstan,<sup>3</sup> but local content policies would prevent further investments by major international institutions due to their internal policies on competition.

The energy analysis highlighted the need to accelerate RE deployment to achieve Kazakhstan's 2030 target of 15 per cent of electricity production coming from renewables, and even more so to be consistent with the target of net zero by 2060. Even with such an acceleration to around 1 GW per year of combined deployment, the Kazakhstan market is expected to remain small in global terms at under 0.1 per cent of total worldwide installed capacity.<sup>4</sup> This highlights the importance of strategic positioning when considering the entry of local firms into RE supply chains.

The value chain mapping identified several opportunities for developing local RE supply chains. First, in operations and maintenance (O&M), with an increase in total installed capacity. Second, in project development, construction and installation, as more new RE capacity is deployed. Third, in manufacturing of wind turbine towers and solar PV mounting structures and assembly of solar PV modules. And fourth, potential further development of wind turbine blades and nacelle assembly depending on the level of RE deployment.

The report highlighted several barriers to pursuing these opportunities. The analysis looked at current capabilities in Kazakhstan within both the current RE industry and adjacent industries with potential for skills transfer. The findings were corroborated with a stakeholder workshop and follow-up bilateral interviews. Identified barriers included: (i) the small market size and lack of predictability of future demand; (ii) lack of knowledge and capacity among local players to meet suppliers' standards; (iii) difficulty for local entities to break into the pre-established networks of contractors; and (iv) a lack of skills among the local workforce and across the RE supply chains.

Other countries' experiences offered solutions to overcoming these barriers. Analysis of the offshore wind sector in Scotland highlighted the importance of putting in place a strategic framework to provide direction for the industry's development. A review of the Supplier Development Programme of the Czech Republic illustrated how policies can be used to build the visibility of local firms in the supply chain. Experiences of the renewable energy technician training facilities in Romania and South Africa demonstrated how developing the skills of local workers can help harness opportunities around installation and O&M. Lastly, the collaborative approach with developers in Egypt showed how sustainable localisation opportunities can be developed through international partnerships and leveraging existing capacity.



Source: Consultant estimates

Note: RES = Renewable energy sources; M\$ = Million US dollars

<sup>1</sup> The report builds on the previous study, delivered by the EBRD to the Kazakh authorities in early 2020, "The Impact of Local Content Policies on the Renewables Energy Sector".

<sup>2</sup> Including Article III of the 1994 General Agreement on Tariffs and Trade (GATT); Article 2.1 of Article III of the WTO Agreement of Trade-Related Investment Measures (TRIMs); Articles 3.1 (b) and 4.7 of the WTO Agreement on Subsidies and Countervailing Measures (SCM).

<sup>3</sup> PWC (2021), *Renewable Energy Market in Kazakhstan: Potential, Challenges, and Prospects*, <https://www.pwc.com/kz/en/assets/pdf/esg-dashboard-eng.pdf>.

<sup>4</sup> IEA (2021), *Net Zero by 2050. A Roadmap for the Global Energy Sector*, [https://iea.blob.core.windows.net/assets/deebef5d-0c34-4539-9d0c-10b13d840027/NetZeroBy2050-ARoadmapfortheGlobalEnergySector\\_CORR.pdf](https://iea.blob.core.windows.net/assets/deebef5d-0c34-4539-9d0c-10b13d840027/NetZeroBy2050-ARoadmapfortheGlobalEnergySector_CORR.pdf).

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## What were the key recommendations?

The analysis fed into a set of recommendations for developing RE supply chains with the aim of **promoting a green and resilient recovery** by identifying new economic opportunities and creating sustainable green jobs, as well as mitigating supply chain risks.

**As a precondition to harnessing RE supply chain opportunities, Kazakhstan would need to implement an ambitious long-term strategy to attract investors.**

This involves committing significant capacity for RE auctions, whereby suppliers can view the planned annual capacity to be auctioned. This also requires appointing a lead entity in an institutional framework to coordinate with the private sector.

**Once demand for RE technologies reaches critical mass, the key is enabling Kazakh firms to enter supply chains.** With the creation of a supplier directory that is linked to the auctions platform, developers and contractors are able to view existing local suppliers. Second, marketplace events can facilitate networking between international and local firms and generate new business opportunities. Third, the creation of a testing facility in the country would enable local suppliers to acquire certifications in line with the standards required by international partners.

**In parallel, Kazakhstan needs to build human capital in those areas of opportunity in order to leverage sustainable green jobs.** The rise of renewable energy generation and distribution, in line with Kazakhstan's climate ambition, will create jobs in installation while the resulting increase in total installed capacity will drive opportunities in O&M, particularly as the warranty period for recently installed equipment gradually expires. To harness these opportunities, the government should invest in training programmes with a construction, installation and O&M focus, developed with recognised international training providers. These programmes can have an inclusive angle, encouraging women to participate in a traditionally male-dominated sector, and/or offering re-skilling opportunities as part of a just transition (for example, to former coal miners). For manufacturing, given the small anticipated size of facilities, collaboration with industry, particularly through on-the-job training, will be essential in developing workers' skills.

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## Acknowledgements

This note was produced by Giuseppe Grimaldi, Anna Vasylieva, part of the Economics, Policy and Governance (EPG) Department, and David Williams and the consulting team. Contributions were made by Radu Cracan and Peter Sanfey (EPG).

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