



CENTRE FOR REGIONAL
POLICY & DIALOGUE



A Collective Call for Decentralised Solar Energy in Pakhtunkhwa

Seminar Report



Centre for Regional Policy and
Dialogue (CRPD)

9 September 2026

A Collective Call for Decentralised Solar Energy in Pakhtunkhwa

Seminar

**Topic: Energy Crisis in Pakhtunkhwa: Review of Solar Energy as
Green & Sustainable Solution**



Seminar © 2026 Centre for Regional Policy & Dialogue (CRPD)

The report is open for downloading and reference purpose only. The rights of republishing, reproducing the report or some of its parts, are reserved by the publisher

Published by Centre for Regional Policy & Dialogue (CRPD)

Contents

About Centre for Regional Policy & Dialogue (CRPD)	3
Activity Overview and Key Discussion Areas	4
Welcome Address by Mehran Wazir.....	4
Environmental Perspective by Eng. Fouzia Rafiq	5
Technical and Economic Perspective by Dr Adnan Dawood	6
Political and Governance Perspective by Sardar Hussain Babak	Error! Bookmark not defined.
Main Discussion Findings	7
Conclusions and Recommendations	8
Follow Up	9
Conclusion	9



About Centre for Regional Policy & Dialogue (CRPD)

The **Centre for Regional Policy & Dialogue (CRPD)**, based in Islamabad, is a specialized research and advocacy institution committed to promoting peacebuilding, democratization, and inclusive social processes in South and Central Asia, with a particular focus on the **borderlands of Pakistan and Afghanistan**. CRPD is also advocating for renewable and green energy alternatives Khyber Pakhtunkhwa.

In a region where **geopolitical interests and security-centric policies** often dominate, the vital need for **people-to-people connectivity** and **civil society collaboration** has been systematically undermined. This dynamic has contributed to shrinking public spaces, weakened democratic culture, suppression of transnational and regional cultural exchange, and growing insecurity for activists and communities seeking peace. Against this backdrop, CRPD positions itself as a platform that “**connects the disconnected**” by fostering linkages between civil society networks, peacebuilders, and democratic voices inside and across borders of countries, particularly in the landscape of borderland ecology.

In a province rich in hydropower, solar potential, and mineral resources, the need for affordable, reliable, and locally controlled energy has been persistently overlooked. This dynamic has contributed to chronic electricity shortages, overdependence on a centralized grid, high taxes on batteries and energy storage, and reduced productivity and income for households, small businesses, and women in particular. Against this backdrop, CRPD positions itself as a platform that advances renewable and green energy alternatives in Khyber Pakhtunkhwa by bringing together civil society, academics, communities, and policymakers to promote decentralized solar and storage solutions, local manufacturing, and informed public advocacy for a sustainable energy future.

Activity Overview and Key Discussion Areas

The Centre for Regional Policy & Dialogue (CRPD) organised an advocacy seminar at the Peshawar Press Club on 9 September 2026, titled **Energy Crisis in Pakhtunkhwa: Review of Solar Energy as Green & Sustainable Solution** to examine the persistent energy crisis in Pakhtunkhwa and explore decentralised solar energy, supported by Battery Energy Storage Systems (BESS), as a practical and sustainable response. The seminar brought together political, engineering and academic perspectives to examine challenges related to energy access, affordability, governance, distribution and the environmental implications of the province's current energy pathway.

Despite its substantial energy resources, particularly hydropower potential, many households, businesses and public institutions across Pakhtunkhwa continue to face unreliable electricity supply, limited access and high costs. Against this backdrop, the seminar sought to examine the underlying causes of these persistent gaps and to consider an energy approach centred on affordability, resilience, local access and meaningful provincial decision-making. Particular attention was given to the limitations of relying predominantly on large, centrally managed power projects and to the potential of distributed solar energy combined with storage. The discussion also aimed to strengthen public dialogue on the province's role in energy generation, transmission and distribution, as well as the use of energy revenues.

The proceedings developed as an integrated discussion of the political, technical, environmental and economic dimensions of the energy crisis. While speakers approached the issue from different professional perspectives, the discussion broadly converged on the view that expanding generation capacity alone would not resolve energy deprivation in the province. Sustainable improvement would also require greater attention to governance, transmission and distribution systems, energy storage, affordability and local access, alongside a more decentralised and locally responsive energy framework.

Welcome Address by Mehran Wazir

Mehran Wazir, CEO CRPD opened the session by welcoming the guests and participants and briefly highlighted the broader political situation and the politics of energy in Khyber Pakhtunkhwa. He noted that the province is increasingly witnessing a transition towards solar energy, with households and communities already adopting solar solutions and preparing themselves for a shift away from conventional energy sources. He emphasized that this growing adoption now needs to be supported by proper planning, coherent policies, and effective institutional mechanisms.



In this context, he highlighted the role of the Energy Steering Committee as an important platform for bringing stakeholders together and developing a more coordinated approach to addressing the province's energy challenges.

The discussion then focused on the major energy problems facing Khyber Pakhtunkhwa, including the continued dependence on fossil fuels and the associated economic and environmental challenges. Green energy was discussed as an alternative pathway for addressing these challenges and developing a more sustainable energy system for the province.

Mehran also discussed the limitations of the current centralized energy model, particularly the emphasis on large dams and transmission evacuation infrastructure. He emphasized that a more decentralized approach is needed to ensure that energy solutions reach communities and consumers more effectively. Decentralization, supported by proper planning and policy development, was identified as an important part of the way forward.

He further emphasized that while solar energy provides an important part of the solution, solarization alone is not sufficient. To make solar energy more reliable and effective, it needs to be complemented by Battery Energy Storage Systems (BESS). The integration of solar with storage, therefore, should form an important component of Khyber Pakhtunkhwa's future energy planning.



Environmental Perspective by Eng. Fouzia Rafiq

Engineer Fouzia Rafi highlighted the growing role of solar energy in Khyber Pakhtunkhwa, noting that despite the limited presence of government-backed solar projects, people are increasingly adopting solar solutions independently and connecting to solar systems on their own. She emphasized that this demonstrates a strong demand for decentralized energy solutions at the community and household level.

She also highlighted persistent transmission and power-quality issues across Khyber Pakhtunkhwa, which continue to affect the reliability and quality of electricity available to consumers. In this context, she identified solar energy as one of the most viable solutions for the province, particularly given the existing challenges within the centralized electricity system.

Fouzia also raised concerns regarding the environmental impacts of large hydropower projects. She noted that these projects can affect riverbeds and fisheries, while such impacts are, in her view,



not adequately reflected in Environmental Impact Assessment (EIA) or feasibility reports. She further highlighted concerns regarding changes to riverbeds resulting from large hydropower projects and their potential implications for seismic vulnerability.

The discussion also brought attention to the gendered impact of energy insecurity. Fouzia noted that the unavailability and unreliable supply of electricity make women's lives in the region more difficult, particularly where households depend heavily on electricity for everyday activities and responsibilities.

She concluded that while solar energy alone cannot provide a complete solution, its effectiveness can be significantly enhanced when combined with Battery Energy Storage Systems (BESS). She emphasized the need to consider solar and storage together as part of a more reliable and decentralized energy system for Khyber Pakhtunkhwa.

Technical and Economic Perspective by Dr Adnan Dawood

Dr. Adnan Dawood drew a comparison between the earlier exploitation of natural gas through the expansion of CNG and the current approach to hydropower development. He argued that, in a similar manner, hydropower resources are being exploited while the province continues to bear significant associated costs.



Referring to annual energy reports, which he noted are approximately 85% accurate, Dr. Dawood highlighted the rapid growth of solar energy and observed that solar adoption is increasingly becoming a major trend in the energy sector. He also emphasized the employment and job-creation potential of the solar sector, particularly as solar deployment expands across communities and households.

He noted that wind energy potential in Khyber Pakhtunkhwa is relatively limited, making it less significant as a province-wide alternative compared with solar. He also highlighted the high maintenance costs associated with large dams, raising questions about their long-term economic sustainability.

Dr. Dawood emphasized that solar energy is reliable and is likely to become an increasingly important, potentially dominant, source of energy in the coming years. He stressed the importance of moving towards decentralized energy generation, referring to India's experience as an example of how decentralized approaches can expand access and reduce dependence on highly centralized systems.

Concluding his remarks, he emphasized that energy is a fundamental pillar of the economy and that decisions regarding energy production, distribution, and governance therefore have direct implications for economic development and livelihoods.

Political and Governance Perspective by Sardar Hussain Babak

Sardar Hussain Babak focused his remarks on the realities of energy production in Pakhtunkhwa and the extent to which the province benefits from its own energy resources. He highlighted the

contradiction between Pakhtunkhwa's substantial energy production and its continued energy challenges, particularly the situation in which the province has significant generation capacity but limited ability to consume and benefit from the energy produced within the province.

He discussed the centralised nature of the existing electricity grid, noting that transmission systems and infrastructure remain major constraints. He also pointed to the outdated condition of transmission lines and highlighted the broader social and governance challenges associated with a highly centralised energy system.

The discussion also addressed challenges associated with large hydropower projects, including questions surrounding how the energy generated through these projects is transmitted, distributed and utilised. In addition to electricity generation, Babak highlighted the potential and challenges surrounding oil refineries in the province, particularly the Attock and Karak oil refineries, as part of the broader discussion on Pakhtunkhwa's energy resources, energy economy, and the structural issues affecting the management and utilisation of these resources.

He further emphasised that terrorism and security challenges remain important factors affecting energy infrastructure, investment and the implementation of energy projects in Pakhtunkhwa. He stressed that these security considerations need to be taken into account when developing realistic and sustainable energy policies for the province.

Main Discussion Findings

The discussion showed that Khyber Pakhtunkhwa's energy crisis cannot be explained by a shortage of natural resources alone. The province generates electricity and possesses further hydropower potential, but consumers continue to face unreliable supply. The gap between resource availability and public access points to weaknesses in governance, transmission, distribution and the allocation of decision-making authority.

Speakers agreed that large hydropower projects will remain part of the provincial energy mix, but they questioned an approach that relies on them as the principal response to immediate shortages. Such projects often require long construction periods, substantial external financing and extensive land. Their electricity must also move through centrally managed transmission systems, while nearby communities may experience environmental and social costs without receiving a proportionate improvement in supply.

Distributed solar power was presented as a complementary and more immediately deployable option. Because systems can be installed close to consumers, they can serve homes, schools, health facilities, farms and small and medium sized enterprises without waiting for major grid projects. This advantage is particularly important in remote or underserved areas where conventional grid extension is technically difficult or economically unviable.



At the same time, the seminar cautioned against treating the installation of solar panels as a complete solution. Battery storage is necessary to meet demand after daylight hours, and effective distribution infrastructure is needed to connect users and manage supply.

The discussion ultimately linked energy reform with provincial development. Participants maintained that the province's resources should contribute directly to local public services, employment, enterprise and household welfare.



Conclusions and Recommendations

The seminar concluded that the province should move beyond a narrow choice between hydropower and solar. A balanced strategy can retain existing generation assets while rapidly expanding decentralised solar power, battery storage and locally responsive transmission and distribution systems.

- Develop a provincial energy strategy centred on affordability, resilience, universal access and accountable decision making.
- Prioritise distributed solar systems with battery storage for underserved communities and essential public services.
- Strengthen provincial influence over generation planning, transmission priorities, local distribution and the use of energy revenues.
- Integrate environmental and social safeguards into decisions on large energy infrastructure.
- Support households, farmers and local enterprises through clear regulations, financing options and technical standards for solar and storage systems.
- Sustain dialogue among policymakers, technical experts, political representatives, civil society, media and affected communities.

Follow Up

CRPD will continue to convene civil society, policymakers, experts and communities to advance informed dialogue on sustainable development, energy security and democratic governance in Khyber Pakhtunkhwa. Future engagement will focus on translating the seminar's recommendations into practical policy discussion and public advocacy.



Conclusion

The seminar underscored decentralised solar energy as a key opportunity for addressing Pakhtunkhwa's persistent energy challenges. With growing community and household adoption, solar power offers a practical and locally accessible alternative that can improve energy reliability, particularly in underserved areas. However, its full potential depends on integrating solar with Battery Energy Storage Systems, strengthening distribution infrastructure, and establishing supportive policy, financing and technical frameworks. A sustained shift towards decentralised solar energy can therefore contribute not only to energy security but also to more resilient, affordable and locally responsive development in Pakhtunkhwa.

