

Small /Micro Hydro Power Projects

Punjab has long history of making use of energy from water. The water has been used to turn mills and since the beginning of the 20th Century, Hydro has been used to generate electricity. Hydro represent the established technology that can contribute to the world wide demand for an increasing level of power supply from renewable energy sources and generate power with no atmospheric emissions. In Punjab, small scale hydro power project provide economically attractive power generation options at many locations for a very wide range of applications.

In recent years micro/mini/small hydroelectric power schemes have received great deal of attention from many point of view, one, as a sizable and easily utilizable source of renewable energy and second, as a moderate investment method for providing electricity to under developed areas. Electricity is most convenient form of energy, which is utilized for lighting, heating, and industrial production. Generation of electricity through micro/mini/small hydroelectric schemes and its consumption does not pollute the environment and therefore can play important role for protection of the environment and in maintenance of ecological balance. The incentives for micro/mini/small hydropower development projects have created interest in many prospective public utilities and private developers. Especially for private developer, micro/mini hydroelectric projects require in depth technological and financial guidance. These schemes being very much site specific, have a wide range of variation in cost and financial returns. Small, mini or micro hydroelectric schemes are one of the recognized renewable sources, which can provide electricity especially for the rural, remote areas as hilly terrain in our country in a cost-effective and environmentally benign manner.

CANAL NETWORK IN PUNJAB

Broadly speaking the canal network on which low head mini hydel projects are installed / being installed is as under:

Sirhind Canal System

- Sirhind Canal
- Combined Branch
- Abohar Branch Canal
- Bathinda Branch Canal
- Sidhwan Branch Canal
- Patiala Feeder – I
- Kotla Branch Canal
- Patiala Feeder-II
- Ghaggar Branch Canal

BHAKRA MAIN LINE (BML)

- Bhakra Main Canal
- Narwana Branch

Bist Doab Canal off taking from Ropar Head works

Upper Bari Doab Canal (UBDC) Canal System

- Madhopur Beas Link
- UBDC Main Canal
- Kasur Branch Upper
- Kasur Branch Lower
- Sabroan Branch
- Main Branch Upper
- Main Branch Lower
- Lahore Branch

Ferozpur Feeder

- Eastern Canal
- Bikanare Canal

Sirhind Feeder and its distributaries of the canals

SMALL/MINI HYDEL PROJECTS

Commissioned Projects:

A. PEDA/PGL) (9.8MW)

S.No.	Name of Project	Capacity (MW)	Location	Date of Completion
1.	Chupki (Ludhiana)	1.50	Abohar Branch Canal	12.11.1999
2.	Narangwal (Ludhiana)	1.50	Abohar Branch Canal	7.6.1999
3.	Tugal	1.50	Abohar Branch Canal	8.9.1999
4.	Dalla	1.00	Abohar Branch Canal	24.5.1999
5.	Bowani (Ludhiana)	1.00	Bathinda Branch canal	22.8.2002
6.	Khatra (Ludhiana)	1.00	Bathinda Branch canal	23.1.2001
7.	Jagera (Ludhiana)	1.00	Bathinda Branch canal	31.7.2003
8.	Kanganwal (Sangrur)	1.30	Bathinda Branch canal	28.8.2001
	TOTAL	9.80 MW		

B. PROJECTS OWNED AND RUN BY PSPCL (114.95 MW)

S. No.	Name of Mini / Micro Power Houses	Installed Capacity (MW)	Year of commissioning
	UBDC Stage –I		
1	PH-I	15.00	30.8.1971
2	PH-II	15.00	25.5.1972
3	PH-III	15.00	12.8.1973
	UBDC Stage-II		
4	PH-I	15.45	6.8.1989
5	PH-II	15.45	26.6.1991
6	PH-III	15.45	1.1.1992
7.	Nadampur	0.80	(i) 14.12.1985 (ii) 28.1.1986
8.	Daudhar	1.50	(i) 2.9.1987 (ii) 16.7.1987 (iii) 21.7.1987
9.	Rohti	0.80	(i) 19.9.1989 (ii) 21.3.1989
10.	Thuhi	0.80	(i) 14.3.1989 (ii) 17.6.1989
11	Ropar	1.70	27.5.2007
12	Mukerian Hydrel Channel-II 1st unit of 9 MW 2nd Unit of 9 MW	9.00 9.00	19.5.2017 3.2.2018
	TOTAL	114.95 MW	

C. PRIVATE SECTOR

PROJECTS COMMISSIONED AND OWNED BY PRIVATE DEVELOPERS ON BOO BASIS **(33 Projects comprising of 47 sites of Capacity 44.80 MW)**

S.No.	Name of the developer and site details	RD (in ft.)	Name of Canal	Installed capacity (in MW)	Date of Completion
	I. M/s. Punjab Hydro Power Pvt. Ltd.				
1	1. Dolowal (Distt:Sangrur)	15000	Kotla Branch Canal	1.40	26.4.2003
2	2. Salar (Distt: Sangrur)	34650	Kotla Branch Canal	1.50	26.4.2003
3	3. Bhanubhura (Distt: Sangrur)	61566	Kotla Branch Canal	1.30	26.4.2003
	II. M/s. Kotla Hydro Power Pvt. Ltd.				
4	4. Babbanpur (Distt: Sangrur)	86320	Kotla Branch Canal	1.00	1.7.2004
5	5. Killa Combined 6. Bugra (Distt: Sangrur)	144780	Kotla Branch Canal	1.75	1.11.2005
6	7. Sahoke Combined 8. Harigarh (Distt: Sangrur)	215000	Kotla Branch Canal	1.00	1.11.2006
	III. M/s. Aqua Power Pvt. Ltd.				
7	9. Dadahur Combined 10. Chakbhai (Distt:Barnala)	185000	Bathinda Branch Canal	2.00	18.11.2004
8	11. Lohgarh Combined 12. Maholi (Distt: Ludhiana)	128000	Bathinda Branch Canal	2.00	10.10.2005
9	13. Sidhana combined 14. Baloke (Distt: Bathinda)	307000	Bathinda Branch Canal	1.20	25.10.2007
	IV. M/s. Abohar Power Generation Pvt. Ltd.				
10	15. Khanpur (Distt: Ludhiana)	23110	Abohar Branch Canal	1.10	22.4.2010
11	16. Sudhar (Distt: Ludhiana)	105000	Abohar Branch Canal	1.40	3.5.2010
12	17. Akhara (Distt: Ludhiana)	157000	Abohar Branch Canal	1.10	25.3.2010
13	18. Gholian	254000	Abohar Branch Canal	0.80	4.10.2009
14	19. Channuwal	289000	Abohar Branch Canal	0.90	30.9.2009
	V. M/s. Gill Power Generation Co. Pvt. Ltd.				
15	20. Tibri combined 21. Babehali (Distt: Gurdaspur)	10504	Main Branch Upper	2.70	6.10.2006
	VI. M/s. Winsome Yarns Ltd., Chandigarh				
16	22. Barewal combined 23. Jhammal (Distt: Ludhiana)	88000	Sidhwan Branch Canal	0.90	12.6.2010
17	24. Sidhwan Bet combined 25. Mansian	197575	Sidhwan Branch Canal	0.50	22.9.2010
18	26. Dawaitwal combined 27. Issewal 28. Kailpur	115500	Sidhwan Branch Canal	0.90	15.7.2011
19	29. Raowal combined 30. Bangsipura	169000	Sidhwan Branch Canal	0.85	29.8.2011
20	31. Swaddi Kalan 32. Bharowal combined 33. Khudai Chak	151000	Sidhwan Branch Canal	0.75	12.1.2013

	VII. M/s. Atlantic Power Pvt. Ltd.				
21	34. Terkiana Head works (Distt: Hoshiarpur)		Holy Bein/MHC-II	0.65	31.8.2010
	VIII. M/s. SAM (India) Hydro Power Pvt. Ltd.				
22	35. Bowani (Distt: Ludhiana)	0	Bathinda Branch Canal	1.20	20.3.2013
	IX. M/s. Sidhwan Hydro Power Pvt. Ltd.				
23	36. Ludhiana	70000	Sidhwan Branch Canal	0.70	11.5.2014
	X. M/s. Atlantic Power (Phoola) Pvt. Ltd				
24	37. Phoola (Distt: Bathinda)	350500	Bathinda Branch Canal	0.60	21.6.2014
	XI. M/s. SKR Hydro Power Generators Pvt. Ltd.				
25	38. Bibiwala (Distt: Bathinda)	390000	Bathinda Branch Canal	0.40	11.4.2016
	XII. M/s. Gill Acqua Hydro Power Generation Company Pvt. Ltd.				
26	39. RD 14350 combined 40 RD 16500 (Pathankot)	14350	Madhopur Beas Link (MBL) of UBDC System	6.00	23.10.2016
27	41. RD 20500 (Pathankot)	20500	Madhopur Beas Link (MBL) of UBDC System	3.80	11.1.2017
	XIII. M/s. UBDC Hydro Company				
28	42. Kunjar (Gurdaspur)	79768	Main Branch Upper	2.00	23.6.2017
	XIV. M/s. Majha Canal Hydro Projects Pvt. Ltd.				
29	43 Uadhanwal (Distt: Gurdaspur)	72400	Sabraon Branch Canal	0.65	2.3.2018
	XV. M/s. P & R Gurdittiwala Hydro Power Pvt. Ltd.				
30	44. Gurdittiwala (Ferozepur)	55413	Ferozepur Feeder	2.00	8.3.2018
	XVI Sabraon Branch Canal M/s. Preetech Power Pvt. Ltd.				
31	45. Tugalwala (Gurdaspur)	34160	Sabraon Branch Canal	0.85	29.5.2019
	XVII. Bathinda Branch Canal M/s. Himalayan Renewable Energy Pvt. Ltd.				
32	46. Talewal (Barnala)	221750	Bathinda Branch Canal	0.60	31.12.2019
	XVIII. Nakkian Khad M/s. Atlantic Power Pvt. Ltd.				
33.	47. Nakkian on Nakkian Super Passage (Ropar)		Nakkian Khad	0.30	19.2.2020
	TOTAL (33 Projects 47 sites)			44.80 MW	

D. SMALL / MINI HYDRO POWER PROJECTS UNDER EXECUTION BY PRIVATE DEVELOPERS ON BOO BASIS IN STATE OF PUNJAB UNDER THE NRSE POLICY (CAPACITY 9.15 MW, 14 Projects)

S. No.	Name of the Developer and Project	RD (in feet)	Installed capacity (MW)
	<u>Ghaggar Branch</u> M/s. Dallanwala Non-Conventional Power Generation Pvt. Ltd.		
1	Gujran (Sangrur)	118000	0.60
	<u>Kasur Branch Lower</u> M/s. Preetech Power Pvt. Ltd.		
2	Kalabala (Gurdaspur)	11200	0.80
	<u>Ferozepur Feeder Lower</u> M/s. Salasar Hydro Urja Pvt. Ltd.		
3	Changali Khurd (Ferozepur)	90000	1.50
	<u>Bhikhi Distributory</u> M/s. Hydro Energy & Infrastructure		
4	Bhikhi Distributory offtaking at RD 214440 of Kotla Branch Canal (Barnala)	214440 of KBC	0.25
	<u>Abohar Branch Canal</u> M/s. Paradise Power Gen. Pvt. Ltd.		
5	Smalsar (Moga)	332000	0.35
	<u>Kotla Branch Canal</u> M/s.DSL Power Pvt. Ltd.		
6	Ralla (Mansa)	269000	0.30
	<u>Main Branch Upper</u> M/s. Thind Eye Hospital Ltd.		
7	Dhariwal (Gurdaspur)	42825	2.00
	<u>Kasur Branch Canal</u> M/s. Thind Eye Hospital Ltd.		
8	Sathiali	0	0.70
	<u>Kasur Branch Lower</u> M/s. Thind Eye Hospital Ltd.		
9	Kalu Sohal	29540	0.70
	<u>Kasur Branch Lower</u> M/s. Jageribag Phool Pvt. Ltd.		
10	Rampur Dhima	46288	0.30
	<u>Sabraon Branch Canal</u> M/s. Jageribag Phool Pvt. Ltd.		
11	Ladda Munda Atwal	94780	0.40
	<u>Sabraon Branch Canal</u> M/s. Jageribag Phool Pvt. Ltd.		
12	Dhapai	54000	0.50
	<u>Sidhwan Branch Canal</u> M/s. GDZ Infra Pvt. Ltd.		
13	Rajgarh (Ludhiana)	8000	0.40
	<u>Sidhwan Branch Canal</u> M/s. GDZ Infra Pvt. Ltd.		
14	Tibba (Ludhiana)	26000	0.35
	TOTAL (14 Projects)		9.15 MW

Mini Hydel Project Khatra on Bathinda Branch Canal (1 MW)



Mini Hydel Plant-NARANGWAL



MINI HYDEL PROJECT BOWANI (CAPACITY 1.20 MW) ON BATHINDA BRANCH CANAL



MINI HYDEL PROJECT LUDHIANA (CAPACITY 0.70 MW) ON SIDHWAN BRANCH CANAL



MINI HYDEL PROJECT BOWANI (CAPACITY 1 MW) ON ABOHAR BRANCH CANAL

