

ENERGY

Subsequent to the 18th Constitutional Amendment in 2010, the Government of Punjab established Energy Department, in 2011-12, to promote the development of energy sector at provincial level with the mandate to enhance the Energy Security and fuel Provincial Economy by creating an environment that can reliably meet the energy demands of all the sectors of Punjab's Economy. In the beginning, the Department started working on the short term plans and projects. However, during the course of time, the Department has learned several lessons by identifying the challenges, hitches and impediments being faced during the execution and operational phases of the projects. Now the Department has become mature enough to devise and pursue strategic goals through a multi-dimensional approach ranging from attracting Private Sector investment, Energy Efficiency and Conservation Programmes to exploring new avenues for sustainable energy production from local as well as imported fuels.

Energy Department aims at fully utilizing the indigenous energy resources that Punjab is blessed with, including solar, hydel, bio-mass, wind and coal. The Department has also established dedicated companies / attached bodies to work in the specific areas and execute energy sector projects.

VISION:

“Utilize efficiently all the available resources of Energy in the Province. Provide affordable Energy to Residential, Industrial and Commercial consumers. Support economic activities in the Province by providing sustainable and viable solution of uninterrupted and reliable energy”

SECTOR OVERVIEW:

Punjab's energy consumption is 68% of the total generation, with a demand growth of 6-8% per annum. The province is currently facing several challenges in energy sector. There is a dire need of promoting different institutions to undertake development projects in Public and Private sector, not only for energy generation but also for the energy conservation. Together, the Federal and Provincial Governments are synergizing their efforts to cope with the growing energy shortage and insecurity by installing several mega power projects and focussing on promoting the culture of Energy Conservation.

POLICY:

“Provision of affordable energy to all segments of the society to boost the Provincial Economy on the basis of inclusive growth”

OBJECTIVES / STRATEGIES:

- Availability of affordable Energy to all citizens.
- Energy Conservation by using efficient appliances and conservation measures.
- Sustainable Energy Mix by introducing appropriate technologies.
- Power Generation using indigenous resources (e.g. solar, coal, biomass, wind, hydel and biogas).
- Develop projects to tap the run of the river / canal hydel potential.
- Develop enabling environment for private sector investment in Energy sector.

STRATEGIC INTERVENTIONS:

- Upgradation of Centre for Energy Research & Development at UET Lahore
- Standardization & Labelling of appliances, Energy Building Codes, Energy Conservation Lab and Public Awareness Campaign under PEEC Program
- Providing the Hybrid Energy Solution through Indigenous Resources in two potential Districts.
- Solarization of 10861 schools in South Punjab under Punjab Ujala Program
- Retrofitting of Public Institutes

ACHIEVEMENTS OF FINANCIAL YEAR 2018-19:

Research to adopt new and innovative techniques & technology is a key to success for every sector. The most notable milestone, in this regard, is upgradation of the Centre for Energy Research and Development (CERAD) at UET Lahore to take up and adopt the emerging trends of industry and commercial uses as an aid to develop the standard codes for better energy management.

To promote the culture of efficient and effective utilization of available energy is one of the core functions of the Energy Department. Punjab's Energy Efficiency & Conservation (PEEC) Programme is the best example to promote the public awareness for the adoption of energy efficient measures. Under this programme, conventional appliances in GC University Lahore have been replaced with energy efficient appliances, as a result of which 0.36 Mega Watt of Energy is saved annually. The project is being replicated to retrofit the 50 highest energy consuming Institutions of Punjab to save 30GWh of electricity and Rs. 600 million annually. Air Conditioner Testing Facility Laboratory is first of its kind in Pakistan and set to be established in CERAD UET KSK under the PEEC Program. The lab will have the facility to test and standardize air conditioners according to international standards, provide trainings and stimulate research in the domain of HVAC systems.

Punjab Government has installed 4450 AMI meters in Government electricity connections for reconciliation of electricity billing with DISCOs connections. After installation of these meters the Punjab Government has been able to file the claims of Rs. 1,800 million approximately, that were previously incurred by the Punjab Government on account of overbilling.

The energy production through indigenous resources, like hydel, solar, biogas etc. is the best and prudent strategy for the sectoral growth on sustainable grounds. Two Mini hydro power sites at Khushab(468 KW) and IRI Nandipur(379 KW) are under implementation stage. The feasibility study for energy solution using indigenous resources in villages has been completed and the project is set to be implemented. A special study is also being conducted to assess and strengthen the role of Punjab in relation to the Constitutional amendments affecting the rights of provinces in terms of Oil & Gas allocation and its usage.

Moreover, around 6,000 schools are being solarized in South Punjab, under Khadim-e-Punjab Ujaala Programme (KPUP). The project is aimed at providing uninterrupted supply of electricity to the students during school hours. The project shall facilitate the students for their studies and the enrolment of more students will also be encouraged.

The Net-meters have been installed at Public Buildings where solar power solutions were already installed, which would help in crediting the solarized buildings for the electricity they would add to the National Grid during off-Peak hours.

QUANTIFIABLE TARGETS FOR FINANCIAL YEAR 2019-20

- Solarization of all 15,000 schools to benefit 1.9 million students.
- Addition of 1263 MW is expected by the end of 2019, to reduce the energy shortage and boost up the provincial Economy of Punjab through RLNG based thermal Power plant.
- Saving of 5GWh of energy units through retrofitting of public Institutes.
- Establishment of permanent entity to promote the culture of Energy Efficiency and Conservation.

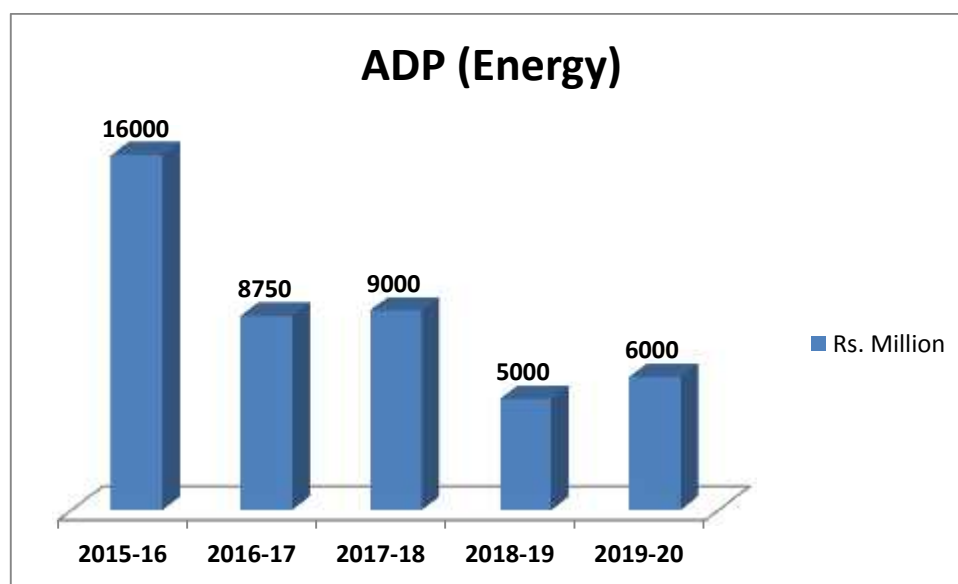
NEW INITIATIVES FOR 2019-20

- Saving of 5GWh of Energy units through World Bank funded project named retrofitting of public institutes.
- Punjab Ujaala Program (Central Punjab) to solarize 4400 schools so as to complete the target of solarizing 15000 schools (DLI Based) under Access to Clean Energy Investment Program.

- Solar Solution for house-holds in off-grid areas of South Punjab
- Solarization of 2400 Basic Health Units
- Construction of Net Zero Energy Building.
- Solarization of Islamia University Bahawalpur (DLI Based) under Access to Clean Energy Investment Program.
- Oil & Gas Exploration JV Projects for “Karsal Block” Chackwal.
- Feasibility Study for Solar Hydel mix for Energy Generation at potential sites in Punjab.

TREND OF ALLOCATION

SR.NO.	YEARS	ALLOCATION Rs. In Million
1.	2015-16	16,000
2.	2016-17	8,750
3.	2017-18	9,000
4.	2018-19	5,000
5.	2019-20	6,000



ENERGY: SUMMARY

(PKR Million)

Type / Sub Sector	No. of Schemes	Provision for 2019-20				Projection for 2020-21	Projection for 2021-22
		Capital	Revenue	Foreign Aid	G. Total (Cap + Rev)		
<u>ON-GOING SCHEMES</u>							
Regular	13	2,146.759	2,153.013	0.000	4,299.772	5,076.134	1,118.128
Total: ON-GOING SCHEMES	13	2,146.759	2,153.013	0.000	4,299.772	5,076.134	1,118.128
<u>NEW SCHEMES</u>							
Regular	10	115.000	1,572.228	0.000	1,687.228	3,538.772	0.000
Research & Development	1	0.000	10.000	0.000	10.000	0.000	0.000
Total: NEW SCHEMES	11	115.000	1,582.228	0.000	1,697.228	3,538.772	0.000
<u>OTHER DEVELOPMENT PROGRAM</u>							
Regular	2	0.000	2.000	0.000	2.000	0.000	0.000
Total: OTHER DEVELOPMENT PROGRAM	2	0.000	2.000	0.000	2.000	0.000	0.000
<u>PPP PROJECT</u>							
Regular	1	0.000	1.000	0.000	1.000	0.000	0.000
Total: PPP PROJECT	1	0.000	1.000	0.000	1.000	0.000	0.000
Grand Total	27	2,261.759	3,738.241	0.000	6,000.000	8,614.906	1,118.128

Energy

(PKR Million)

GS No	Scheme Information Scheme ID / Approval Date / Location	Est. Cost	Accum. Exp. June, 19	Provision for 2019-20			MTDF Projections		Throw fwd Beyond June, 2022
				Cap.	Rev.	G.Total (Cap.+Rev.)	2020-21	2021-22	
1	2	3	4	5	6	7	8	9	10

ON-GOING SCHEMES

Regular

4202	Liaison Office for Energy Department 01291800215 / 07-03-2019 / Rawalpindi	48.653	5.000	30.000	0.000	30.000	13.653	0.000	0.000
4203	Establishment of Mini Hydro Power Sites 01311700162 / 17-10-2017 / Khushab	627.668	12.450	316.759	0.000	316.759	197.299	30.910	70.250
4204	PC-II, Feasibility Study Consultancy for BioMass based Power Plant setup near wheat and rice production 01091400338 / 24-12-2014 / Faisalabad	162.470	32.488	0.000	30.000	30.000	99.982	0.000	0.000
4205	Project Management Unit (ACEIP, DLI-6) 01191603590 / 01-02-2017 / Lahore	309.600	101.927	0.000	180.673	180.673	0.000	0.000	0.000
4206	Acquisition of Land for Construction of Energy Resource Centre and Model Energy Efficient Building. (ACEIP, DLI-8) 01191800216 / 29-05-2019 / Lahore	52.785	0.000	0.000	52.785	52.785	0.000	0.000	0.000
4207	Renewable Energy Development Sector Investment Programme (REDSIP) 01351300237 / 07-11-2013 / Pakpattan	12,345.540	9,960.540	1,800.000	19.000	1,819.000	566.000	0.000	0.000
4208	Energy Solution Using Indigenous Resources In villages 01251601793 / 02-09-2016 / Vehari	336.000	64.978	0.000	259.022	259.022	8.000	4.000	0.000
4209	Khadim-e-Punjab Ujala Program (Southern Punjab)(ACEIP, DLI-1,2,3,4) 01041703906 / 18-07-2017 / Dera Ghazi Khan	8,251.200	4,351.000	0.000	609.000	609.000	3,291.200	0.000	0.000
4210	Energy Efficiency & Conservation Programme 01371501149 / 07-09-2015 / Punjab	1,017.290	600.650	0.000	416.640	416.640	0.000	0.000	0.000
4211	Reconciliation of Government Electricity Billing by Installing AMI Meters (2nd Phase) 01371601790 / 15-07-2016 / Punjab	290.000	238.804	0.000	51.196	51.196	0.000	0.000	0.000
4212	PC-II, Consultancy Services on Position of Punjab in Oil & Gas Sector in the Post of 18th Amendment Scenario. 01371703886 / 26-09-2017 / Punjab	22.150	0.000	0.000	22.150	22.150	0.000	0.000	0.000
4213	Retrofitting of Public Institutes as a part of World Bank Funded Punjab Green Development Programme. (PGDP, DLI-5) 01371800214 / 12-04-2019 / Punjab	2,483.218	0.000	0.000	500.000	500.000	900.000	1,083.218	0.000
4214	Reconciliation of Government Electricity Billing by Installing AMI Meters (Pilot Project) (Settlement of Liabilities) 01371401031 / 29-08-2014 / Punjab	156.000	143.453	0.000	12.547	12.547	0.000	0.000	0.000
Total: Regular		26,102.574	15,511.290	2,146.759	2,153.013	4,299.772	5,076.134	1,118.128	70.250
Total: ON-GOING SCHEMES		26,102.574	15,511.290	2,146.759	2,153.013	4,299.772	5,076.134	1,118.128	70.250

Energy

(PKR Million)

GS No	Scheme Information Scheme ID / Approval Date / Location	Est. Cost	Accum. Exp. June, 19	Provision for 2019-20			MTDF Projections		Throw fwd Beyond June, 2022
				Cap.	Rev.	G.Total (Cap.+Rev.)	2020-21	2021-22	
1	2	3	4	5	6	7	8	9	10

NEW SCHEMES

Regular

4215	Solarization of Basic Health Units (Phase-II) (ACEIP, DLI-2,3) (Notional) 01091902494 / Un-Approved / Faisalabad	500.000	0.000	0.000	10.000	10.000	490.000	0.000	0.000
4216	Design and Construction of Net Zero Energy Building. (ACEIP, DLI-8) 01191900748 / Un-Approved / Lahore	450.000	0.000	0.000	130.768	130.768	319.232	0.000	0.000
4217	Establishment of Solar Based Power Plant at available land of Hydro Power Projects (Notional) 01351902555 / Un-Approved / Pakpattan	1.000	0.000	0.000	1.000	1.000	0.000	0.000	0.000
4218	Solarization of Basic Health Units (Phase-I) (ACEIP, DLI-2,3) 01041900747 / Un-Approved / Dera Ghazi Khan	450.000	0.000	0.000	430.000	430.000	20.000	0.000	0.000
4219	Infrastructure Development of Quaid-e-Azam Solar Park 01021800151 / Un-Approved / Bahawalpur	255.000	0.000	115.000	0.000	115.000	140.000	0.000	0.000
4220	Solarization of Islamia University Bahawalpur. (ACEIP, DLI-2) 01021900746 / Un-Approved / Bahawalpur	350.000	0.000	0.000	215.000	215.000	135.000	0.000	0.000
4221	Punjab Ujaala Program (Central Punjab) (ACEIP, DLI-1,2,3,4) 01371800259 / Un-Approved / Punjab	2,700.000	0.000	0.000	465.460	465.460	2,234.540	0.000	0.000
4222	Solar Solution for house holds in off-grid areas of South Punjab 01371900745 / Un-Approved / Punjab	500.000	0.000	0.000	300.000	300.000	200.000	0.000	0.000
4223	Feasibility Study for Solar-Hydel mix for Energy Generation at Potential Sites in Punjab 01371902307 / Un-Approved / Punjab	10.000	0.000	0.000	10.000	10.000	0.000	0.000	0.000
4224	Solarization of Public Institutes (Notional) 01371902518 / Un-Approved / Punjab	10.000	0.000	0.000	10.000	10.000	0.000	0.000	0.000
Total: Regular		5,226.000	0.000	115.000	1,572.228	1,687.228	3,538.772	0.000	0.000

Research & Development

4225	Energy Sector Policy Formation 01371800166 / Un-Approved / Punjab	10.000	0.000	0.000	10.000	10.000	0.000	0.000	0.000
Total: Research & Development		10.000	0.000	0.000	10.000	10.000	0.000	0.000	0.000

Total: NEW SCHEMES		5,236.000	0.000	115.000	1,582.228	1,697.228	3,538.772	0.000	0.000
---------------------------	--	------------------	--------------	----------------	------------------	------------------	------------------	--------------	--------------

OTHER DEVELOPMENT PROGRAM

Regular

4226	Oil & Gas Exploration JV Projects for "Karsal Block" (Punjab Energy Holding Company) (Notional) 01271902543 / 01-07-2019 / Chakwal	1,200.000	0.000	0.000	1.000	1.000	0.000	0.000	0.000
------	--	-----------	-------	-------	-------	-------	-------	-------	-------

Energy

(PKR Million)

GS No	Scheme Information Scheme ID / Approval Date / Location	Est. Cost	Accum. Exp. June, 19	Provision for 2019-20			MTDF Projections		Throw fwd Beyond June, 2022
				Cap.	Rev.	G.Total (Cap.+Rev.)	2020-21	2021-22	
1	2	3	4	5	6	7	8	9	10
4227	Subtitute funding for Bridge Financing for Establishment of RLNG Power Project upto date of Financial Close. (Punjab Thermal Power Pvt. Ltd) (Notional) 01371902521 / 01-07-2019 / Punjab	62,000.000	0.000	0.000	1.000	1.000	0.000	0.000	0.000
Total: Regular		63,200.000	0.000	0.000	2.000	2.000	0.000	0.000	0.000
Total: OTHER DEVELOPMENT PROGRAM		63,200.000	0.000	0.000	2.000	2.000	0.000	0.000	0.000
<u>PPP PROJECT</u>									
Regular									
4228	Installation of 100 MW Solar Power Plant at QA Solar Park, Bahawalpur. (PPP MODE) 01021902439 / Un-Approved / Bahawalpur	1.000	0.000	0.000	1.000	1.000	0.000	0.000	0.000
Total: Regular		1.000	0.000	0.000	1.000	1.000	0.000	0.000	0.000
Total: PPP PROJECT		1.000	0.000	0.000	1.000	1.000	0.000	0.000	0.000
Grand Total		94,539.574	15,511.290	2,261.759	3,738.241	6,000.000	8,614.906	1,118.128	70.250