

Prospects and Challenges of Power Sector in Khyber Pakhtunkhwa:

The Post 18th Amendment Era and the Way Forward

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Abstract

The 18th amendment to the 1973 Constitution restored the true spirit of the federation and catered for political, fiscal, and administrative decentralization to fulfill long outstanding demands for provincial autonomy. Articles 157(1), 161(1), and 172(3), under the 18th amendment, are enabling provisions that provide the provinces with ownership and use of the local energy resources to fulfill the energy needs of its people. KP has 110 million barrels of oil and 1,282 million cubic feet of gas reserves, as well as a vast renewable energy potential including a hydropower potential of 30,000MW. However, despite the constitutional provisions under the 18th amendment and its abundant natural resources, the Government of Khyber Pakhtunkhwa (GoKP) has not performed well, thus far, in the generation, transmission, and distribution of electricity within the province. Except for adding 190MW of hydropower, community-based relief measures like the installation of 321 mini-micro hydro powers in far-flung areas, no visible and tangible results have been seen when compared to other provinces, especially Punjab. This study aims to analyze the impeding challenges facing GoKP in the power sector and suggests a way forward to overcome these challenges. The study utilized a mixed methodology for data collection and analysis. Both primary and secondary data were collected in this regard. The challenges faced by GoKP in the power sector stem from limited HR capacity and expertise, security concerns of investors, low priority and commitment, and poor

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financial management. Besides, there are a host of unresolved issues with the federal government (FG) like the constitutional and legal deadlock regarding the interpretation of the amended articles under the 18th Amendment, ineffectiveness of the Council of Common Interests (CCI), Net Hydel Profit (NHP), levy of Federal Excise Duty (FED) on oil and gas, and imposition of income tax on power projects. The internal inadequacies and issues with the FG can be tackled by creating a provincial task force for developing a strategy to effectively engage the FG, follow up with the Council of Common Interests, raise KP's concerns through special committees of the provincial and federal legislatures, and coordinate with other provinces for jointly taking up the matter with the FG. Furthermore, organizational restructuring of the energy and power department and its subordinate offices on corporate lines, the establishment of an oil and gas development fund on the pattern of HPF, and the establishment of Khyber Pakhtunkhwa Transmission and Grid Company Limited (KPT&GCL) should be undertaken in order to overcome the impeding challenges.

Keywords: *power, gas, Government of Khyber Pakhtunkhwa.*

1. Introduction

The 21st century has witnessed decentralization of governance from national to sub-national and lower levels across the globe. Naturally, the primary objective to such moves are to empower federating units and improve governance (White, 2011). One of the most focused areas of decentralization across the world is the power sector. Hence, the share of decentralized power generation in the global energy market has increased over a period of time. For example, Denmark and Sweden produce half of their electricity from decentralized power systems. Similarly, other European countries like Austria, Finland, Germany, Italy, and Spain, have decentralized energy systems (Doczekal, 2019). The decentralization of the power sector in these countries has led to improvement in the overall production and consumption pattern of electricity.

Under the 1973 Constitution, Pakistan has a federal form of government with the distribution of legislative, executive, administrative, and fiscal powers between the central government and the federating units. The distribution of power(s) between the federal and provincial governments has been a contentious issue. As a result, there has been a consistent demand by the provinces for expanding the scope of provincial autonomy. Keeping in view provincial demands and changing political and economic paradigms of governance, under the 18th amendment the FG expanded the political, fiscal, and administrative space of provincial jurisdiction. This has led to a change in the structural contours of the federation from highly centralized to adequately decentralize one (Shah et al., 2021).

The 18th amendment also addressed the highly contested issue of ownership of



natural resources by giving equal shares of the oil, gas, and water, to the provinces. Furthermore, the FG is required to consult the provincial governments before construction of hydropower projects. These enabling provisions have empowered provincial governments including KP with a mandate as well as a responsibility to meet energy demands of its people. The KP province is gifted with tremendous natural energy resources which are not only adequate to meet the power needs of the provinces but also have the potential to earn huge revenues for the economic development of the province. Hence, the 18th amendment has provided KP with an opportunity for prosperity and economic development of the province.

1.1. Statement of the Problem

There is a lingering debate that despite its abundant hydropower potential and other energy resources, the GoKP has yet to show any performance in the power sector, in spite of the lapse of 12 years since promulgation of the 18th amendment. The province is lagging behind in power generation, transmission, and distribution. It is therefore imperative to analyze the impending challenges faced by the provincial government in the power sector and to ascertain the prospects of success in this regard. It is also important to suggest a way forward to cope with the challenges in order to realize the economic development of the province.

1.2. Scope

This study analyzes the performance of the GoKP in general and the Energy and Power Department (EPD), its subordinates/attached offices in particular. The study covers the five articles (153, 154, 157, 161, &173) of the 1973 Constitution amended under the 18th amendment that have bearing on the power sector in KP. The main focus of the study is analyzing the challenges faced by the provincial government in the power sector and to suggest corresponding policy options as a way forward. The study is limited to the post-18th amendment era i.e. 2010-2022 and is restricted to power generation through KP's own efforts under the Pakhtunkhwa Energy Development Organization (PEDO); it does not cover federal entities like WAPDA. The study is further limited by time and data availability.

2. Literature Review

Extensive literature is available on the energy and power sector of Pakistan. Qazi & Mirza (2018) have undertaken a detailed analysis of the power sector in Pakistan Undoubtedly detailed and comprehensive as it is, this analysis does not cover the 18th amendment and its impact on the power sector. Furthermore, the study does not cover all aspects of the energy mix i.e. hydro, solar, and wind.

Robert Bacon in his working paper has analyzed power sector reforms in Pakistan (Bacon, [2019](#)). This paper also ignores the constitutional reforms under the 18th amendment and does not take into account the power generated by provinces and transmitted into the national grid, hence the paper lacks a holistic approach. Another analysis paper titled Pakistan Electric Power System, co-authored by Shakeel Khan and Hafiz Farhan Ashraf, is a good attempt to present the generation, transmission, and distribution of the power sector in Pakistan. (Khan & Ashraf, [2016](#)) Although the paper covers the energy mix comprehensively, yet the issues and challenges faced in the energy and power sector are restricted to technical and operational aspects only without addressing the cross-cutting issues faced by Pakistan in the power sector. In a nutshell, literature on the energy and power of Pakistan is extensive, yet studies on power sector analysis in the post-18th amendment era of the country in general and Khyber Pakhtunkhwa, in particular, are limited.

The KP province is blessed with tremendous hydropower and renewable energy resources (Ijaz & Farouqi, [2019](#)). The 18th amendment has provided an opportunity for the province to tap into available resources, but, at the same time, it has cast a grave challenge to the provincial government to meet the energy needs and expectations of its people (Zia, [2021](#)). The power sector dynamics in Pakistan have transformed after the 18th amendment in 2010. Extensive literature is available on political, administrative, and fiscal aspects of devolution. However, there is a dearth of literature on the power sector in KP in the post-18th amendment period. Limited studies covering the power sector after the 18th amendment and related issues are available. Two studies in this regard are worth consideration. The first has been contributed by Mr. Himayat Ullah Khan, the former Adviser to Chief Minister Khyber Pakhtunkhwa on Energy and Power. His book i.e. *Minimum Common Economic and Political Agenda for Khyber Pakhtunkhwa (Part I)*”, is an excellent narrative of the challenges faced by the province in the power sector (Khan, [2021](#)). The author has also suggested a way forward to overcome the challenges. Another relevant study has been conducted by Mr. Akhtar Ali Shah, former Home Secretary and Inspector General of Police,

KP (Shah et al., [2021](#)). His study explores the impact of the 18th amendment on the functioning of the province and covers financial and legal aspects of the devolution and its impact on the province. These two studies do cover the important parts, yet a comprehensive study, covering all important aspects like the constitutional framework of the power sector in the post-18th amendment, energy potential in KP, reforms initiatives of the provincial government, analysis of critical issues and challenges and the corresponding policy options as a way forward is a manifest research gap. The intention of this paper is to fill the said research gap.



3. Research Methodology

The study utilized a mixed methodology i.e. both quantitative and qualitative methods. The quantitative method was used for the collection of budget, expenditure, and receipts data appearing in Annual Appropriation Accounts, financial statements, and audit reports for carrying out a trend analysis. The qualitative method was used for the analysis of available studies and reports. In addition, comparative analysis technique has been used for performance analysis of the Khyber Pakhtunkhwa Energy and Power Department (KPEPD) as compared to other provinces. For the study, both primary and secondary data were collected by conducting interviews with officials, review of business plans, performance reports, financial statements, audit reports, newspapers and journal articles, reports of national and international organizations, and internet sources. Two semi-structured interviews were conducted for the research. One Planning Officer i.e. tactical level and one senior management level officer of the KPEPD were selected for the interview to take a broader picture. The interview was conducted with open-ended questions; important facts and figures were recorded on a note sheet. The data was later analyzed and incorporated into this paper.

3.1. Organization of the Paper

This report is divided into three sections with sub-sections. Sections I & II cover the prospects of the power sector in KP in the post-18th amendment era, whereas section III deals with the challenges faced by the provincial government in this regard. After the introduction, the paper proceeds with Section I. This section has two sub-sections. Sub-section 1 covers the amendments made in various articles of the 1973 Constitution under the 18th amendment relating to the power sector. Sub-section 2 covers an assessment of the KP energy potentials like hydro, oil and gas, coal, and renewable energy. Section II has two sub-sections. Sub-section 1 analyzes the key reform initiatives undertaken by KP government in the power sector since 2010. Sub-section 2 covers the performance analysis of the KP government in fulfilling the energy demands of its people. Section III deals with the prevailing challenges faced by the KP government in the power sector. Section III is followed by the conclusion and finally recommendations for short- and long-term measures to overcome the challenges faced by the GoKP in the power sector.

The prospects for success of an entity depend upon the legal framework and resource availability. It is therefore imperative to analyze these factors to assess the prospects of the power sector in Khyber Pakhtunkhwa in the post-18th amendment era.

3.2. The Constitutional Framework under the 18th Amendment.

The 18th constitutional amendment is a landmark achievement and second in significance to the formulation and adoption of the 1973 Constitution. The 18th amendment was promulgated on 20th April 2010. It incorporated 36 percent changes in the constitution and accordingly 102 out of 280 articles of the Constitution were either amended, added, substituted, or deleted. It redefined the entire structure of the federation politically, economically and legally (Shah et al., 2021). The most notable was the change in the Fourth Schedule, containing two legislative lists i.e. Federal Legislative List and the Concurrent Legislative List. The Federal Legislative List contained two parts. It is noteworthy that items in Part I are the exclusive domain of the FG. Items in Part II include subjects of shared interests between the federation and the provinces with a crucial role of the Council of Common Interest. The Concurrent List, containing forty-seven items, was abolished. Two items of the concurrent list i.e. electricity and legal, medical, and other professions were shifted to Part II of the Federal List. The remaining forty-four items were transferred to provinces as residual items (Rana, 2020).

3.3. Power Sector under the 18th Amendment

The following articles of the 1973 Constitution relating to the power sector were amended under the 18th amendment. The relevant clauses are reproduced below with bold portions highlighting the amended text.

3.4. Article 157 (Electricity)

1. The Federal Government may in any Province construct or cause to be constructed hydro-electric or thermal power installations or grid stations for the generation of electricity and lay or cause to be laid inter-provincial transmission lines
2. Provided that the Federal Government, prior to taking a decision to construct or cause to be constructed, hydro-electric power stations in any Province, shall consult the Provincial Government concerned.
3. In case of any dispute between the Federal Government and a Provincial Government in respect of any matter under this Article, any of the said governments may move the Council of Common Interests for resolution of the dispute.

3.5. Article 161 (Natural Gas and Hydro-Electric Power)

(1) notwithstanding the provisions of Article 78

- a) The net proceeds of the Federal duty of excise on natural gas levied at well-head and collected by the Federal Government, and of the royalty collected by the Federal Government, shall not form part of the Federal



Consolidated Fund and shall be paid to the province in which the well-head of natural gas is situated.

- b) The net proceeds of the Federal duty of excise on oil levied at the well-head and collected by the Federal Government, shall not form part of the Federal Consolidated Fund and shall be paid to the province in which the well-head of oil is situated.

3.6. Article 172 (Ownerless Property)

A new Clause (3) was added.

(2) "Subject to the existing commitments and obligations, mineral oil and natural gas within the province or the territorial waters adjacent thereto shall vest jointly and equally in that province and the Federal Government."

3.7. Articles 153-154 (Council of Common Interest)

Articles 153-154 dealing with the Council of Common Interest have also been amended under the 18th amendment. Article 153 provides that there shall be the Council of Common Interests (CCI) with the Prime Minister as Chairman of the Council, the Chief Ministers of all four provinces, and three persons from the Federal Government appointed by the Prime Minister from time to time. Furthermore, the Constitution made the Council of Common Interest accountable to the Parliament as the Council will submit an annual report to both houses of the parliament. Article 154 governs the procedures and functions of the Council. The article states that the Council shall formulate and regulate policies in relation to matters in Part II of the Federal Legislative List and shall exercise supervision and control over the related institutions. The Council shall be constituted within thirty days of the Prime Minister taking an oath of office. The amended Article 154 under the 18th amendment further lays down that there shall be a permanent secretariat of the CCI and the council shall meet once in every 90 days provided that the prime minister may convene a meeting on the request on an urgent matter.

An interpretation of the above amendments reveals that the power sector has not been fully devolved to provinces as electricity is included in Part II of the Federal Legislative List. Prior to the 18th amendment, electricity was in the concurrent list and both the federal and provincial governments could legislate on the subject. Under the 18th amendment, electricity has been placed in Part II of the Federal Legislative List, hence provinces can no longer legislate on the electricity subject. Some of the constitutional experts are, however, of the opinion that since Part II is the list of shared interests, therefore provinces including Khyber Pakhtunkhwa have due influence in the development of the power sector in the provinces. Furthermore, the role of CCI has been enhanced to handle the issues between the federal and provincial governments. The 18th amendment under Article 157(1) has provided reassurance to the provinces

that the federal government shall consult the provincial government before any decision on the construction of any power project or transmission line in the respective province. Furthermore, Article 161(1) and Article 172 (3) under the 18th Amendment addressed the shared ownership of natural resources, which was a contested subject between the center and small provinces. All these provisions under the 18th amendment have provided an opportunity for the GoKP to reap its natural endowments and fulfill the energy needs of its people.

3.8. The Natural Endowments of Khyber Pakhtunkhwa

Prospects of success in any sector depend on the availability of tangible and intangible resources and their prudent utilization thereof. Nature has generously gifted Khyber Pakhtunkhwa with precious and abundant natural resources which have tremendous energy and power potential. A bird's eye view of the province's energy resourcefulness is presented below

3.9. Hydropower Potential

The KP province is bestowed with immense hydropower potential due to its unique topography and abundantly rich rivers such as Indus, Kabul, Chitral, Kunhar, Tochi, Kurram, Siran, and Panjkora (P&D, n.d.). Khyber Pakhtunkhwa is strategically located with its boundary touching Gilgit Baltistan and Azad and Jammu Kashmir on its northern side, making it a hub of hydropower of the country (Ijaz & Farouqi, 2019). Khyber Pakhtunkhwa has around 142 hydropower potential sites with small, medium, and high heads (Sibtain et al., 2021). The province has an aggregate power potential of approximately 30,000 MW which is 50% of the national hydropower potential. Besides the abundant hydro resources, the topography of the province is supportive with reasonable gradients and v-shaped valleys, making the natural terrain suitable for building tunnels, dams, and development works for hydropower development (P&D, n.d.).

3.10. Oil and Gas Reserves

Khyber Pakhtunkhwa has abundant oil and gas reserves, making it the new geological frontier with an exploration success ratio of 1:2.8 and reservoirs with huge calorific value (KPOGCL, 2015). The province has emerged as the largest oil-producing province in Pakistan with nearly fifty percent of national production. Abundant deposits of oil and gas were discovered in Hangu, Karak, and Kohat, districts. The province has proven oil reserves of 110 million barrels and gas reannual production would be serves of 1,282 million cft (P&D, n.d.). Currently, Khyber Pakhtunkhwa is producing 43,000 barrels of oil, 430 million standard cft of gas, and 823 metric tons of LPG on daily basis from two out of its twenty-eight blocks (P&D, n.d.). As per KPOGCL, the expected production of oil in 2025 is 135,000 barrels per day, in addition to 2000 million cft of gas per day (KPOGCL, n.d.). Further new blocks are planned to be



explored in the Newly Merged Areas with 4.5 billion barrels of oil and 20 TCF of gas (P&D, n.d.). The province still holds good for new discoveries especially in Peshawar and Kohat Basins, keeping in view the successful exploration by OGDCL in these areas. Most parts of Khyber Pakhtunkhwa are yet to be explored and there is a huge potential in this regard (P&D, n.d.). The Government of Pakistan is carrying out exploration of oil and gas in an area of 144,200 square kilometers, out of which, 19,100 square kilometers is in KP, which comes to 13.15% (KPOGCL, n.d.).

3.11. Renewable energy potential

KP possesses a huge potential for renewable energy including solar, wind, and biomass. The average solar radiation of the province is estimated to be 4.99 kwh/m² /day (Ijaz & Farouqi, 2019). Within the province, Mardan receives the highest and Chitral receives the lowest solar radiation. According to a World Bank study, KP has the potential of generating around 400 MW of solar and wind energy by 2030 (P&D, n.d.). A US-based study assessed that KP has an estimated solar potential of around 351,970 MW (PEDO, 2021). The province has also a biomass energy potential. KP has an estimated livestock population 43 million head which includes goats, cows, sheep, and buffaloes (P&D, n.d.). Biogas can be produced from these animals' waste, serving heating and cooking purposes. The province also has a wind energy potential as well. Wind potential exists in a few districts like Haripur, Malakand, and Buner. Wind energy so produced can easily provide electricity to villages and communities in these districts (Ijaz & Farouqi, 2019).

While on the one hand the 18th amendment fulfilled a long-awaited demand for provincial autonomy, at the same time, it assigned greater responsibility to provinces to handle the devolved functions effectively. It is therefore imperative to enlist the reforms initiatives in power sector and to assess the performance of the Government of Khyber Pakhtunkhwa (GoKP) in this regard.

3.11.1. Reforms Initiatives in the power sector

The GoKP, being cognizant of its responsibilities in the post-18th amendment era, has taken the following reforms initiatives in this regard.

3.11.2. Streamlining of Energy and Power Department.

The Energy and Power Department, being the custodian of the power sector, was the prime focus of the GoKP in the post-18th amendment era. With the expansion in the scope of activities of the Energy and Power Department, GoKP created new posts of one Special Secretary, two Additional Secretaries, one Chief Planning Officer, two Senior Planning Officers, two Deputy Secretaries, and three Section Officers with proper job descriptions and KPIs (Government of Khyber Pakhtunkhwa, n.d.).

3.12. Establishment of Pakhtunkhwa Energy Development Organization (PEDO).

In 2013, the provincial government renamed the erstwhile Sarhad Hydrel Development Organization (SHYDO) as Pakhtunkhwa Hydrel Development Organization (PHYDO). Later on, it was renamed as Pakhtunkhwa Energy Development Organization (PEDO) under the PEDO Act 2014. The main objectives of PEDO are to provide the least cost power generation, encourage private sector investment, and ensure the fast-track development of power projects (PEDO, 2021) PEDO undertook a number of initiatives including hydropower and solarization projects.

3.13. Establishment of KP Transmission and Grid Company

Khyber Pakhtunkhwa suffers from a locational disadvantage while transmitting its generated power due to its long distance from the national grid (Khan, 2021). In order to overcome the challenge and ensure smooth transmission and distribution of power from PEDO projects, the provincial government approved establishment of KP Transmission & Grid Company (KPT&GC) with an authorized capital of PKR 100 million to provide reliable and affordable electricity to the industrial sector of the province (Khan, 2021). KPT&GCL has been incorporated by the GoKP to develop a transmission line between Swat, Dir, and Chitral, for evacuating power from proposed hydro power projects in the provincial portfolio (PEDO, 2021). KPT&GCL is registered with the Security and Exchange Commission of Pakistan (SECP) and also obtained a PGC License from National Electric Power Regulatory Authority (NEPRA, n.d.) (KPOGCL, n.d.).

3.14. Establishment of Khyber Pakhtunkhwa Oil and Gas Company Limited (KPOGCL)

Keeping in view its abundant natural resources, the GoKP established KPOGCL in 2013. The company is not only entrusted with the responsibility to explore oil and gas reserves but also to act as a facilitator to energy and power companies. It is managed through a board of governors mostly from the private sector (KPOGCL, n.d.). After initial hiccups, GoKP hired a professional Chief Executive Officer and reconstituted the Board of Directors with professional members to place KPOGCL on a profitable track. The attempt was successful and KPOGCL has attracted reputed business partners in the field of exploration and production (T.Khan, personal communication, July, 2022).

3.15. Public Private Partnership initiatives

Public Private Partnership in the power sector is another milestone achieved by the Energy and Power Department. Some of the initiatives in this regard are



the 496 MW Lower Spat Gah hydropower project in district Kohistan with Korea Hydro and Nuclear Power Company (KHNP), and the 96 MW Batakundi Hydro Power Project in partnership with International Finance Corporation (IFC) (Government of Khyber Pakhtunkhwa, n.d.).

3.16. Mini Micro-Hydro Projects (off-grid projects)

Under PEDO Act 2020, the organization is mandated to undertake community-based off-grid power projects as per locally available sources. In phase I, 321 mini micro hydro plants of 29MW have been completed. In phase II, 400 mini-micro hydro plants of 40 MW would be completed by June 2026 (Government of Khyber Pakhtunkhwa, n.d.). For this purpose, PEDO associates community based organizations by supporting them in contracts signing for land acquisition, cost sharing, tariff determination and collection, accounting, and handing-taking over the projects (PEDO, 2021).

3.17. Collaboration with IFIs.

Two hydropower projects in Swat District at Gabral and Madyan are under execution by PEDO in collaboration with World Bank at a total cost of PKR 142 billion. Furthermore, the GoKP (KPEPD) has also initiated a number of hydropower projects in collaboration with the Asian Development Bank. A 300MW Balakat Hydro Power Project is under consideration (PEDO, 2021).

3.18. Solarization in Province

The GoKP (KPEPD) has launched a number of solarization projects including the solarization of the Civil Secretariat, Chief Minister Secretariat, and Chief Minister House. So far 5700 households and 300 mosques have been solarized under the project with a capacity of 2.8 MW which saves around 88 million per annum (PEDO, 2021). Due to progress in solar energy, Asian Development Bank has awarded PEDO with an “Excellence award” for one of its solar projects in June 2022 as the plant will generate 3.2 billion units of clean energy per annum (The Express Tribune, 2022).

3.19. Performance Analysis

The electricity consumption of the KP province is around 3200 MW in the peak season (June to September) and 1800 MW in off-peak months (Government of Khyber Pakhtunkhwa, n.d.). The electricity consumption in the province is gradually increasing by around 6-7% on yearly basis. Given the increasing trend, the electricity requirements would double in the next 15 years. The province, therefore, needs self-sufficiency to meet the energy needs of its people. It is imperative to assess the impact of the preceding reforms and the performance of the GoKP in power generation, transmission, and distribution.

3.20. Power Generation

PEDO was established in 2014 to lead power generation in the province and arrange investments for initiating power projects. PEDO's hydropower generation portfolio 2021-31 is 1,858.6 MW (PEDO, 2021). So far it has successfully completed seven projects. Three projects are near completion, two projects are under construction and four future projects have been envisioned. Till date PEDO has been able to complete 07 hydro and 321 mini-micro projects of 190 MWs.

Table 1.

List of completed projects (PEDO) [Source: (Government of Khyber Pakhtunkhwa, n.d.)].

S #	Project	Capacity	Year Completed	Cost in million PKR.	Revenue / year PKR million
	Malakand-III-Dargai	81 MW	2008	5,750	1730
	Pehur-Swabi	18 MW	2010	900	300
	Shishi-Chitral	1.87 MW	2010	286	10
	Reshun-Chitral	4.2 MW	1999	400	32
	Machai-Mardan	2.6 MW	2018	1,502	150
	Daral Khwar-Swat	36.6 MW	2019	8,493	1300
	Ranolia-Kohistan	17 MW	2019	5,249	462
	321 Mini Micro projects on canals (off-grid)	29 MW	2020	5,300	Community welfare initiative
	Total	190.27MW		27,880	3,984

Note: MW=megawatt, FY= for year, PKR=Pakistani Rupee

Pehur Hydropower Project is a pioneer wheeling of electricity project across the country

which auctioned its power to the industrial sector. PEDO has also initiated a number of other hydropower projects which are near completion. The detail of the projects is as under.

Table 2.

List of near completion project (PEDO)

S #	Project	Capacity	Status	Cost	Expected Revenues PKR/ year	Initial Timelines
	Jabori-Mansehra	10.2 MW	Near completion	3,798	669	FY 2021



Prospects and Challenges of Power Sector in Khyber Pakhtunkhwa

S #	Project	Capacity	Status	Cost	Expected Revenues PKR/ year	Initial Timelines
	Koto-Dir	40.8 MW	Near completion	13,998	2,466	FY 2022
	Karora-Shangla	11.8 MW	Near completion	4,320	814	FY 2022
	Total	62.8 MW		22,116	3,949	

Note: Source: (Government of Khyber Pakhtunkhwa, n.d.)

PEDO has also initiated projects of 153 MW which are under construction stage.

Table 3.

List of under-construction projects (PEDO) Source: (Government of Khyber Pakhtunkhwa, n.d.)

S #	Name of the Project	Capacity	Status	Cost	Expected Revenue PKR/year	Timeline
	Gorkin Matiltan-Swat	84 MW	Under Construction	22,000	3,650	FY 2023
	Lawi-Chitral	69 MW	-do-	20,087	3,538	FY 2025
	Total	153 MW		42,087	7,188	

Note: MW=megawatt, FY= for year

PEDO has also initiated the following projects of 930MW on public private partnership model.

Table 4

List of planned power projects under PPP Model Source: (Government of Khyber Pakhtunkhwa, n.d.)

S #	Name of the Project	Capacity	Status
	Lower Spat Gah	496 MW	In feasibility stage
	Batakundi	96 MW	In feasibility stage
	Naran	188 MW	In feasibility stage
	Private Sector1	150 MW	In feasibility stage
	Total	930MW	

Note: FY= for year

Additionally, PEDO has envisioned future projects of 551MW as per the following details

Table 5.

List of future projects (PEDO) Source: (Government of Khyber Pakhtunkhwa, n.d.)

S #	Name of the Project	Capacity	Timelines
1.	Gabral Kalam	88 MW	FY 2028
2.	Madian	157 MW	FY 2026
3.	Balakot	300 MW	FY 2027
4.	Mujahidin	6.5 MW	FY 2024
Total		551.5MW	

Note: MW=megawatt, FY= for year

3.21. Transmission and Distribution

Article 157 (2) mandates the provinces to establish transmission lines and distribution networks. KPT&GCL was established in 2019 and duly registered with the Security and Exchange Commission of Pakistan. The company has also received a license from NEPRA and currently the hiring of the Chief Executive Officer is in progress; recruitment of the technical staff shall follow accordingly. However, the company is yet to become functional (KPEPD, n.d). According to the 2017 census, KP is spread over an area of 101,741 square KM. By official estimates, a one-kilometer transmission line costs around PKR 20 million, and the total estimated cost of the provincial transmission lines including the provincial grid is around three trillion (KPEPD, 2022). This is a huge cost and beyond the available financial resources of the provincial government. Hence, the province has to rely on the National Transmission & Dispatch Company (NTDC) network till it successfully establishes its own transmission and distribution network.

3.22. Comparative Analysis with other Provinces

In order to assess the performance of the GoKP in the power sector, it is essential to compare its progress with the other provinces.

3.22.1. Punjab

After the 18th amendment, the Government of Punjab established its Energy & Power Department (EPD) in 2011 under the Additional Chief Secretary (Energy). Furthermore, the Punjab Power Development Board was established for the development of IPP-based power projects. Some of the other critical reforms include achieving energy efficiency through development and labeling of energy-intensive electric appliances, energy conservation building codes, energy audits, incorporation of the concept of energy efficiency and conservation in textbooks from grade 3 to 12 by Punjab Curriculum and



Textbook Board, and public-private partnerships for conservation.

3.22.2. Sindh

The Energy Department in Sindh is providing a one-window facility to investors for setting up renewable energy projects to add clean energy through indigenous resources. Energy Department Sindh issued 35 Letters of Intent (LOIs) to companies for the development of wind power projects with a total capacity of 2,485 MW which are at various stages. Sindh has taken an initiative to establish its own transmission and dispatch Company. The Sindh Transmission & Dispatch Company has successfully constructed the first ever transmission line with a 132 KV double circuit (95.47 km) capacity (NEPRA, n.d.).

3.22.3. Balochistan

The Energy Department, Government of Balochistan administers the power sector. The department is carrying out electrification of villages through Quetta Electric Supply Corporation as well as executing solar energy projects in the province. The construction of new grid stations has been proposed and included in the PSDP 2020-21. The schemes have been approved and work is in progress for the completion of new grid stations of 132KVA each in Pishin, Killa Abdullah and Quetta (NEPRA, n.d.).

Table 6.

Province-wise completed Power Projects in the post-18th amendment era (2010-22)

Province	Completed Projects	Nature of projects	of Power capacity	Project Cost (PKR)	Revenues PKR/year
Punjab	8	2 hydro, 4 solar and 2 thermal.	2961 MW	340 billion	71 billion
Sindh	16	12 wind and 4 thermal.	2590 MW	-	-
KP	7	7 hydro	190 MW	27.8 billion	3.98 billion
Balochistan	0	0	0	0	0

Note: Source: (T.Khan, personal communication, July, 2022)

The preceding discussion reveals that despite the enabling constitutional provisions under the 18th amendment, and its abundant natural and energy resources, the GoKP has not performed well in the power sector. The reform initiatives undertaken are yet to transform the power sector into an engine of growth and development and fulfill the energy needs of the province. The province has hardly been able to generate 191 MW of electricity which is just 8.5 % of its average monthly needs. There has been a time and cost over-run of

the power projects which has created doubts regarding the timely completion of the ongoing and envisaged projects. Comparative data in Table 6 reveals that KP is the second lowest performer in the power sector, only better than Balochistan, whereas Punjab and Sindh have performed relatively well. In nutshell, the performance of the GoKP in the power sector is not up to the mark. It is therefore imperative to analyze the impeding challenges faced by the GoKP in the power sector.

The GoKP faces a host of challenges in the power sector in the post-18th amendment era. Some of these challenges are as follows.

3.23. Constitutional and Legal Dichotomy

The 18th amendment has given rise to constitutional and legal issues among federal and provincial governments, especially regarding the constitutional articles governing the power sector (The Express Tribune, [2012](#)). Electricity is placed in Federal Legislative List Part II, whereas article 157, mandates the provinces in hydropower, thus creating legal and functional dichotomy in the power sector. Furthermore, there is a lack of consensus between the federal and provincial governments regarding interpretation of the constitutional provisions of the 18th amendment. For example, the words “may” and “consultation” in article 157 (construction of hydropower projects) have been differently interpreted by the federal and provincial governments at the same time. The Federal Government (FG) is of the view that these are directing and not mandatory provisions. The provincial governments, including GoKP, are of the opinion that consultation must be substantial and should not be done merely as a procedural formality (Ashfaq, [2017](#)). The dichotomy of legislative jurisdiction and the lack of consensus has created rifts between the federation and provinces and given rise to a host of legal and administrative issues in power sector.

3.24. Ineffectiveness of the Council of Common Interest (CCI)

The 18th amendment assigned a crucial role to the Council of Common Interest and elevated its status by giving extensive powers to it. No doubt, the CCI has resolved some long outstanding issues between the federal and provincial governments like royalty, Net Hydel Profit, and water distribution among provinces, but the council is yet to demonstrate its effectiveness in the power sector. Although a permanent secretariat has been established, the Council does not conduct regular meetings as constitutionally required i.e. within 90 days. Accordingly, pending matters keep on increasing. Furthermore, the FG has time and again bypassed the Council by taking decisions in the Cabinet. During the last PML (N) tenure, the Cabinet Committee on Energy and Economic Coordination decided on matters of shared interest like changes in gas prices and the newly explored oil fields in KP which should have been referred to the CCI instead (Khan & Khan, [2020](#)).



3.25. Centralized Transmission, Distribution, and Tariff Regimes

The GoKP has made some progress in power generation, yet it faces problems in evacuating power from the envisaged hydropower projects. The 18th amendment has devolved power generation to the provinces, however, the transmission of electricity continues to be controlled by NTDC. Given the inherent centralized nature of the transmission network, provinces including KP are dependent upon the goodwill of the NTDC. The GoKP faced stiff resistance from NTDC in Gorkin Matiltan Hydropower Project, when PEDO intended to connect the project to Daral Khwar Hydropower Project through a nearby transmission line. NTDC did not allow and ordered the use of an alternate transmission line. Furthermore, NTDC has refused to incorporate a number of hydropower projects of KP in its network expansion plan of 2025 (PEDO, [2021](#)). The start of Khyber Pakhtunkhwa Transmission and Grid Company is still awaited; hence the province has to rely on NTDC for the time being.

NEPRA has an overarching role in the power sector and has the exclusive authority to set the tariff for transmission, generation, and consumers. The tariff is fixed by the regulator through a regulatory process as set out in NEPRA Tariff and Standards and Procedures Rules 1998. The NTDC procures power generated from various sources under its pre-defined rates through Central

Power Purchasing Agency (CPPA). The tariff on the consumer part is also decided by NEPRA to recover the cost (Lodhi, [2010](#)). Such centralized regimes render the provincial governments, including GoKP, helpless to operate effectively in meeting the energy demands of their people.

3.26. Precarious Law and Order

Located on the Pakistan-Afghanistan border, KP not only got sucked into the Afghan conflict, it became the frontline in Pakistan's national strategy of dealing with this prolonged regional conflict. In the period following the Soviet invasion (1979-1988), the province was over-burdened with three million refugees and faced extreme lawlessness. The subsequent phases of the Afghan Civil War (1988-2001) and the post-9/11 situation triggered radicalization and extremism in the province leading to the emergence of a number of internal hotspots. This prolonged situation scared away any investment. Wealth started fleeing the province, businesses became unprofitable and entrepreneurship began diminishing (Nasim et al., [2015](#)). Energy and hydrocarbon sector are highly capital and technology-intensive, thus requiring external inflows of money and technology. International investment and expertise are, however, tied to the complete restoration of a peaceful environment.

3.27. Limited Capacity and Expertise of KP Energy and Power Department.

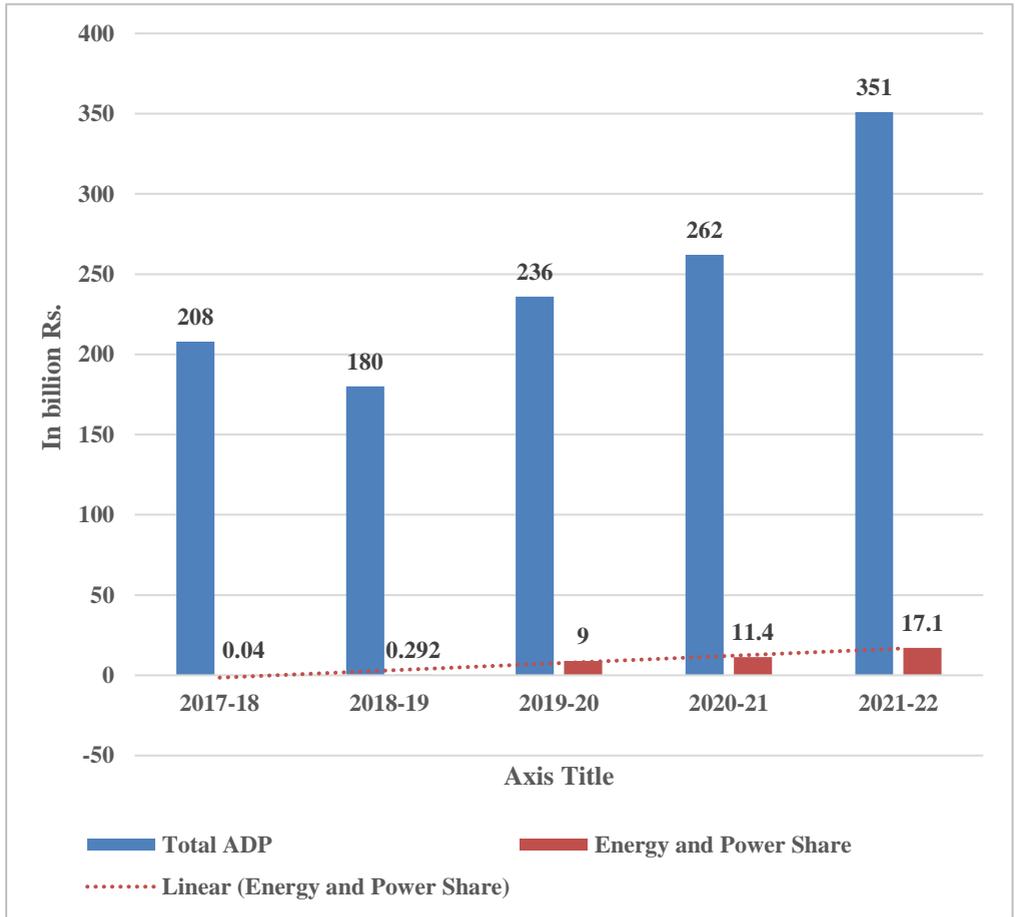
The power related subjects of generation, transmission, and distribution that were assigned to the provinces post-2010 are highly technical and require very professional and competent human resources. Unfortunately, the management of these functions became the responsibility of a few generalists and a group of unskilled support staff. The Energy and Power Department lacks key technical human resources who could handle the complex issues of power project design and implementation, power generation, tariff determination, transmission, distribution, and revenue collection. Similarly, there are no experts in the field of oil and gas for carrying out seismic surveys, and other exploration and production functions. The GoKP has created sectoral companies like PEDO and KPOGCL, but both these suffer from a variety of legal and institutional inadequacies. While experts from the market have been hired, they have faced numerous issues while coordinating with the provincial and federal institutions (Government of Khyber Pakhtunkhwa, n.d.).

4. Power Sector: A Low Priority in the KP Development Portfolio.

The success of infrastructure development in the power sector not only depends upon financial resources but the assignment of prioritization and commitment of the government. The 18th amendment was celebrated with great fanfare by GoKP. However, practical steps were either not taken in time or were limited. The power sector is yet to be given a priority in the development portfolio of the province. The share of EPD in the provincial Annual Development Programme (ADP) remained negligible for many years. Budget estimates for the last five financial years show that the provincial government increased the share of the development budget of the EPD from a paltry PKR 40 million in FY 2018-19 to PKR 17.1 billion in FY 2021-22 as shown in Fig.1.



Figure 1.
Share of Energy and Power Department in KP Annual Development Programs

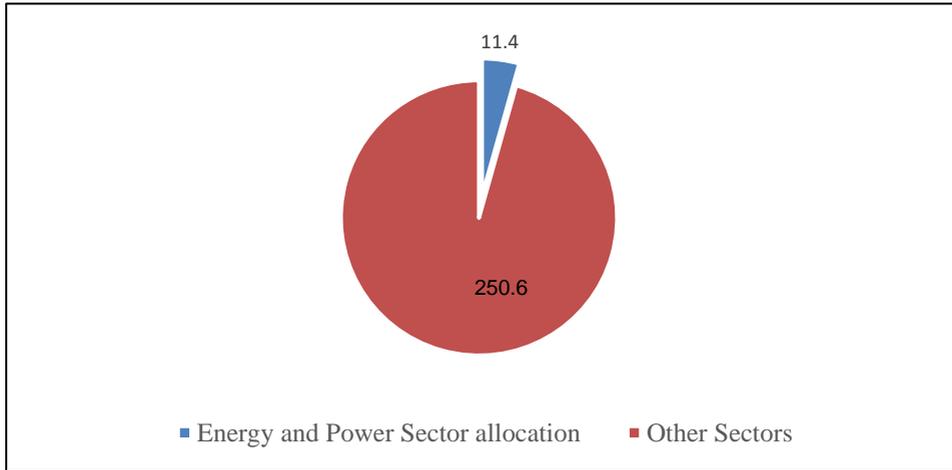


Note: Government of Khyber Pakhtunkhwa, (n.d.)

In FY 2020-21, out of the total provincial ADP of PKR 262 billion, EPD was allocated PKR 11.4 billion (Finance Dept., 2021). Similarly, in FY 2021-22, the Department was allocated PKR 17.1 billion out of a total ADP of PKR 351 billion (Finance Dept., 2022)². The sectoral share of energy and power in provincial ADP is 4-5% which reflects the poor level of political commitment for such an important sector.

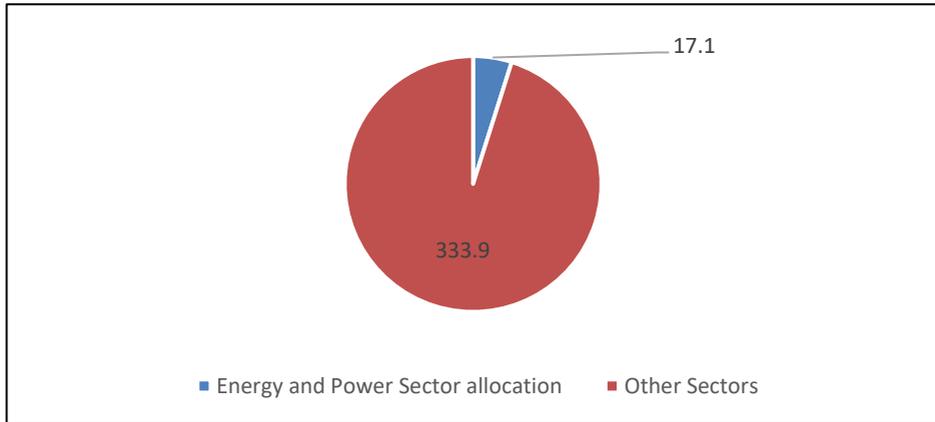
² The Energy and Power development schemes are financed from development budget as well as HDF.

Figure 2.
Provincial ADP (2020-21) Rs. 262 billion



Note: Source: (Department, Finance. 2021)

Figure 3.
Provincial ADP 2021-22) Rs. 351 billion



Note: Source: (Department, Finance. 2022)

4.1. Financial Issues

The EPD is the lynchpin of the power sector in Khyber Pakhtunkhwa. It is responsible for the effective utilization of available financial resources. The budget and expenditure data analysis of financial years 2010 through 2022 reveals that the budget of the EPD increased from PKR 157 million in FY 2009-10 to PKR 2.7 billion in FY 2021-22.

Table 7.
Budget of Energy and Power Development

Financial Year	Original Budget	Budget surrendered	Final Budget	Expenditure
2009-10	477	320	157	159
2010-11	785	439	346	347
2011-12	1,363	530	833	759
2012-13	712	48	664	1,092
2013-14	1,477	315	1,162	1,348
2014-15	3,393	293	3,100	3,095
2015-16	3,470	1,936	1,534	1,537
2016-17	300	189	111	111
2017-18	242	37	205	209
2018-19	508	68	440	440
2019-20	965	198	767	761
2020-21	2,130	6	2,124	2,125
2021-22	2,732	-	2,732	2,543
Total	18,554	4,379	14,175	14,526

Note: (Annual Appropriation Accounts for the FYs 2010-22)³

The data in table 7 shows that despite the allocation of sufficient funds by the provincial government, the EPD could not utilize the allocated funds and surrendered around PKR 4.3 billion in 13 years. Further analysis of available data shows that out of the total surrender of PKR 4.3 billion, 93% was the development budget i.e. PKR 4 billion. Surrender of development funds not only hampered the planned energy and power development schemes but also led to cost and time over-run of ongoing schemes.

After the 18th amendment, the EPD has become a revenue generating department due to business aspect of the power sector. However, the share of the department has remained abysmally low. In FY 2021-22, EPD contributed PKR 2.6 billion in overall non-tax receipt of PKR 31.8 billion which is less than 1%. The audit conducted by the Department of the Auditor General of Pakistan during FY 2020-21 and 2021-22 highlighted serious issues of non-collections of

³ The budget data in this table differs from the data in figure 1-3 due to reason that the data in this table relates to ADP schemes funded from development budget only, whereas the data in figure 1&2 include both development budget as well as Hydel Development Fund.

receipts (Auditor General of Pakistan, n.d.). The audit reports highlighted the following outstanding amounts on account of the sale of electricity by PEDO to various agencies

Table 8.

List of recoverable amounts by PEDO

S#	Name of Project	Outstanding amount (In million PKR)	Payable by
	Malakand III HPP	1,351	NTDC
	Machai HPP	130	PESCO
	Pehur HPP	14	CPPA
	Pehur HPP	29	PESCO
	Daral Khwar HPP	457	NTDC
	Shishi HPP	26	PESCO
	Total	2,007	

Note: Source: (Auditor General of Pakistan, n.d.)

In addition to the above recoverable amounts, the office of the Director General Audit pointed out that a huge amount of PKR 3.944 billion under the Malakand-III Hydro Power Project was outstanding against CPPA on account of late payment charges/ interest charges and tariff indexation which could not be recovered till date by PEDO (Audit D. P., 2021). The audit further held that PKR 1.2 billion is still outstanding against PESCO/CPPA due to the non-recovery of NEPRA approved levelized rate of electric energy at PKR 4.018 per KWH (Auditor General of Pakistan, n.d.).

4.2. Non-Settlement of Critical Issues with the Federal Government

The 18th Amendment has not only empowered provinces in the generation, transmission, and distribution of power but also incorporated provisions regarding their due share in the natural resources tapped in the provinces. However, there are a number of areas where the FG is not forthcoming to settle the critical issues despite categorical constitutional provisions. The reluctance of the FG is not only depriving KP of its due financial and administrative share but also causing the provincial government to lag behind in its power sector. Some of the unsettled issues are as follows.

4.3. Non-payment of Due Share of Net Hydel Profit (NHP)

Article 161 (2) of the Constitution lays down that “the net profit earned by the Federal Government, or any undertaking established or administered by the FG from the bulk generation of power at a hydroelectric station shall be paid to the province in which the hydroelectric station is situated.” Unfortunately, despite this categorical constitutional provision, GoKP has not been provided its due share of Net Hydel Profit (NHP). The Council of Common Interest has



been given the exclusive authority to determine NHP. The council has repeatedly endorsed the viewpoint of Khyber Pakhtunkhwa regarding payment of NHP as per the AGN Kazi Formula. However, the decisions of the Council are yet to be implemented by the FG (Khan, [2021](#)). WAPDA is trying to avoid implementing the decision and the FG is not willing to honor its commitment. Out of PKR 70 billion due share, PKR 58.1 billion has been made till 2020 and the balance amount of Rs11.9 billion is yet to be paid (Shah et al., [2021](#)).

4.4. Issuance of Sovereign Guarantees:

Under Article 167 (4), the provinces are authorized to raise domestic and foreign loans or give guarantees against the security of the Provincial Consolidated Fund. However, the matter is not the exclusive domain of GoKP. There is a constitutional bar regarding the exercise of this prerogative as it is bound by such limits and subject to such conditions as may be specified by the National Economic Council (Shah et al., [2021](#)). The GoKP is faced with the issue of raising of loans from foreign agencies to finance large schemes in its power sector. KP has not made serious attempts in this regard. Despite the lapse of many years, neither the requisite framework has been prescribed by National Economic Council nor has the GoKP been provided with a separate and distinct borrowing limit (Shah et al., [2021](#)). This renders the GoKP helpless in engaging donor agencies in financing its power sector schemes.

4.5. Oil and Gas and Natural Resources

Article 158 of the Constitution stipulates that the province in which a well-head of natural gas is situated, shall have the first right to meet its gas requirement from the well-head. KP is producing approximately 430 MMCFD gas, whereas its requirement is about 216 MMCFD. This means that the province is injecting about 200 MMCFD cheap gas into the national network (Khan H. U., [2021](#)). In line with Article 158 of the Constitution, GoKP has been consistently pressing upon the FG for cheaper rates by not imposing the burden of the expensive cost of RLNG for KP users as it will increase the average price of gas for consumers in the province. The power sector in this regard is suffering a lot due to the purchase of costly gas which otherwise would have been cheap if the provinces had access to the constitutional right to the first use of locally produced gas (Khan H. U., [2021](#)). The GoKP has also demanded that 100 MMCFD gas should be allowed to it being a local product. This request is yet to be honored by the FG. Accordingly, work on a thermal power plant could not be initiated due to the pendency of the matter with the FG (Shah et al., [2021](#)).

The GoKP has been consistently raising its demand against the FG regarding imposition of Excise Duty on the local production of crude oil. Despite an agreement reached out in this regard, the FG is reluctant to implement it (Shah et al., [2021](#)). Similarly, the FG unilaterally omitted the clause of imposition of

Windfall Levy on crude oil (WLO) in the JV partners (Tal Block) case without taking the provincial government into confidence (Khan, [2021](#)). The matter was taken up with the CCI which decided in KP's favor. Here too, implementation is still awaited. All this deprives the province of the requisite financial resources to embark upon development schemes in the power sector.

4.6. DISCOS Petition against KP Wheeling of Electricity Initiative

KP is the pioneer province in auctioning electricity to industrial units through its 18 MW Pehur Project. Such initiatives not only provide the industries with inexpensive power but also generate revenues for the provincial government. However, a number of DISCOs filed review petitions in NEPRA and Islamabad High Court against the initiative of the wheeling regime of Khyber Pakhtunkhwa. The Islamabad High Court issued a stay order on 13th February 2021 which has not only discouraged the industrial sector but also blocked the provincial government from continuing with the wheeling of electricity initiatives (Khan, [2021](#)).

4.7. Non-Provision of Provincial Holding Company's Share

Article 172 clause (3) stipulates that "mineral oil and natural gas within a province shall vest jointly and equally in that province and the Federal Government." Previously, the FG had exclusive ownership of oil and gas through its Government Holding Private Limited (GHPL). In line with the above provision, the GoKP has demanded that 50 % of shares held by GHPL in the Tal and Nashpa blocks should be transferred to the provincial government. Once again, the FG is reluctant to honor the request and the constitutional provision (Khan, [2021](#)). This deprives the provincial government, especially the power sector to have a sound financial base and undertaking further reform initiatives.

4.8. Non-Exemption of Power Projects from Taxes

Profits and gains from hydroelectric power are exempt from income tax under the Income Tax Ordinance 2001. This exemption has been availed by the private sector hydropower and WAPDA, whereas such exemption has not been provided to PEDO despite the fact that PEDO performs identical functions like WAPDA which is sheer and absolute discrimination (Khan, [2021](#)). Khyber Pakhtunkhwa took up the matter with Finance Division for making amendments to the Income Tax Ordinance, however, no positive response has so far been received from the quarter concerned.

5. Conclusion

The power sector is the most important among the decentralized functions across the globe. It yields tremendous output in power generation and



sustainable energy. By amending Articles 153, 154, 157, 161, and 173 of the 1973 Constitution under the 18th amendment, the parliament has provided the provinces, including KP, with the opportunity to tap their natural resources and fulfill the energy needs of its people. KP is blessed with tremendous energy resources, including hydropower, oil and gas, and renewable energy which are sufficient to fulfill its needs and earn huge revenues for it.

In the post-18th amendment era, the GoKP has undertaken a number of reforms initiatives including organizational restructuring, creation of specialized agencies like PEDO, KPOGCL, KPTGCL, etc., attracting private capital through a public-private partnerships, collaboration with international financial institutions. However, in spite of clear enabling constitutional provisions and abundant energy resources, no substantial contribution has been made by the GoKP to the energy needs of the province. The province is hardly able to generate 8.5% of its electricity needs and it has yet to develop power generation, transmission and distribution networks, and infrastructure.

There are internal and external challenges that are impeding the development of an effective power sector in the province. Internally, a plethora of administrative, organizational, and financial inefficiencies on the part of the Energy and Power Department and its subordinate offices, is denying the province the opportunity to achieve self-sufficiency in the power sector. The political leadership of the province has not given a top priority to the power sector and failed to assert itself at the federal level so as to resolve critical issues. Furthermore, the inefficiency of the CCI, the FG's overwhelming control of transmission, distribution, and tariff functions, and its unwillingness to honor constitutionally protected rights of the province have impeded GoKP's efforts to reform its power sector.

Keeping in view the mandate under the 18th amendment, the enormity and preciousness of the resources in the province, and the challenges faced in the power sector, it is highly imperative for GoKP to prepare a comprehensive way forward to capture the benefits of the 18th amendment and harness the potential of its resources.

6. Recommendations

Both short and long-term measures are required to overcome the challenges and lead the province towards an effective and sustainable development path in the power sector.

6.1. Short-Term Measures

The following short-term measures are suggested to overcome the challenges in the power sector. Firstly, the GoKP should constitute a task force with focal persons from P&D, Law, Finance, Inter-Provincial Coordination, and Energy departments to prepare a comprehensive case covering all aspects of legal and

financial issues arising in post 18th amendment era, in order to resolve legal and constitutional deadlocks with the FG.

Second, the GoKP should liaise with other provinces to develop a consensus for taking up the matter with the FG through the CCI. A contingency plan for filing a constitutional petition in the Supreme Court for resolving the matters, related to the interpretation and implementation of the constitutional provisions, should be exercised.

Third, the provincial government should create a special committee of the KP Provincial Assembly on energy and power to augment legislative and political support of the provincial cause at the federal level. Furthermore, it should take up the matter of establishment of special committees in the National Assembly and Senate on energy and power for resolution of the issue.

Fourth, strong advocacy and better harmony with the FG should be the main focus of GoKP because the constitutional scheme of governance in Pakistan vests overwhelming authority in the FG in the realm of policy formulation, taxation, and resources control.

Fifth, the GoKP should accord top priority to the power sector in its development portfolio by gradually enhancing its share in the provincial ADP from existing 4% to 10%.

Sixth, a comprehensive restructuring plan should be chalked out to align the Energy and Power Department with the technical and dynamic nature of the power sector. A post of Additional Chief Secretary (Energy and Power) on the pattern of Punjab should be created for a leadership role in the power sector. The existing three slots of Additional Secretaries should be assigned power, oil and gas, and renewable energy sector respectively. These posts should be reserved for professionals within the department. In case of non-availability of requisite skillsets, direct recruitment on open merit through KP Public Service Commission should be made

Seventh, the GoKP should focus on energy conservation on the pattern of Punjab. Energy-intensive electric appliances, energy conservation building codes, and energy audits should be introduced.

Eighth, there should be proper financial planning, monitoring and forecasting for better utilization of financial resources. For better financial planning and monitoring, the Energy and Power Department should effectively use FABS (Financial Accounting and Budgeting System) as SAP (System Application Product) connectivity has already been extended to the department.

6.2. Long-Term Measures

Besides the above-listed short-term measures, the following long-term measures should be adopted to overcome the challenges.



First, work on KP Transmission and Grid should be started for evacuation of power from hydropower projects in remote areas. Installation of a transmission line across the province involves huge costs, therefore the activity should be carried out in a gradual and phased manner. In the first phase, the installation of transmission lines in areas, where hydropower projects are functional, should be given priority. NTDC should be fully taken on board in this regard, as the progress, especially in phase 1, would not be possible without NTDC support. In phases II and III, the installation should be rolled out to the rest of the province. Financial arrangements should be made in collaboration with both local and foreign business partners and international financial institutions.

Second, the GoKP should set up an Oil and Gas Development Fund (OGDF) on the pattern of the Hydel Development Fund (HDF). This fund is to be financed from a 10% levy on oil & gas revenue streams received by the province from the FG, including oil and gas royalty, windfall levy, excise duties, Gas Development Surcharge, etc. The remaining 90% amount should be raised through initial public offering (IPO) and Joint Ventures.

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