



Policy Brief

Renewable Energy Investment Ecosystem in Central Asia -Uzbekistan

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¹ Note: This policy brief summarizes key findings extracted from the primary report accessed online <https://www.carecinstitute.org/publications/carec-institute-releases-report-on-renewable-energy-investment-in-central-asia/>

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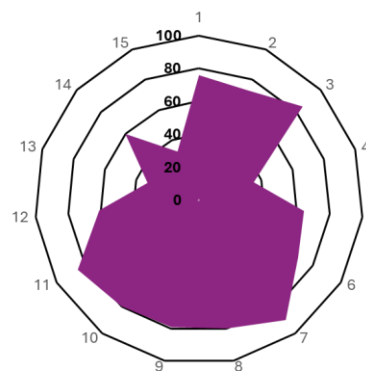
Central Asian economies face significant climate-related challenges due to their geographical vulnerabilities and historical dependence on fossil fuels. To address these issues, a study has examined the factors influencing renewable energy investments in Central Asia (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan).

The study has recommended measures for improving the ecosystem for foreign investment into renewable energy in Central Asia, focusing on wind, solar, small-scale hydroelectric and biomass.

The research has identified constraints, challenges, and opportunities across the region through extensive data collection, assessing the capacities and potential for renewable energy investments and has recommended 15 key determining factors (see Attachment) for a joint FDI ecosystem in Central Asia, comprising in total 202 distinct elements with different weightings.

Measured against all of the ecosystem criteria, Uzbekistan has an overall 69,84% conformance score, being non-compliant on 70 of the 202 elements. This makes it the second-best achiever in Central Asia, only after Kazakhstan. Uzbekistan has reached the upper quintile for three of the key determining factors: (i) “Market Conditions & Potential”, (ii) “Market Access” and (iii) “Project Developers & EPC Companies”.

However; Uzbekistan ends up in the second quintile for two of the other factors, reflecting: (i) overall quality of its investment promotion activities, and (ii) how environmental, social and stakeholder issues are organised. Nine of the remaining ten key determining factors are in the fourth quintile, which provides a solid fundament for further improvements. The study has revealed that there are still noticeable gaps to plug in the third quintile “Regional Cooperation”. This is illustrated in the figure to the right, showing score against max achievable per category.²



Further improving its renewable energy investment ecosystem is essential for Uzbekistan to continue attracting FDI, diversify its energy mix, and meet its ambitious climate goals. A well-structured ecosystem would create a conducive environment for FDI in Uzbekistan. Consequently, the core objectives contemplated in the study undertaken have been to assist Uzbekistan:

- Ensure investment promotion activities are coherent and pulling in the same direction
- Stabilise, simplify and clarify RE regulations and ensure consistent policy implementation
- Modernise and expand grid infrastructure to facilitate integration of renewable energy sources
- Develop innovative financial instruments and mechanisms
- Diversify the RE technologies beyond Solar and wind, i.e. to Biomass etc.
- Diversify the Investor base to SMEs and integrate local companies in RE supply chain
- Foster local capacity building by targeted training and education programs
- Encourage PPPs in the renewable energy sector, with a robust framework
- Strengthen environmental and social impact assessments and standards for RE projects
- Enhance collaboration with neighbouring countries on RE trade and cross-border initiatives

² Numbers on the outer perimeter correspond to the numbers of the Key Determining Factors in the attachment.

Below, key findings and takeaways and key recommendations for Uzbekistan are summarised.

Key Climate and Renewable Energy Facts

- Renewable energy target: 40% by 2030
- Current renewable capacity: 1.6 GW of solar and wind connected to the grid (2023)
- Planned renewable projects: 28 large solar and wind plants (8 GW) by 2027
- A total of 48 FDI projects (worth about USD 17 billion) in the renewable energy (solar and wind) sector have been announced, some of which are already completed (2003-2025).

Uzbekistan has made significant strides in RE development and is considered the second-best performing country in Central Asia, after Kazakhstan. The government has set ambitious targets for renewable energy adoption, aiming to increase the share of RE in the country's energy mix.

In recent years, Uzbekistan has shown a strong commitment to transitioning towards cleaner energy sources. The country has implemented various policies and initiatives to attract foreign direct investment in the renewable energy sector. These efforts have resulted in increased investments and the development of several large-scale renewable energy projects.

- Key policies include tax exemptions and guaranteed purchase of renewable electricity.
- Challenges include grid integration and the need for storage solutions.
- The IPA plays a crucial role in attracting foreign investment, though could benefit from a dedicated renewable energy division and better cross-ministerial and SOE coordination.

Key findings and takeaways from the study:

Major elements not considered fully compliant with the joint ecosystem in Central Asia are:

1. Skills, resources, nationwide mandate and enforcement mechanisms of IPA
Mitigation: Consider making IPA more independent and autonomous from ministries, with sufficient resources and expertise and clear, undisputed mandate
2. Regulatory complexity and potential inconsistencies across government bodies
Mitigation: Establish a dedicated, independent renewable energy regulatory body to ensure consistent policy implementation. Consider a consolidated law on capital markets to simplify the current legislative and regulatory framework.
3. Grid integration challenges due to aging infrastructure
Mitigation: Invest in grid modernisation and implement smart grid technologies with energy storage solutions (BESS) Develop and implement a national BESS strategy. Accelerate implementation of projects to enhance regional grid connectivity.
4. High dependence on fossil fuels, particularly natural gas
Mitigation: Implement policies to accelerate diversification away from fossil fuels, including phased reduction of subsidies to level the playing field for renewables.
5. Limited domestic financing options for renewable energy projects
Mitigation: Develop a green bond market. Implement innovative financing mechanisms such as blended finance and de-risking strategies such as partial risk guarantees. Establish a dedicated renewable energy fund for financial support and risk mitigation.

6. Underdeveloped domestic renewable energy supply chain

Mitigation: Implement policies to support the development of a local renewable energy manufacturing sector. Review and refine local content policies to balance domestic industry (SME) promotion with foreign investment attraction.

The study has identified several factors affecting the environment for foreign investment into renewable energy in Uzbekistan, both positive and more challenging.

Strengths:

1. Strong government commitment and ambitious renewable energy targets, also motivated by reducing reliance on fossil fuels.
2. Recent, material reforms have improved the investment climate.
3. Fast-paced development of supportive regulatory framework (may be perceived complex)
4. Abundant renewable resources, particularly in wind and solar energy.
5. Dedicated institutions, like UzIPA (with limited capacity), to facilitate FDI and implement one-stop-shop.
6. Growing interest from international investors.
7. Relatively well-developed technical workforce.
8. Active involvement of domestic EPC and O&M companies as RE sub-contractors.
9. Cooperation with international organisations, IFIs and MDBs.
10. Participation in investment fora and events to promote its RE sector.
11. RE investment ecosystem is second-best in CA, indicating significant potential.

Weaknesses:

1. High dependence on natural gas and coal. May create inertia against rapid RE adoption. Some institutions may have limited expertise in renewables.
2. Complex regulatory environment and regulatory inconsistencies due to fast-paced development. Potential variations in policy implementation across government bodies.
3. Multiple entities involved in RE development may lead to overlapping responsibilities, with bureaucratic coordination issues. Navigating regulatory landscape can be challenging.
4. Low energy tariffs can make it challenging for renewable projects to compete economically.
5. Limited options in large-scale domestic RE financing. Reliance on IFIs and MDBs.

6. Aging grid infrastructure not optimised for variable renewable energy. Transmission losses and congestion in certain areas.
7. Some local content requirements may potentially hamper foreign investment.
8. Shortage of specialised expertise in certain renewable energy technologies.
9. Insufficient standards and practices for ESIA and mitigating measures.

Opportunities:

1. Rapid growth potential in solar and wind sectors
2. Development of green bond markets and innovative financing mechanisms
3. Expansion of smart grid infrastructure to support renewable integration.
4. Implementation of energy storage solutions to mitigate grid instability and peak loads.
5. Increased regional energy cooperation and trade
6. Development of a national hydrogen strategy

Threats:

1. Economic volatility affecting investment stability
2. Competition from traditional fossil fuel industries
3. Climate change impacts on renewable energy infrastructure
4. Frequent regulatory changes affecting investor confidence
5. Regional geopolitical tensions

Implications for Policy Areas:

1. Energy Market Organisation: Consider making its energy regulator(s) more independent from the Government, and accountable to an alternative state body. Strengthen IPA and improve coordination among government entities to facilitate fast project implementation.
2. Sub-Sector Strategies: Enhance long-term renewable energy strategy, by including specific, clear and consistent targets and implementation plans for each RE sub-sector.
3. Regulatory Streamlining: Simplify regulatory environment to make it more consistent, robust, and easier to navigate for foreign investors. Could include establishing a dedicated RE regulatory body to ensure consistent policy implementation across government entities.

4. Grid Modernisation: Invest in upgrading transmission capacity and implementing smart grid technologies to better integrate renewable energy sources and implement energy storage strategy and solutions (BESS), including their regulatory and technical specifications.
5. Market Reform: Continue reforms for a more efficient and competitive energy market, incl. phased reduction of fossil fuel subsidies to level the playing field for RE and gradual adjustments to energy tariffs to reflect real costs, while protecting vulnerable consumers.
6. Financial Incentives and De-risking: Establish dedicated RE fund to provide financial support and risk mitigation for foreign investors. Develop green bond market for sustainable finance. Introduce innovative financing mechanisms like blended finance, results-based financing and partial risk guarantees to mitigate investor risks. Implement a green certification system/taxonomy to attract environmentally conscious investors.
7. Investment Promotion Program: Organise and implement the investment promotion programme (IPP) described in the Research Report. In IPP, Develop the capacity of the IPA, particularly in handling investment queries, by strengthening their ability to understand renewable energy technologies through dedicated training programs. In addition, prepare pre-investment promotional materials and manuals to guide small & medium investors in exploring diversified RE technologies, such as biomass etc.
8. Project Competition: Strengthen the competitive tender system for large-scale RE projects to make it more holistic and transparent and seek broader involvement of IFIs.
9. Local Content and Supply Chain: Review and refine local content policies to balance domestic industry promotion with foreign investment attraction. Support the development of a local renewable energy manufacturing sector.
10. Skill Development: Develop targeted education and training programs to address skills gaps in the renewable energy sector. Create partnerships with international institutions and industry leaders to offer specialised renewable energy training programs.
11. International Cooperation: Enhance collaboration with IFIs, MDBs and development agencies to leverage their expertise and financial resources in supporting RE projects.
12. Climate Adaptation Strategy: Develop a comprehensive strategy for climate change adaptation in the energy sector to ensure long-term sustainability of RE investments.
13. Environmental and Social Standards: Develop and implement stronger standards for ESIA and mitigating measures specific to RE projects and a comprehensive stakeholder engagement strategy to ensure community support.
14. Regional Cooperation: Enhance regional cooperation in energy trade and joint infrastructure initiatives to maximise Uzbekistan's renewable resource potential.
15. Technology and Innovation Support: Increase state support for R&D in RE technologies, strengthen national RE centres and foster a culture of innovation and entrepreneurship by encouraging international partnerships to facilitate knowledge exchange.

16. Data Accessibility: Improve the accessibility and transparency of data related to all renewable energy resources and grid infrastructure to aid in investment decision-making.

Attachment

Key Determining Factors of Ecosystem for Investment into Renewable Energy in Central Asia

1. Government Commitment & Institutional Support
2. Regulatory Framework & Policy Environment
3. Market Conditions & Potential
4. Investment Promotion Agencies
5. Resource Availability & Transparency
6. Grid Infrastructure
7. Market Access
8. Investment protection
9. Financial Environment
10. In-country Skilled Workforce
11. Project Developers & EPC Companies
12. Public-Private Partnerships (PPPs)
13. Environmental & Social Factors, Stakeholder Engagement
14. Technology & Innovation
15. Regional Cooperation