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**Bhutan Power Corporation
Limited**



POWER DATA BOOK

2024

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LIST OF ABBREVIATIONS

ADSS	-	All Dielectric Self-Supporting
ASEB	-	Assam State Electricity Board
BHP	-	Basochhu Hydropower Plant
BPC	-	Bhutan Power Corporation Limited
BPSO	-	Bhutan Power System Operator
CHP	-	Chukha Hydropower Plant
D/C	-	Double Circuit
DG	-	Diesel Generator
DGPC	-	Druk Green Power Corporation Limited
ESD	-	Electricity Services Division
GENCos	-	Generating Companies
GWh	-	Gigawatt Hour
HV	-	High Voltage
KHP	-	Kurichhu Hydropower Plant
KM	-	Kilometer
kV	-	Kilovolt
kW	-	Kilowatt
kWh	-	Kilowatt Hour
LV	-	Low Voltage
MU	-	Million Unit
MV	-	Medium Voltage
OPGW	-	Optical Ground Wire
PDB	-	Power Data Book
S/C	-	Single Circuit
THP	-	Tala Hydropower Plant
TOMS	-	Transmission Operation and Maintenance Section
WBSEB	-	West Bengal State Electricity Board



འབྲུག་སྤྱི་ལམ་ལྷན་ཁག་།
Bhutan Power Corporation Limited
(An ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 Certified Company)
Registered Office, Thimphu
Thimphu : Bhutan



EXECUTIVE SUMMARY

Bhutan Power Corporation (BPC) is pleased to publish the 'Power Data Book (PDB) 2024', which presents yearly statistics on BPC's system performances, details of the transmission and distribution network, overall status, and assets scenario. This information is valuable for scholars, businesses, and decision-makers alike in their studies or decision-making processes. With the increasing demand for electricity due to economic growth activities and to align to BPC's core mandate of 24/7 sustainable, reliable and quality electricity supply, BPC continues to upgrade and extend electricity coverage in the country and also invest in the automation and smart grid technology.

As on December 31, 2024, BPC has 255,517 customers which is 5.03 % increase from last year and sold 7,125 Million Units (MU) of electricity, which is an increase by 25.23% from the last year. BPC's energy purchase has also increased by 27.47% with 7,548.99 MU in 2024 indicating continued growth in the domestic energy demand. BPC wheeled 5,456.44 MU of electricity for electricity export to India. BPC has executed 100% connection of off-grid supplies to our main grid and 99.97% rural electrification achieved as on December 2024 as part of our aim to deliver affordable, adequate, reliable, and quality electricity services to all of our valued customers.

The contributions of focal official from respective Departments and Divisions made it possible to compile PDB 2024.

As an environmentally conscious organization, and to support efforts in reducing carbon footprint, BPC has switched to digital copies for this issue, which can be downloaded at www.bpc.bt.

CHAPTER 1

OVERVIEW OF BPC SYSTEM PERFORMANCE AND BPC INFRASTRUCTURE DETAILS

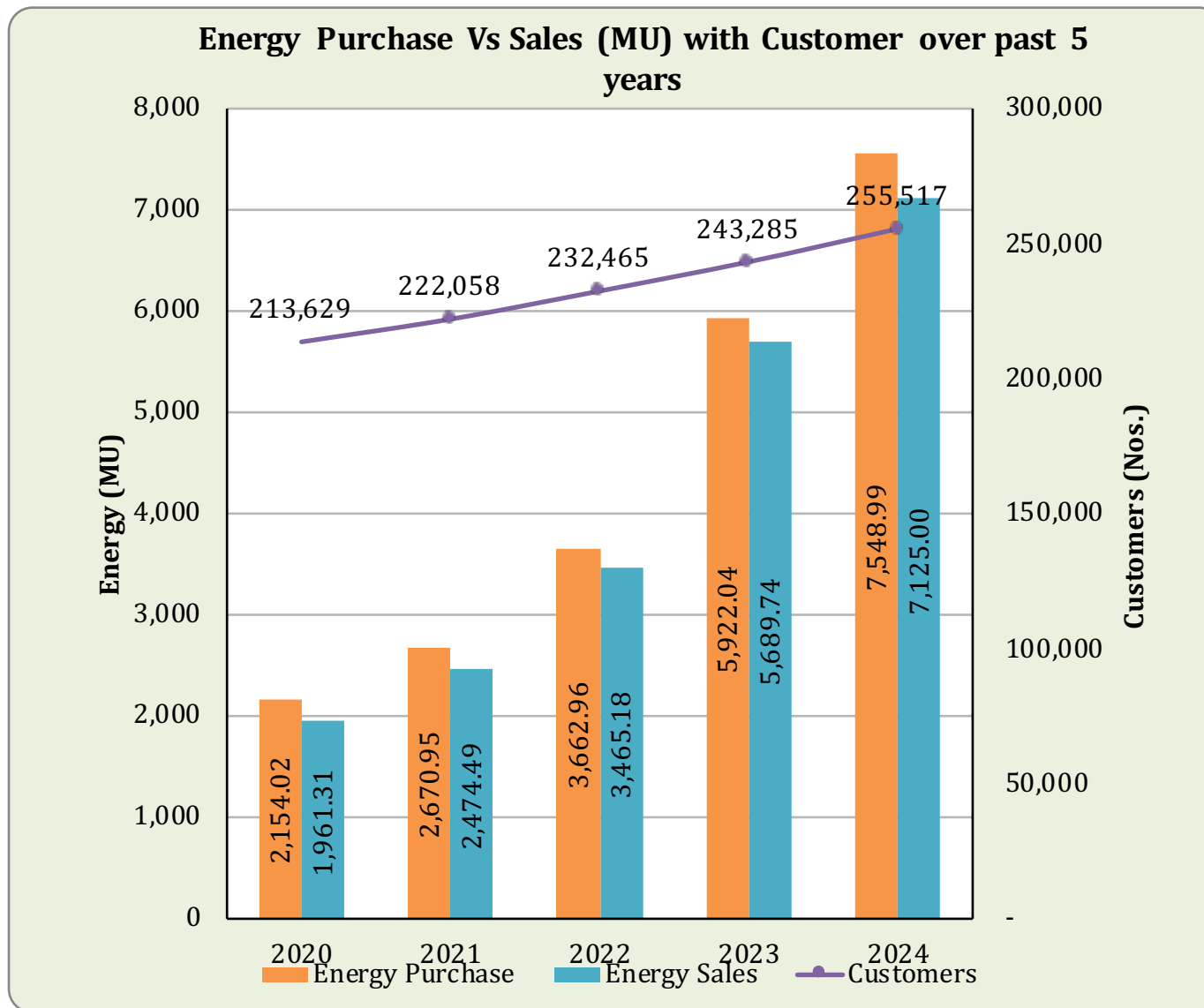
This chapter provides yearly performance over a five-year period as presented in Table 1.0. Energy Sale, Purchase and System Losses is presented in plot. Statistics on transmission and distribution infrastructures of BPC showing the complete technical data of transmission are presented in table from 1.1 to 1.4 and distribution network in table 1.5 to 1.7. Primary transmission voltages in Bhutan are 66kV, 132kV, 220kV and 400kV. Transmission voltages are stepped down or stepped up to suitable secondary voltages which are distributed or transmitted to the load centres. The distribution MV network comprises 33kV and 11kV lines. Some isolated segments of the network continue to use 6.6 kV circuits in a few places. The Low voltage (LV) system are at 415 volts (three phase) and 230 volts (single phase).

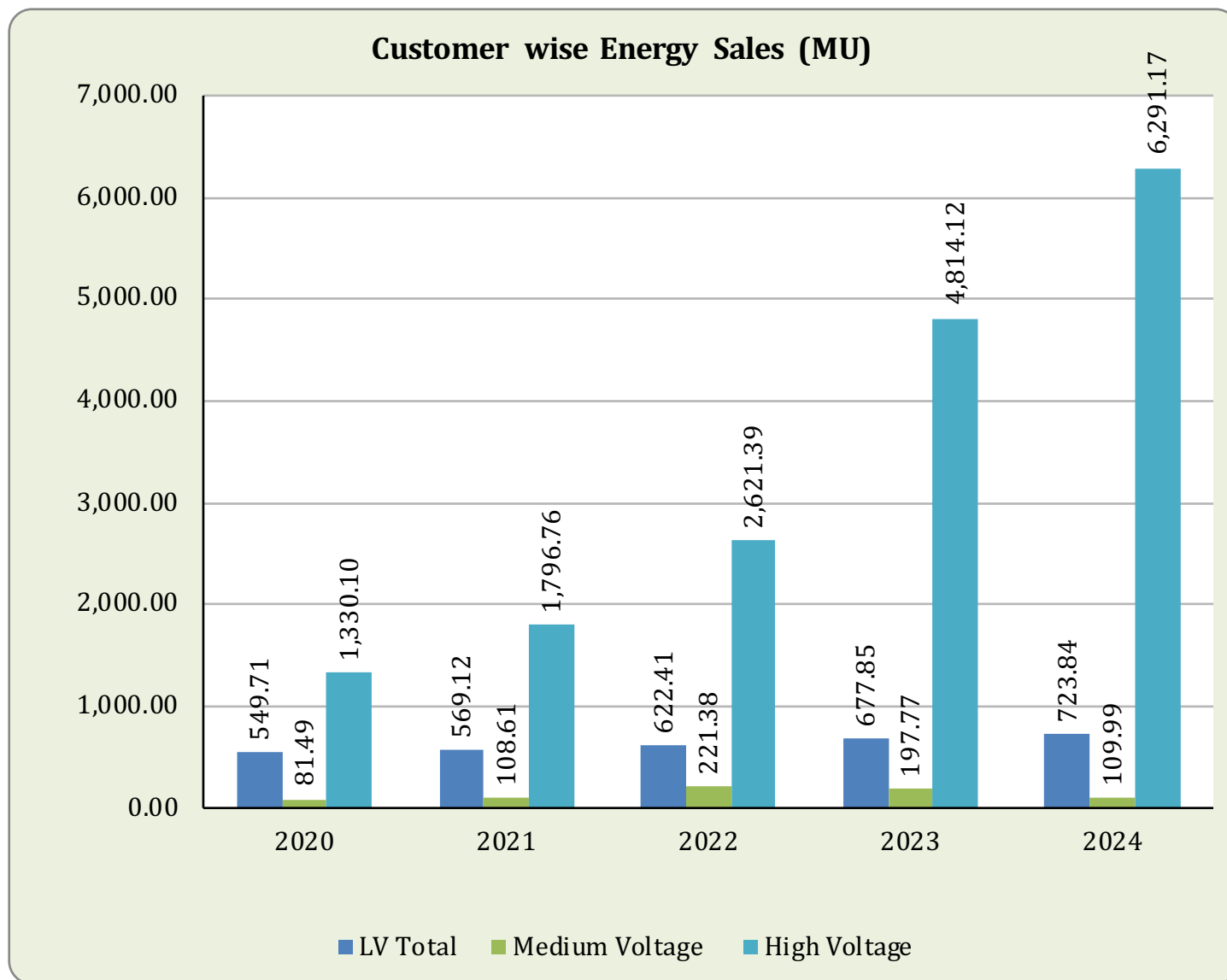
1.0 OVERVIEW OF BPC SYSTEM PERFORMANCE

Table 1.0 : OVERVIEW OF BPC SYSTEM PERFORMANCE

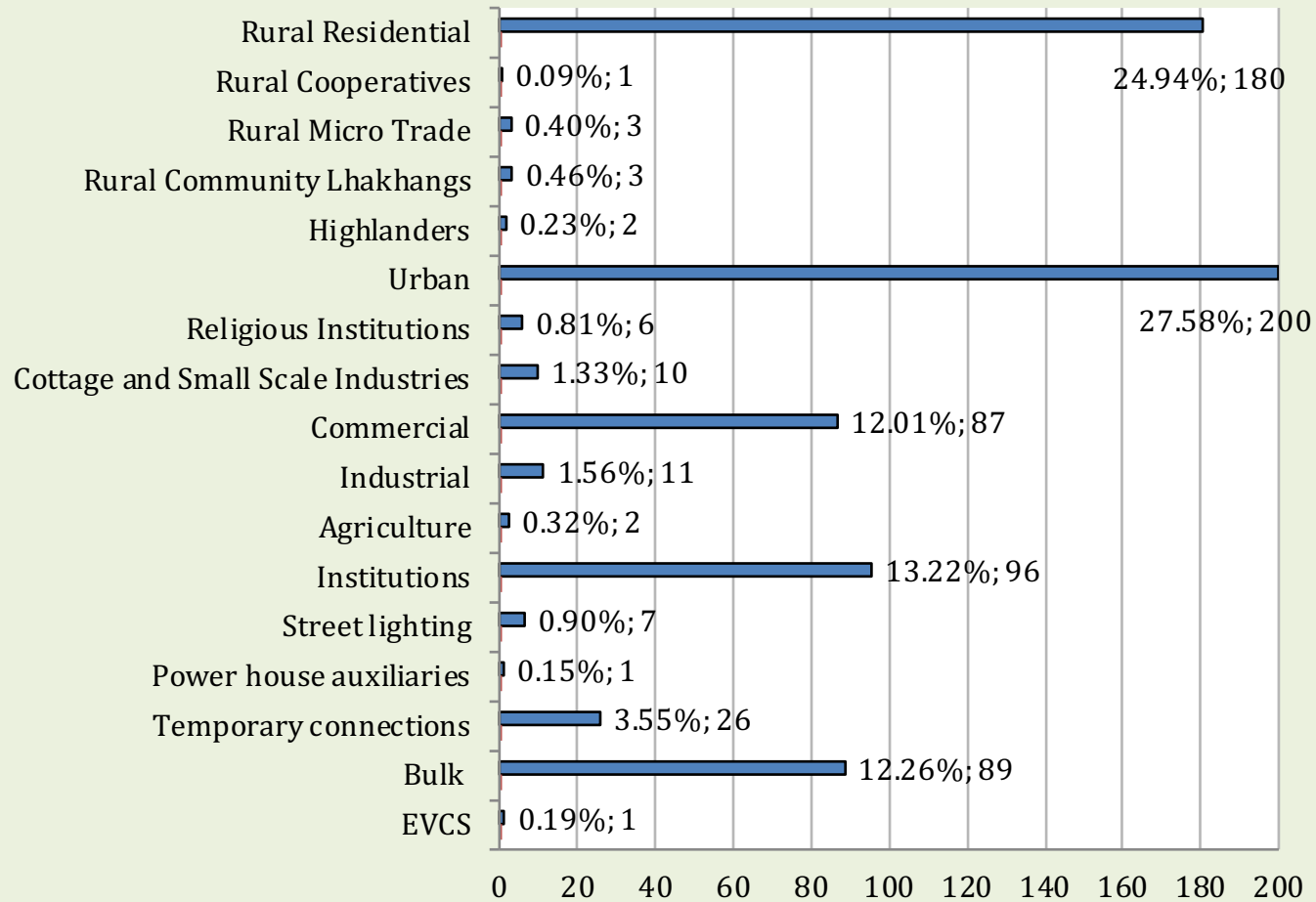
Sl#	Particulars	2020	2021	2022	2023	2024
1	Energy Requirement (MU)					
	Purchase from Generating Companies by BPC	2,128.58	2,649.54	3,439.59	5,304.09	6,122.49
	Import of power			203.92	597.68	1,406.38
	Purchase from Solar				0.62	3.23
	Mini/Micro Hydel Generation	25.44	21.41	19.45	19.64	16.90
	Diesel Generation	0.00	0.00	0.00	0.01	0.000
	Import (From ASEB & WBESB) through DCSD	0.00	0.00	0.00	0.00	0.00
	Total	2,154.02	2,670.95	3,662.96	5,922.04	7,548.99
	% growth over previous year	-11.71%	24.00%	37.14%	61.67%	27.47%
2	Purchase from TD by DCSD	2,002.91	2,518.12	3,535.59	5,744.01	7,193.01
	Energy purchased from TD (MV & LV)	672.69	719.59	912.49	931.29	2,380.30
	Energy purchased from TD (HV)	1,330.22	1,798.52	2,623.10	4,812.72	4,812.72
3	Energy Wheeled	9,156.71	8,074.27	7,240.21	5,135.06	5,456.44
4	Energy Sales in MU (Category Wise)					
	Rural Residential	140.45	146.15	161.29	170.23	180.49
	Rural Cooperatives	0.38	0.43	0.50	0.54	0.64
	Rural Micro Trade	2.54	2.62	2.84	2.89	2.88
	Rural Community Lhakhangs	2.44	2.54	2.71	2.94	3.32
	Highlanders	1.23	1.56	1.62	1.76	1.67
	Urban	155.93	168.22	182.13	189.28	199.65
	Religious Institutions	5.02	5.40	5.12	5.29	5.90
	Cottage and Small Scale Industries	6.57	7.15	8.03	9.28	9.64
	Commercial	58.95	59.02	67.25	77.54	86.90
	Industrial	8.09	8.07	8.71	10.10	11.33
	Agriculture	2.26	2.35	2.39	2.32	2.34
	Institutions	66.27	74.92	78.77	88.41	95.70
	Street lighting	5.01	5.15	5.49	6.01	6.51
	Power house auxiliaries	1.37	1.22	1.16	1.02	1.06
	Temporary connections	21.88	18.54	24.06	24.75	25.71
	Bulk	71.32	65.77	70.34	84.14	88.74
	EVCS				1.37	1.36
	LV Total	549.71	569.12	622.41	677.85	723.84
	Medium Voltage	81.49	108.61	221.38	197.77	109.99
	High Voltage	1,330.10	1,796.76	2,621.39	4,814.12	6,291.17
	Total Energy Sales	1,961.31	2,474.49	3,465.18	5,689.74	7,125.00
	% Growth over previous year	-14.00%	26.17%	40.04%	64.20%	25.23%
4	Number of Customers (Categorywise)					
	Rural Residential	117,633	122,574	128,111	133,481	139,173
	Rural Cooperatives	533	454	489	554	584
	Rural Micro Trade	1,443	1,463	1,484	1,508	1,503
	Rural Community Lhakhangs	1,506	1,586	1,632	1,695	1,785

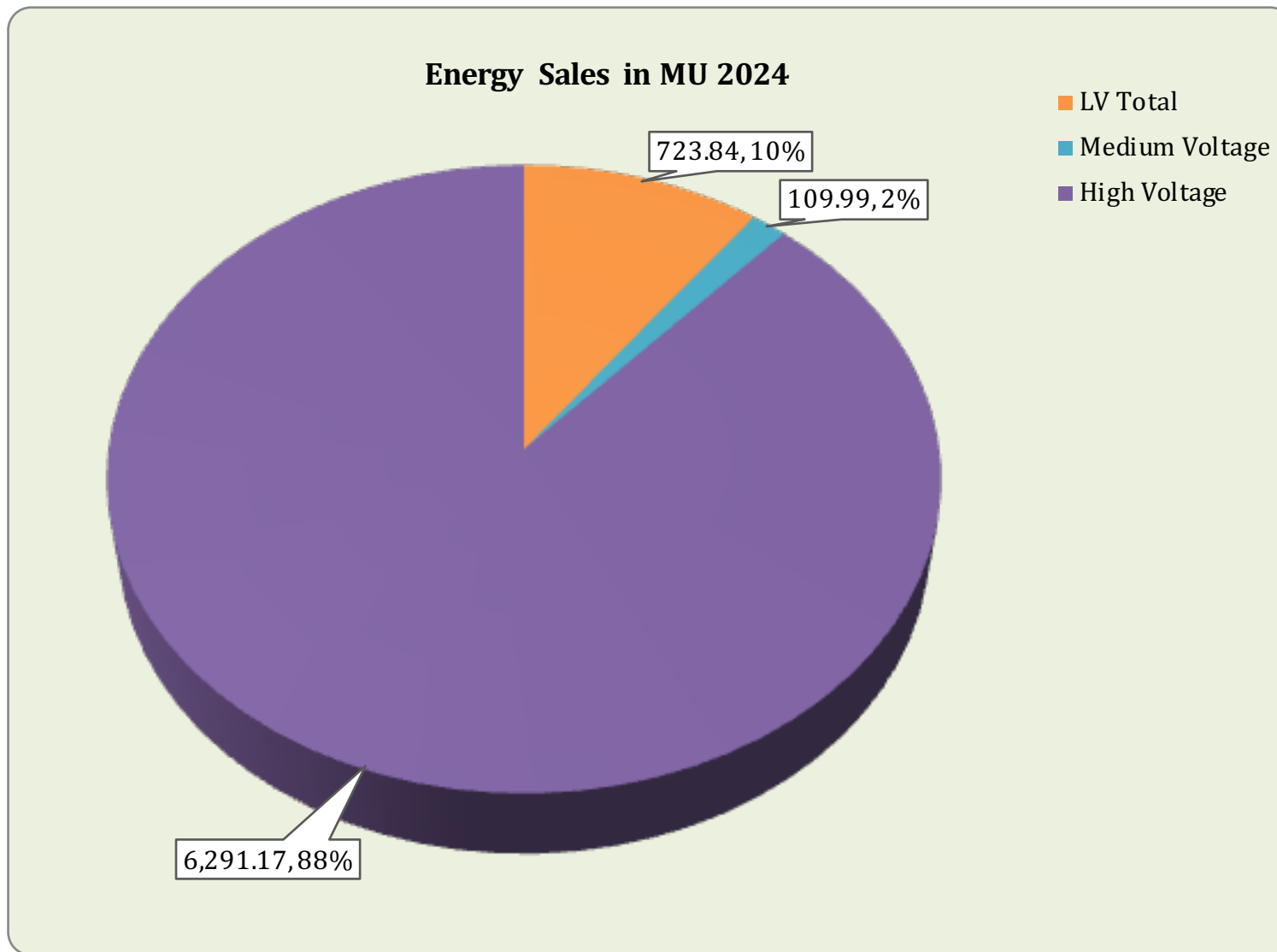
Sl#	Particulars	2020	2021	2022	2023	2024
	Highlanders	1,344	1,385	1,478	1,631	1,656
	Urban	57,135	59,101	62,145	65,160	69,184
	Religious Institutions	703	719	707	754	777
	Cottage and Small Scale Industries	1,658	1,731	1,783	1,835	1,769
	Commercial	14,724	15,246	16,065	17,602	18,731
	Industrial	289	274	462	284	290
	Agriculture	2,453	2,906	3,190	3,174	3,276
	Institutions	8,546	9,042	9,283	10,242	11,140
	Street lighting	696	732	716	823	850
	Power house auxiliaries	48	47	81	48	48
	Temporary connections	4,026	3,953	4,067	3,636	3,876
	Bulk	812	751	683	721	728
	EVCS				40	51
	LV Total	213,549	221,964	232,376	243,188	255,421
	Medium Voltage	65	75	70	75	73
	High Voltage	15	19	19	22	23
	Total Customers	213,629	222,058	232,465	243,285	255,517
	% growth over previous year	5.53%	3.95%	4.69%	4.65%	5.03%
5	Loss (%)					
	Global System losses (including Wheeling) (%)	1.70%	1.83%	1.81%	2.14%	2.15%
	Transmission Loss including wheeling (%)	1.11%	1.23%	1.21%	1.49%	1.49%
	Distribution Losses including HV Industries (%)	3.34%	2.30%	1.98%	1.35%	0.16%
	Distribution Losses Excluding HV Industries (%)	9.37%	7.51%	7.30%	7.86%	8.05%

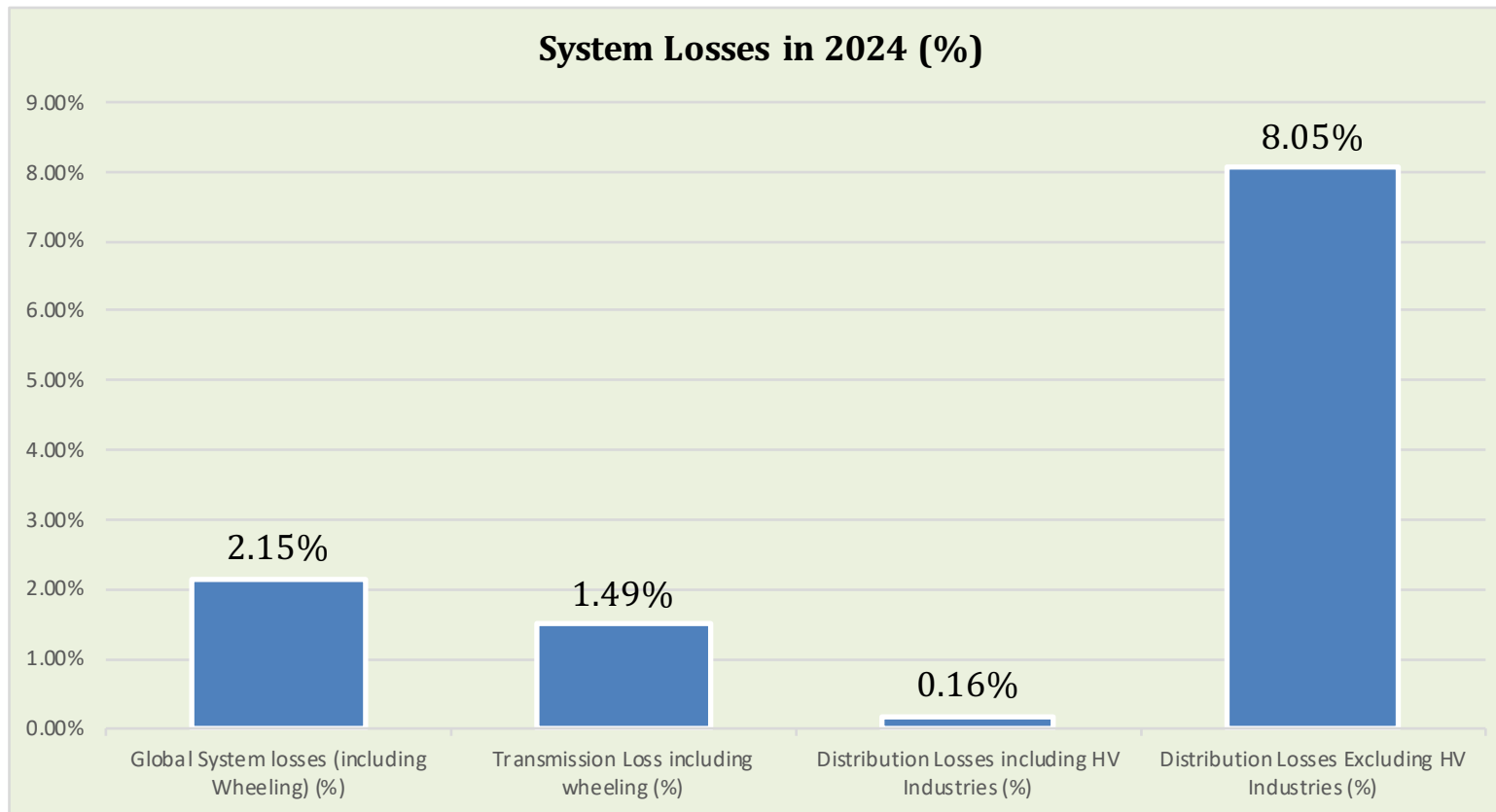




Energy Sales to LV Customers 2024 (MU)







1.1 MAJOR TRANSMISSION LINES (ROUTE LENGTH IN KM), SUBSTATION CAPACITY (MVA) AND TOWERS NUMBERS

Table 1.1 : MAJOR TRANSMISSION LINES (ROUTE LENGTH IN KM), SUBSTATION CAPACITY (MVA) AND TOWERS NUMBERS

Sl#	Description	2020	2021	2022	2023	2024
A	Transmission Lines					
1	400 kV (D/C) - Twin Moose	496.11	496.11	496.11	496.11	496.11
2	400kV Quad Moose ACSR	4.75	4.75	4.75	4.75	4.75
3	220 kV (S/C)	182.03	182.03	181.72	181.74	187.26
4	220 kV (D/C)	143.51	143.51	137.48	136.98	183.01
5	132 kV (S/C)	343.44	343.44	344.65	344.65	344.65
6	132 kV (D/C)	128.53	128.53	156.89	156.89	157.99
7	66 kV (S/C)	345.25	345.25	349.80	345.70	384.04
8	66 kV (D/C)	59.92	59.92	59.92	59.92	69.04
9	66 kV (Q/C)	3.41	3.41	3.41	3.41	3.41
10	UG	6.72	6.72	6.72	6.72	6.72
	Total	1,713.64	1,713.64	1,741.44	1,736.86	1,836.97
B	Transformation Capacity of Transmission Substation (MVA)	1,675.50	1,900.50	1,910.50	2,735.50	3,478.00
C	Transmission Towers (Nos)	4,869	4,869	4,925	4,946	5,050

1.2 MAJOR TRANSMISSION LINES (ROUTE LENGTH IN KM) AS OF DECEMBER 2024

Table 1.2: TRANSMISSION LINES AS ON DECEMBER 2024

Sl#	Transmission Line	Length as per tower schedule (km) 2024
I	400 kV	
A	D/C Twin	
1	400kV Tala-Siliguri line-1 & 2	24.62
2	400kV Tala-Malbase-Siliguri line 3 & 4	49.53
3	400kV Puna-1-Alipurduar line-1 & 2	93.38
4	400kV Puna-1-Puna-2 line-1 & 2	13.03
5	400kV Puna-2-Alipurduar line-1 & 2	80.85
6	400kV Puna-2-Jigmeling line-1 & 2	64.98
7	400kV Mangdechhu-Jigmeling line-1 & 2	85.07
8	400kV Mangdechhu-Jigmeling line-3 & 4	84.65
	Sub- total A	496.11
B	D/C Quad	
1	400kV Jigmeling-Alipurduar line-1 & 2	4.75
	Sub - total I	500.86
II	220 kV	
A	S/C	
1	220kV Chukha-Malbase line	29.87
2	220kV Chhukha-Jamjee line	38.11
3	220kV Jamjee-Semtokha line	21.42
4	220kV Rurichhu-Semtokha line	44.90
5	220kV Rurichhu-Tsirang line	48.03
6	220kV Singyegoan - Samtse line (till MS-1)	1.46
7	220kV SBL 9 to Singhigaon line	0.83
8	220kV SBL 9 to Birpara (till Border) line	2.64
	Sub- total A	187.26
B	D/C	
1	220kV Chukha-Birpara line-(upto Bhutan border)	35.46
2	220kV Chukha-Jamjee Line	34.95
3	220kV Malbase- till SBL 9 of Singhigaon / Birpara line	1.78
4	220kV Malbase-Samtse line	41.64
5	220kV Damdum to Norbugang (NIP)	6.46
6	220kV Jigmeling SS to DHI Farm Line	2.25
7	220kV Tsirang-Jigmeling line	30.57
8	220kV Dagachhu-Tsirang line	23.14
9	220kV Tshendagang-Dagapela LILO	4.40
10	220kV Rurichhu-PHPA-1 LILO	2.37
	Sub- total B	183.01
	Sub-total II	370.27
III	132 kV	
A	S/C	
1	132kV Kurichhu-Kilikhar line	10.06
2	132kV Kilikhar-Kanglung line	29.71
3	132kV Kilikhar-Tangmachhu line	42.80
4	132kV Kurichhu-Nangkhor line	31.08
5	132kV Nangkhor-Deothang line	23.67
6	132kV Nangkhor-Nganglam line	33.69
7	132kV Nganglam-Tintibi line	83.30

Sl#	Transmission Line	Length as per tower schedule (km) 2024
8	132kV Gelephu-Pelrithang (Lodrai)	5.49
9	132kV Pelrithang - Tintibi	40.47
10	132kV Gelephu-Salakati line	0.10
11	132kV Deothang-Motanga line	10.45
12	132kV Motanga-Rangia line	1.77
13	132kV Tintibi-Yurmoo line	31.55
14	132kV Motanga-DML line	0.53
	Sub- total A	344.65
B	D/C	
1	132kV Jigmeling-Pelrithang (Lodrai)	10.42
2	132kV Jigmeling to DHI Farm	1.10
3	132kV Motanga-Phuntshothang	21.63
4	132kV Merung-Corlung LILO	18.68
5	132kV Kanglung-Phuntshothang line (Single strung)	51.43
6	132kV Nganglam-Motanga line (Single strung)	34.92
7	132kV Mangdechhu-Yurmoo line	1.86
8	132kV Nikachhu-Mangdechhu line	17.96
	Sub- total B	157.99
	Sub-total III	502.64
IV	66 kV	
A	S/C	
1	66kV Chhukha-Chumdo line	36.98
2	66kV Chumdo to Khasadrapchu	4.78
3	66kV Semtokha to Habesa	20.40
4	66kV Khasakha to Olakha	11.74
5	66kV Jamjee LILO to Paro	22.48
6	66kV Jamjee LILO to Jizhikha	11.57
7	66kV Jizhikha LILO to Haa	21.83
8	66kV Semtokha to Olakha	1.65
9	66kV Semtokha to Dochula	10.76
10	66kV Dochula to Lobesa	15.87
11	66kV Semtokha to Dechencholing	11.88
12	66kV Dechencholing to Kabesa,Punakha	14.56
13	66kV Dechencholing to Gasa (Damji)	47.23
14	66kV Rurichhu-Lobesa line	20.30
15	66kV Hebese-Rurichhu line	3.08
16	66kV Chukha-Gedu line	20.40
17	66kV Gedu-Phuentsholing line	16.70
18	66kV Phuentsholing-Gomtu line	27.35
19	66kV Malbase-Phuentsholing line	8.69
20	66kV Yurmoo-Kewathang line (charged at 33 kV)	20.94
21	66kV Yurmoo-Bumthang line (charged at 33 kV)	34.86
	Sub- total A	384.04
B	D/C	
1	66kV Khasadrapchu-Jemina	5.96
2	66kV Jamjee LILO to Chumdo	0.64
3	66kV Khasakha LILO to Chumdo	5.96
4	66kV Jemina to Changedaphu LILO	10.20
5	66kV Jamjee LILO to Jamjee SS	1.79
6	66kV Jizhikha LILO to Pangbesa	1.95

Sl#	Transmission Line	Length as per tower schedule (km) 2024
7	66kV Samtse-Sibsoo	26.96
8	66kV Samtse-Sibsoo 22 to GIS SS Norbugang	0.73
9	66kV Damdum-Gomtu line	14.85
	Sub- total B	69.04
C	Quad/C	
1	66kV Malbase-Pasakha multicircuit line	3.41
	Sub-total IV	456.49
IV	Total Transmission Line length	1,830.25
V	HV Cable	
A	66 kV	
1	66kV Khasadrapchu - Olakha	1.00
2	66kV Pasakha Industrial Area	5.02
3	66kV UG cable from SW31 to Dochula Substation	0.70
	Sub- total V	6.72
	GRAND TOTAL	1,836.97

Table 1.3 TRANSFORMATION CAPACITY OF HV SUBSTATIONS AS ON DECEMBER 2024

Sl. No.	Substation Location	Substation Type	Voltage Ratio (kV)	No. of trf	Transformer No. & Capacity (No. x MVA)	Maximum Capacity (MVA)	Section	
1	Semtokha	AIS	220/66	2	2 x 50/63	176	TOMS Semtokha	
			220/66	1	1 x 40/ 50			
			66/11	2	2 x 20			
2	Olakha	AIS	66/33	2	2 x 20	40		
3	Dechencholing	AIS	66/33	2	2 x 30	60		
			33/11	2	2 x 5			
4	Changedaphu	AIS	66/33	2	2 x 20	40		
5	Jemina	AIS	66/33	1	1 x 10	10		
			33/11	1	1 x 5			
6	Dochula	GIS	66/11	3	3 x 25	100		
			66/11	1	1x25			
7	Jamjee	GIS	220/33	3	3x80	300		
			220/66	2	2x30			
			66/33	2	2x5			
8	Olathang	GIS	66/33	2	2 x 20	40		
9	Pangbesa	AIS	66/33	2	2 x 10	20		
			33/11	2	2 x 5			
10	Haa	AIS	66/11	2	2 x 5	10		
11	Lobeysa	AIS	66/33	2	2 x 5	20	TOMS Lobyesa	
			66/11	2	2 x 5			
12	Damji (GIS)	GIS	66/33	3	3 x 10	30		
13	Gedu	AIS	66/33	2	2 x 6.3/8	26		
			66/11	2	2 x 4/5			
14	Gedu (220kV)	GIS	220/66	2	2x80	160		
15	Gewathang	AIS	66/33	2	2x10	20		
16	Malbase	AIS	400/220/33	1	1 x 120/160/200	500	TOMS Pling	
			400/220	3	3x100			
			220/66	3	3 x 50/63			
			66/11	2	2 x 10			
17	Singhigaon	GIS	220/66	3	3 x 50/63	189		
			66/11	2	2 x 10			
	Phuentsholing	AIS	66/33	2	2 x 10			
			66/11	1	1 x 5			
			66/11	1	1 x 10/ 12.5			
18	Phuentsholing	GIS	66/33/11	2	2x30	60		
19	Gomtu	AIS	66/33	1	1 x 5	20	TOMS Pling	
			66/11	1	1 x 5			
			66/11	1	1 x 10			
20	Dhamdum	AIS	220/66	2	2 x 50/63	126		
			66/33	2	2x5			
21	Jamtsholing	GIS	66/33	2	2x15	30		
22	Darjey	AIS	220/33	2	2x10	20	TOMS	
23	Dagapela	AIS	220/33	2	2 x 40	80	Tisrang	

Sl. No.	Substation Location	Substation Type	Voltage Ratio (kV)	No. of trf	Transformer No. & Capacity (No. x MVA)	Maximum Capacity (MVA)	Section
24	Gelephu	AIS	132/33	2	2 x 25	50	TOMS Jigmeling
			33/11	2	2 x 10		
25	Jigmeling	GIS	400/220	3	3 x 166.66	500	
		AIS	220/132	2	2x 63/80		
			132/33	1	1x15		
26	Bitdeer, Jigmeling	GIS	220/33		5x100	700	
			132/33		2x100		
27	Tintibi	AIS	132/33	2	2 x 3	6	TOMS Tingtibi
			33/11	2	2 x 1.5		
28	Yurmoo	GIS	132/33	2	2x40	30	
29	Kilikhar	AIS	132/33	1	1 x 10	20	TOMS Gyelposhing
			33/11	2	2 x 2.5		
			132/33	1	1 x 10		
30	Kanglung	AIS	132/33	2	2 x 5	10	
			33/11	2	2 x 2.5		
31	Corlung	AIS	132/33	2	2 x 10	20	
32	Dewathang	AIS	132/33	2	2 x 5	10	
			33/11	2	2 x 2.5		
33	Nangkor	AIS	132/33	2	2 x 5	10	
			33/11	2	2 x 2.5		
34	Nganglam	AIS	132/33	1	1 x 5	10	
			132/33	1	1 x 3		
			33/11	2	2 x 1.5		
35	Motanga	AIS	132/33	1	1 x 15	15	
36	Phuntshothang	AIS	132/33	2	2 x 10	20	
Total Capacity(MVA)				123		3,478.00	

Table 1.4 TRANSMISSION TOWERS AS OF DECEMBER 2024

Sl#	Line Section		Tower Type							Voltage (kV)	Conductor	Ckt
	From	To	A	B	C	D	SPL	Q	Total			
1	Tala	Pugli	-	32	25	32	15	-	104	400	Twin Moose ACSR	D/C
2	Tala	Khogla	-	9	12	14	13	-	48	400	Twin Moose ACSR	D/C
3	Puna I	Alipurduar 1 & 2	-	71	59	84	15	-	229	400	Twin Moose ACSR	D/C
4	Puna I	Puna II	-	17	11	8	1	-	37	400	Twin Moose ACSR	D/C
5	Puna II	Alipurduar 1 & 2	-	53	59	82	15	-	209	400	Twin Moose ACSR	D/C
6	Puna II	Jigmeling 1 & 2	-	39	41	67	-	-	147	400	Twin Moose ACSR	D/C
7	Mangdechhu (Line-A)	Jigmeling (Line-A)		27	42	81	35		185	400	Twin Moose ACSR	D/C
8	Mangdechhu (Line-B)	Jigmeling (Line-B)		36	37	75	37		185	400	Twin Moose ACSR	D/C
9	Jigmeling	India Border (Alipurduar)					12		12	400	Quad Moose ACSR	D/C
	Total 400 kV		-	284	286	443	143	-	1,156			
10	Chukha	India Border	-	52	27	12	6	-	97	220	Zebra ACSR	D/C
11	Chukha	Malbase	-	51	24	15	2	-	92	220	Zebra ACSR	S/C
12	Chukha	Semtokha	-					-	-	220	Zebra ACSR	S/C
a	Chukha	Jamjee		54	23	14	3		94	220	Zebra ACSR	S/C
b	Jamjee	Semtokha		30	17	4	-		51	220	Zebra ACSR	S/C
13	Jamjee	LILO			5	1			6	220	Zebra ACSR	D/C
14	Semtokha	Rurichhu	-	52	26	26	6	-	110	220	Zebra ACSR	S/C
15	Rurichhu	Tsirang	-	87	17	5	8	-	117	220	Zebra ACSR	S/C
16	Malbase	India Border (Birpara)	-	2	3	2	-	1	8	220	Zebra ACSR	S/C
17	Samtse	Singhigaon	-	-	5	1	-	-	6	220	Zebra ACSR	D/C
18	Malbase	Singhigaon	-	1	9	7	1		16	220	Zebra ACSR	S/C
19	Malbase	Samtse	-	40	29	35	2	-	106	220	Zebra ACSR	D/C
20	Damdum	Norbugang (NIP)		6	3	3	8		20	220	Zebra ACSR	D/C
21	Tsirang	Jigmeling	-	36	19	10	4	-	69	220	Zebra ACSR	D/C
22	Tsirang	Dagachu Porthead yard	-	25	21	6	4	-	56	220	Zebra ACSR	D/C
23	Jigmeling	Pelrithang (Lodrai)	-	11	7	6	4	-	28	220	Zebra ACSR	D/C
24	Jigmeling SS	DHI Farm			4	6			10	220	Zebra ACSR	
25	Tshendengang	Dagapela (LILLO)	-	8	7	5	-	-	20	220	Zebra ACSR	D/C

Sl#	Line Section		Tower Type							Voltage (kV)	Conductor	Ckt
	From	To	A	B	C	D	SPL	Q	Total			
26	220kV Rurichhu-PHPA-1 LILO	PHPA (LILO)				3	4	-	7	220	Zebra ACSR	D/C
27	Chukkha	Jamjee		33	34	13	10		90	220	Zebra ACSR	D/C
	Total 220 kV		-	488	280	174	62	1	913			
27	Kurichhu	Kilikhar	-	6	9	10	3	-	28	132	Panther ACSR	S/C
28	Kilikhar	Kanglung	-	27	26	15	13	-	81	132	Panther ACSR	S/C
29	Kilikhar	Tangmachhu(Lhuentsh e)	-	63	40	9	2	-	114	132	Panther ACSR	S/C
30	Merung	Corlung (LILO)	-	19	17	14	-	-	50	132	Panther ACSR	D/C
31	Kurichhu	Nangkhor	-	52	14	25	7	-	98	132	Panther ACSR	S/C
32	Nangkhor	Deothang	-	17	16	12	15	-	60	132	Panther ACSR	S/C
33	Nangkhor	Nganglam	-	62	23	10	7	-	102	132	Panther ACSR	S/C
34	Deothang	Montanga	-	9	2	10	16	-	37	132	Panther ACSR	S/C
35	Motanga	India Border								132	Panther ACSR	S/C
36	Motanga	Phuntshothang		16	21	24			61	132	Panther ACSR	D/C
37	Motanga	Nganglam		27	42	23	2		94	132	Panther ACSR	D/C
38	Kanglung	Phuntshothang		33	26	33	21		113	132	Panther ACSR	D/C
39	Nganglam	Tingtibi	-	95	34	57	60	-	246	132	Panther ACSR	S/C
40	Tingtibi	Pelrithang(Lodrai)	-	51	24	19	28	-	122	132	Panther ACSR	S/C
41	Pelrithang(Lodrai)	Gelephu		13	2	5	-	-	20	132	Panther ACSR	S/C
42	Gelephu	India Border	-	-	1	-	-	-	1	132	Panther ACSR	S/C
43	Jigmeling Substation	DHI Farm					8		8	132	Panther ACSR	D/C
44	Tingtibi	Yurmoo	-	31	12	6	32	2	83	132	Panther ACSR	S/C
45	Mangdechhu	Yurmoo		2	4	1			7	132	Panther ACSR	D/C
46	Motanga	DML							4	132	Panther ACSR	S/C
47	Nikkachhu	Mangdechhu		18	14	23			55	132	Panther ACSR	D/C
	Total 132 kV		-	541	327	296	214	2	1,384			
48	Chukha	Chumdo								66	Dog ACSR	S/C
49	Chumdo	Khasadrapchu										
50	Khasadrapchu	Olakha										
51	Khasadrapchu	Jemina								66	Dog ACSR	D/C
52	Chumdo	Paro								66	Dog ACSR	S/C

Sl#	Line Section		Tower Type							Voltage (kV)	Conductor	Ckt
	From	To	A	B	C	D	SPL	Q	Total			
53	Chumdo	Haa								66	Dog ACSR	S/C
54	Watsa	Watsa (Tie line)								66	Dog ACSR	S/C
55	Semtokha	Lobeysa								66	Dog ACSR + HTLS	S/C
56	Lobeysa	Rurichhu	1	44	13	9	9	-	76	66	Dog ACSR	S/C
57	Rurichhu	Hebisa	-	7	1	6	-	-	14	66	Dog ACSR	S/C
55	Chukha	Gedu	6	44	23	-	1	-	74	66	Dog ACSR	S/C
56	Jemina	Changedaphu								66	Wolf ACSR	D/C
57	Semtokha	Habesa	-	22	13	9	2	-	46	66		
58	Jamjee	Jemina	-						-	66		
a	Jamjee LILO	Chumdo	-	-	-	4	-	-	4	66 & 33	Wolf ACSR	DC
b	Chumdo	Khasakha		28	5	-	-	-	33	66	Dog ACSR	SC
c	Khasakha LILO	Jemina	-	11	2	4	6		23	66	Dog ACSR	DC
59	Jemina	Changedaphu	-	20	7	8	-	-	35	66	Wolf ACSR	DC
60	Changidaphu	Olakha							-	66		
a	Changidaphu	Jemina	-	20	7	8	-	-	35	66	Wolf ACSR	DC
b	Jemina	Khasakha		11	2	4	6	-	23	66	Dog ACSR	DC
c	Khasakha	Olakha	2	25	6	3	-	-	36	66	Dog ACSR	SC
61	Jamjee	Paro							-			
a	Jamjee LILO	Jamjee	-	-	-	7	-	-	7	66	Wolf ACSR	DC
b	Jamjee LILO	Paro	-	42	20	15	-	-	77	66	Dog ACSR	SC
62	Jamjee	Pangbesa							-			
a	Jamjee LILO	Jamjee	-	-	-	7	-	-	7	66	Wolf ACSR	DC
b	Jamjee LILO	Jizhikha	1	14	7	8	-	-	30	66	Dog ACSR	SC
c	Jizhikha LILO	Pangbesa	-	5	1	3	-	-	9	66	Wolf ACSR	DC
63	Pangbesa	Haa							-			
a	Pangbesa	Jizhikha LILO	-	5	1	3	-	-	9	66	Wolf ACSR	DC
b	Jizhikha LILO	Haa	1	18	9	10	24	25	87	66	Dog ACSR+Zebra	SC
64	Semtokha	Olakha	-	2	1	4	-	-	7	66	HTLS, ACCC, Silvassa	SC
65	Semtokha	Dochula	-	18	4	8	-	-	30	66	HTLS, ACCC, Silvassa	SC
66	Dochula	Lobesa	-	24	11	14	2	-	51	66	Dog, ACSR	SC
67	Semtokha	Dechencholing	-	29	2	3	12	-	46	66	HTLS, ACCC, Silvassa	SC

Sl#	Line Section		Tower Type							Voltage (kV)	Conductor	Ckt
	From	To	A	B	C	D	SPL	Q	Total			
68	Dechenchholing	Gasa (Damji)	-	63	75	63	-	-	201	66	Wolf ACSR	SC
69	Dechenchholing	Kabesa Punakha	-	22	23	25	-	-	70	66	Wolf ACSR	SC
71	Gedu	Phuentsholing	2	50	15	-	-	-	67	66	Dog ACSR	S/C
72	Phuentsholing	Gomtu	-	39	30	23	3	-	95	66	Dog ACSR	S/C
73	Malbase	Phuentsholing	-	9	4	10	-	-	23	66	Dog ACSR	S/C
74	Malbase	Pasakha	-	-	6	4	7	-	17	66	Dog ACSR	Q/C
75	Samtse	Sibso	-	40	39	17	-	-	96	66	Wolf ACSR	D/C
76	Samtse-Sipsoo 22	Norbugang (NIP)					4		4	66	Wolf ACSR	D/C
77	Samtse	Gomtu	-	19	22	12	-	-	53	66	Wolf ACSR	D/C
78	Yurmoo	Trongsa	-	20	17	13	28		78	66	Wolf ACSR	S/C
79	Yurmoo	Bumthang	-	93	14	13	6	8	134	66	Wolf ACSR	S/C
	Total 66 kV		13	744	380	317	110	33	1,597			
	Total		13	2,057	1,273	1,230	529	36	5,050			

A type tower- angle of deviation: 0-2 degree

B type tower- angle of deviation: 2-15 degree

C type tower- angle of deviation: 15-30 degree

D type tower- angle of deviation: 30-60 degree

SPL tower- Special tower

Q- Snow Zone tower

1.5 DISTRIBUTION LINES (ROUTE LENGTH IN KM) AND SUBSTATION CAPACITY (kVA)

TABLE 1.5 DISTRIBUTION LINES (ROUTE LENGTH IN KM) AND SUBSTATION CAPACITY (kVA)

Sl#	Description	2020	2021	2022	2023	2024
A	Distribution Lines					
	33 kV	4,050.57	4,149.48	4,185.73	4,412.40	4,500.18
	11 kV	2,636.80	2,686.44	2,696.46	2,786.77	2,901.71
	6.6 kV	83.86	85.02	80.14	86.79	85.47
	LV line	9,944.96	10,036.20	10,426.12	9,966.43	10,018.37
	Total Line length	16,716.19	16,957.14	17,388.44	17,252.39	17,505.73
B	Transformer capacity (kVA)	908,036	959,187	1,046,742	1,157,581	1,344,651

Table 1.6 DISTRIBUTION NETWORK (LINE LENGTH IN KM) AS OF DECEMBER 2024

Sl#	Dzongkhag	33 kV	11 kV	6.6 kV	Total MV line	Total LV line	Total Line length
1	Bumthang	104.60	93.86	10.00	208.46	202.80	411.26
2	Chhukha	347.90	284.50	-	632.40	1,036.00	1,668.40
3	Dagana	271.20	-	45.29	316.49	505.67	822.16
4	Haa	122.40	60.20	-	182.60	248.90	431.50
5	Lhuntse	100.80	182.36	-	283.16	301.70	584.86
6	Mongar	372.00	165.00	-	537.00	721.30	1,258.30
7	Paro	232.00	178.40	-	410.40	432.00	842.40
8	Pemagatsel	271.50	54.12	-	325.62	414.10	739.72
9	Punakha	260.40	30.70	-	291.10	368.24	659.34
10	Samtse	179.40	488.00	-	667.40	1,103.76	1,771.16
11	S/ Jongkhar	402.00	107.30	-	509.30	524.00	1,033.30
12	Sarpang	114.79	364.93	-	479.72	677.79	1,157.51
13	Thimphu	129.21	280.30	2.87	412.38	484.00	896.38
14	Trongsa	212.10	20.46		232.56	247.78	480.34
15	Trashigang	168.70	313.60	-	482.30	795.42	1,277.72
16	Trashi yangtse	225.10	8.80	-	233.90	326.21	560.11
17	Tsirang	220.20	10.46	3.89	234.55	559.34	793.89
18	Wangdue	335.41	248.39	1.48	585.28	708.63	1,293.91
19	Zhemgang	430.53	10.34	21.91	462.78	360.73	823.51
	Total	4,500.24	2,901.72	85.44	7,487.40	10,018.37	17,505.77

Table 1.7 DISTRIBUTION SUBSTATION (kVA) AS OF DECEMBER 2024

Sl#	Dzongkhag	Voltage Ratio (kV)	Number of Transformers under BPC	Total Installed Capacity (kVA) under BPC	Remarks	Total No of Tranformers Installed in the system (pvt. Xmers	Total Capacity (kVA)
1	Bumthang	33/11	4	7,500	Power Transformer	188	30,947
		33/6.6	-	-			
		33/0.240	1	63	Distribution Transformers		
		33/0.415	43	3,698			
		11/0.240	3	70			
		6.35/0.415	1	10			
		6.35/0.240	1	63			
		11/0.415	101	12,625			
		6.6/0.415	11	559			
		TOTAL	165	24,588			
		0.415/6.6	-	-	Generating Transformer (Ura) and Chumey . Asset with DGPC		
		0.6/11	3	800			
		TOTAL	168	25,388			
2	Chhukha	33/11	4	20,000	Power Transformer	597	185,196
		33/0.240	64	1,153	Distribution Transformers		
		33/0.415	157	7,349			
		11/0.415	189	61,419			
		11/0.240	5	74			
		TOTAL	419	89,995			
3	Dagana	33/0.240	47	749	Distribution Transformers	249	18,269
		33/0.415	186	15,076			
		33/6.6	1	750			
		6.6/0.415	7	449			
		TOTAL	241	17,024			
		0.415/6.6	1	250	Generating Transformer. Asset with DGPC		
		TOTAL	242	17,274			

Sl#	Dzongkhag	Voltage Ratio (kV)	Number of Transformers under BPC	Total Installed Capacity (kVA) under BPC	Remarks	Total No of Transformers Installed in the system (pvt. Xmers)	Total Capacity (kVA)
4	Sarpang	33/11	4	10,500	Power Transformer	352	57,831
		33/0.240	27	468	Distribution Transformer		
		33/0.415	21	3,956			
		11/0.240	28	433			
		11/0.415	235	29,139			
		TOTAL	315	44,496			
		TOTAL	315	44,496			
5	Haa	33/11	1	2,500	Power Transformer	166	20,979
		33/0.240	34	541	Distribution Transformer		
		33/0.415	55	3,582			
		11/0.415	70	11,106			
		TOTAL	160	17,729			
6	Lhuntse	33/11	2	3,000	Power Transformers	234	16,536
		33/0.240	72	1,581	Distribution Transformers		
		33/0.415	23	1,645			
		11/0.415	104	5,316			
		11/0.240	8	152			
		TOTAL	209	11,694			
		TOTAL	209	11,694			
7	Mongar	33/11	1	2,500	Power Transformer	433	40,566
		33/0.240	93	1,580	Distribution Transformers		
		33/0.415	188	8,290			
		11/0.240	7	100			
		11/0.415	128	22,559			
		TOTAL	417	35,029			
		0.415/11			Generating Transformer (Khalanzi P.H)		
		TOTAL	417	35,029			

Sl#	Dzongkhag	Voltage Ratio (kV)	Number of Transformers under BPC	Total Installed Capacity (kVA) under BPC	Remarks	Total No of Transformer s Installed in the system (pvt. Xmers	Total Capacity (kVA)
8	Paro	33/11	7	30,000	Power Transformer	342	113,278
		33/0.240	31	421	Distribution Transformers		
		33/0.400	3	626			
		33/0.415	77	9,308			
		11/0.240	8	113			
		11/0.400	14	3,701			
		11/0.415	115	40,792			
		11/0.420	10	965			
		11/0.433	28	5,370			
		TOTAL	293	91,296			
9	Pemagatsel	33/11	3	6,500	Distribution Transformer	264	25,696
		33/0.240	87	1,934			
		33/0.415	103	5,400			
		11/0.415	50	5,253			
		11/0.240	1	16			
		TOTAL	244	19,103			
		0.415/11			Generating Transformer for DG set		
		TOTAL	244	19,103			
10	Punakha	33/11	1	2,500	Power Transformer	251	45,398
		33/0.240	38	1,102	Distribution Transformer		
		33/0.415	151	16,393			
		11/0.240	1	26			
		11/0.415	58	17,049			
		TOTAL	249	37,070			
11	Samtse	33/11	5	18,500	Power Transformer	749	176,293
		33/0.240	36	621	Distribution Transformer		
		33/0.415	119	3,351			
		11/0.240	92	1,427			
		11/0.415	395	33,711			
		TOTAL	647	57,610			

Sl#	Dzongkhag	Voltage Ratio (kV)	Number of Transformers under BPC	Total Installed Capacity (kVA) under BPC	Remarks	Total No of Tranformers Installed in the system (pvt. Xmers)	Total Capacity (kVA)
12	S/ Jongkhar	33/11	4	8,000	Power Transformer	399	48,403
		33/0.240	137	2,892	Distribution Transformers		
		33/0.415	138	14,089			
		11/0.415	74	15,395			
		TOTAL	353	40,376			
13	Thimphu	33/11	21	109,800	Power Transformer	637	409,970
		33/0.415	54	12,615	Distribution Transformer		
		33/0.400	9	452			
		11/0.433	54	17,109			
		11/0.420	16	731			
		11/0.415	283	167,909			
		11/0.400	71	29,022			
		6.35/0.220	2	41			
		6.35/0.233	1	63			
		6.35/0.240	6	188			
		TOTAL	517	337,930			
		0.415/11			Generating Transformer		
		TOTAL	517	337,930			
14	Trongsa	33/0.415	100	8,268	Distribution Transformers	167	16,731
		33/0.240	27	366			
		11/0.415	23	3,423			
		0.415/11	1	400			
		TOTAL	151	12,457			
15	Trashigang	33/11	4	10,000	Power Transformer	330	38,499
		33/0.230	25	725	Distribution Transformers		
		33/0.415	38	2,773			
		11/0.230	2	26			
		11/0.415	248	21,975			
		TOTAL	317	35,499			
16	Trashiyangtse	33/0.415	136	10,100	Distribution Transformer	192	14,069
		33/0.240	38	523			
		11/0.415	7	495			
		TOTAL	181	11,118			
		0.415/33	1	400	Generating Transformer		
		TOTAL	182	11,518			

Sl#	Dzongkhag	Voltage Ratio (kV)	Number of Transformers under BPC	Total Installed Capacity (kVA) under BPC	Remarks	Total No of Tranformers Installed in the system (pvt. Xmers)	Total Capacity (kVA)
17	Tsirang	33/0.415	192	14,988	Distribution Transformer	258	17,865
		33/0.240	56	923			
		11/0.415	5	863			
		11/0.240	2	41			
		6.6/0.415	1	50			
		TOTAL	256	16,865			
		0.415/6.6			Generating Transformer		
		6.6/33	1	250	Interconnecting Transformer		
		TOTAL	257	17,115			
18	Wangdue	33/11	2	5,000	Power Transformer	375	52,923
		33/0.240	37	933	Distribution Transformers		
		33/0.415	127	11,584			
		11/0.240	7	118			
		11/0.415	167	23,610			
		TOTAL	340	41,245			
		TOTAL	340	41,245			
19	Zhemgang	33/6.6	1	1,500	Power Transformer	278	15,202
		11/6.6	1	500			
		33/0.240	133	2,466	Distribution Transformer		
		33/0.415	98	6,179			
		11/0.415	7	439			
		6.6/0.415	26	2,265			
		TOTAL	266	13,349			
		0.415/6.6			Generating Transformer. Takeh by DGPC		
		TOTAL	266	13,349			
Total			5,746	956,173		6,461	1,344,651

CHAPTER 2

POWER GENERATION AND SUPPLY

This chapter provides information on power generation by Generating plants of DGPC (Druk Green Power Corporation Limited) / Authority and energy export from Bhutan as presented in Table 2.1.

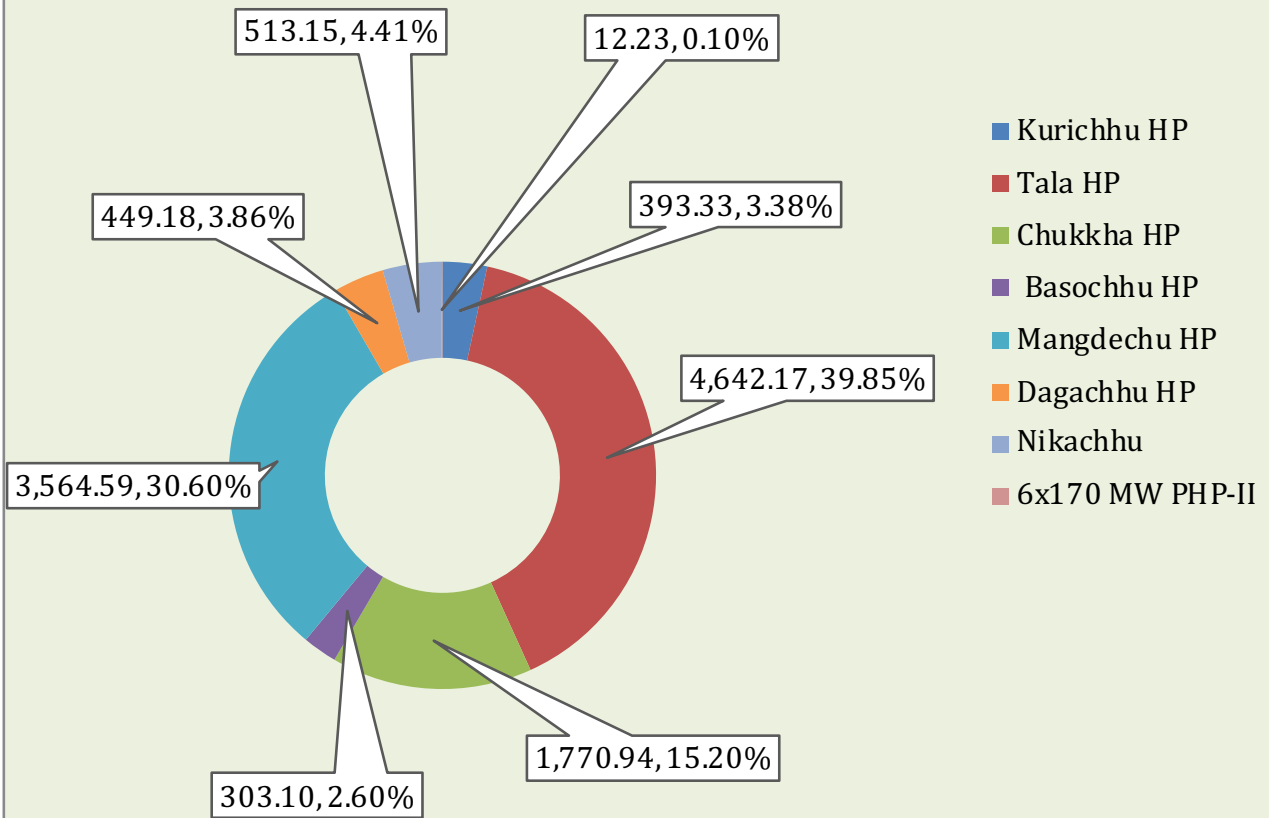
Table 2.1 MAJOR HYDROPOWER PLANT GENERATION (MU)

Plant	Particulars	2020	2021	2022	2023	2024
4 x 15 MW Kurichhu HP	Generation	391.59	386.29	407.92	385.84	393.33
	Export to India	93.39	46.93	19.7	26.1	0.00
6 x 170 MW Tala HP	Generation	5,031.82	4,619.77	4,539.01	4,454.24	4,642.17
	Export to India	3,387.53	2,761.82	2,384.83	1,235.42	809.04
4 x 84 MW Chukkhaha HP	Generation	1,858.07	1,966.308	1,915.92	1,775.37	1,770.94
	Export to India	2,030.55	1,835.82	1,624.87	967.14	1,035.89
2 x 12 MW/ 2 x 20 MW Basochhu HP	Generation	348.56	339.17	354.59	311.38	303.10
	Export to India				40.92	159.34
4 x 180 MW Mangdechu HP	Generation	3,218.39	2,988.89	3,084.96	3,145.05	3,564.59
	Export to India	2,020.00	2,944.29	2,772.89	2,435.53	2,590.21
2 x 126 MW Dagachhu HP	Generation	518.27	499.87	451.65	444.14	449.18
	Export to India	2,128.58	485.41	437.49	429.95	430.13
2x59 MW Nikachhu HP	Generation*					513.15
	Export to India					431.83
6x170 MW PHP-II	Generation**					12.23
	Export to India					0.00
TOTAL	Actual Generation by DGPC	11,366.71	10,800.30	10,754.05	10,516.02	11,648.68
	Energy Purchase by BPC from DGPC	2,128.58	2,649.54	3,654.00	5,323.73	6,142.61
	Energy Wheeled by BPC	9,156.71	8,074.27	7,240.21	5,135.06	5,456.44

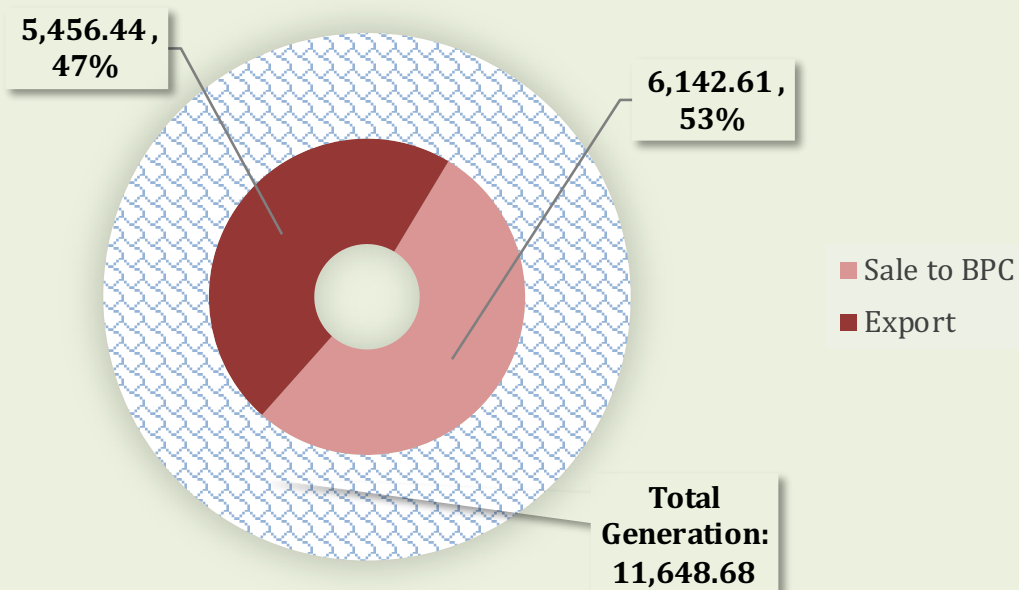
Note:

** & ** Nikachhu HP and PHP-II generation commenced from 2024*

Energy Generation 2024 (MU)



Energy Distributions (MU) 2024



CHAPTER 3

ENERGY PURCHASE, IMPORT AND WHEELED

BPC purchases energy from DGPC. In Samtse and Samdrup Jongkhar, BPC, sometimes, imports power from West Bengal State Electricity Board (WBSEB) and Assam State Electricity Board (ASEB) respectively at distribution level. After meeting Bhutan's internal demand, all surplus power generated by the DGPC and MHPA are exported to India. The data on energy wheeled for the export of excess power is also included.

Table 3.1 ENERGY PURCHASED FROM GENCOS BY BPC (MU)

Sl#	Generation Plant	2020	2021	2022	2023	2024
1	KHP	2,128.58	2,649.54	3450.08	5297.40	6025.74
2	THP					
3	CHP					
4	BHP					
5	MHPA					
6	DSP Solar					
7	PH-II					
8	Embeded Generation				26.32	16.90
9	NHP					99.98
10	IEX			203.92	597.68	1406.38
	Total	2,128.58	2,649.54	3654.00	5921.40	7548.99

Table 3.2 ENERGY TRANSFERRED BY TD TO DCSD (MU)

Sl#	DZONGKHAG	2020	2021	2022	2023	2024
1	Chhukha	1,152.99	1,230.07	1,297.04	1,853.70	2,762.86
2	Haa	15.10	16.04	17.23	16.65	16.70
3	Paro	58.75	59.04	98.31	128.97	83.70
4	Punakha	22.19	25.66	53.59	159.62	190.32
5	Samtse	68.78	80.49	67.74	94.69	99.83
6	Thimphu	240.84	585.37	944.53	1,924.23	2,524.00
7	Wangdue	51.42	48.79	46.41	49.63	50.67
8	Tsirang	9.00	9.68	10.39	10.65	12.04
9	Dagana	9.65	27.68	296.53	500.43	474.94
10	Sarpang	34.64	35.30	38.34	48.13	52.73
11	Mongar	14.90	16.14	17.69	17.74	17.88
12	Pemagatsel	92.17	91.68	93.68	90.02	82.17
13	Samdrupjongkhar	161.22	221.21	235.83	240.20	242.52
14	Trashigang	14.73	16.16	17.75	14.68	16.96
15	Zhemgang	4.88	5.16	5.95	6.60	7.69
16	Lhuntse	5.45	5.65	6.41	7.47	7.99
17	Trongsa	41.21	37.05	254.89	559.70	530.57
18	Bumthang				12.49	10.61
19	Trashiyangtse	4.99	6.95	9.22	8.40	8.74
	Total	2,002.91	2,518.12	3,511.52	5,743.97	7,192.92

Table 3.3 ENERGY IMPORTED FROM WBSEB AND ASEB (MU)

Sl#	DZONGKHAG	2020	2021	2022	2023	2024
1	Samtse (WBSEB)	0.00	0.00	0.00	0.00	0.00
2	Samdrupjongkhar (Assam SEB)	0.00	0.00	0.00	0.00	0.00
3	Total	0.00	0.00	0.00	0.00	0.00

Note: Energy is imported from WBSEB in Samtse and from ASEB in Samdrup Jongkhar at distribution level.

3.4 ENERGY WHEELED (MU)

Sl#	Plant	2020	2021	2022	2023	2024
1	Chukkha HP	2,030.55	1,835.82	1,624.87	967.13	1,035.89
2	Kurichhu HP	93.39	46.93	19.70	26.10	0.00
3	Tala HP	3,387.53	2,761.82	2,384.83	1,235.42	809.04
4	Dagachhu HP	502.34	485.41	437.91	429.95	430.13
5	Mangdechhu HP	3,142.90	2,944.29	2,772.89	2,435.53	2,590.21
6	Basochhu HP				40.92	159.34
7	Nikachhu HP					431.83
	Total	9,156.71	8,074.27	7,240.21	5,135.06	5,456.44

CHAPTER 4

PEAK DEMAND

This chapter shows the national coincidental peak load and the transmission substation wise peak load from 2020 to 2024. The Coincident peak load during 2024 has increased by more than 1026.44 MW as shown in Table 4.1. 220 kV Jamee and 220kV Gedu S/s are leading with highest peak of 192.04 MW and 149.1 MW respectively as shown in Table 4.2.

Table 4.1 NATIONAL COINCIDENTAL LOAD (MW)

Sl#	Particulars	2020	2021	2022	2023	2024
1	Coincidental Peak Load	374.53	435.35	629.23	955.51	1026.44
2	Date and Month	24-Dec	27-Dec	28-Dec	30-Dec	25-Dec
3	Time	15:00	18:02	18:00	18:00	18:38.16

Table 4.2 SUBSTATION WISE PEAKLOAD (MW)

SL.N o.	Substation	2020	2021	2022	2023	2024
1	Semtokha	25.59	19.16	19.28	17.25	17.35
2	Olakha	34.90	38.14	38.61	36.18	37.49
3	Dechencholing	18.50	38.06	39	28.65	42.57
4	Jemina	7.82	5.45	9.9	7.36	7.08
5	Jamjee				177.75	192.04
6	Lobeysa	13.83	12.33	12.31	14.03	15.02
7	Jamtsholing					3.76
8	Haa	12.36	3.49	3.53	9.6	6.92
9	Paro	17.09	16.41	17.74	19.27	22.06
10	Gedu	3.96	4.34	17.39	17.59	8.25
11	220kV Gedu (DHI)				153.66	149.1
12	Gomtu	14.51	14.13	13.49	16.92	6.14
13	Singhigoan	99.00	117	100.2	111.3	170.1
14	Phuentsholing	8.21	7.39	7.38	9.37	10.08
15	Watsa	1.09	0.92	6.11	0	0
16	Darjay	5.93	4.7	9.66	6.5	4.43
17	Kilikhar	5.97	6.31	7.43	7.05	7.16
18	Kanglung	6.62	7.71	7.26	5.62	9.68
19	Nangkhon	2.88	2.87	3.21	2.91	3.04
20	Nganglam	23.03	18.81	20.73	6.66	19.9
21	Tingtibi	3.30	1.66	3.48	1.98	2.07
22	Gelephu	13.20	10.2	12.6	16	11.44
23	Deothang	4.16	2.8	3.3	2.61	3.24
24	Motanga	36.80	31.38	30.92	30.93	38.64
25	Malbase	100.60	94.82	137.17	115	92.8
26	Yurmoo	11.10	10.5	73.9	79.6	73.92
27	Jigmeling	0.86	0	0.6	4.1	6.57
28	Pangbesa	1.41	2.78	12.59	14.26	11.66
29	Dagapela	3.04	16.73	54.35	67.1	61.2
30	Corlung	2.20	2.89	2.75	2.63	3.26
31	Damdum	6.26	6.61	14.6	6.99	8.98
32	Damji		2.13	5.44	22.11	21.69
33	Dochula		66.69	66.18	84.33	66.22
34	Phuntshothang		1.7	2.25	14.26	10.08
35	Changidaphu		3.05	11.28	13.07	17.19

CHAPTER 5

ESDWISE SYSTEM PERFORMANCE

This chapter provides data on the dzongkhag-wise system performance. These includes the energy requirement of the each Dzongkhag along with energy purchased from DGPC, DG generation and import of power from India. The pattern of daily power use during a typical summer and winter are also presented in this chapter to comprehend the load curve. Energy sales are segmented into client categories.

In this chapter, the numbers of customers in each category are also mentioned. The losses in each district are determined using the energy demand and energy sales. Data on all Dzongkhag are as shown in Table 5.1 to table 5.19.

The Figure shows the Dzongkhagwise performance (Loss vs Customers) during 2024.

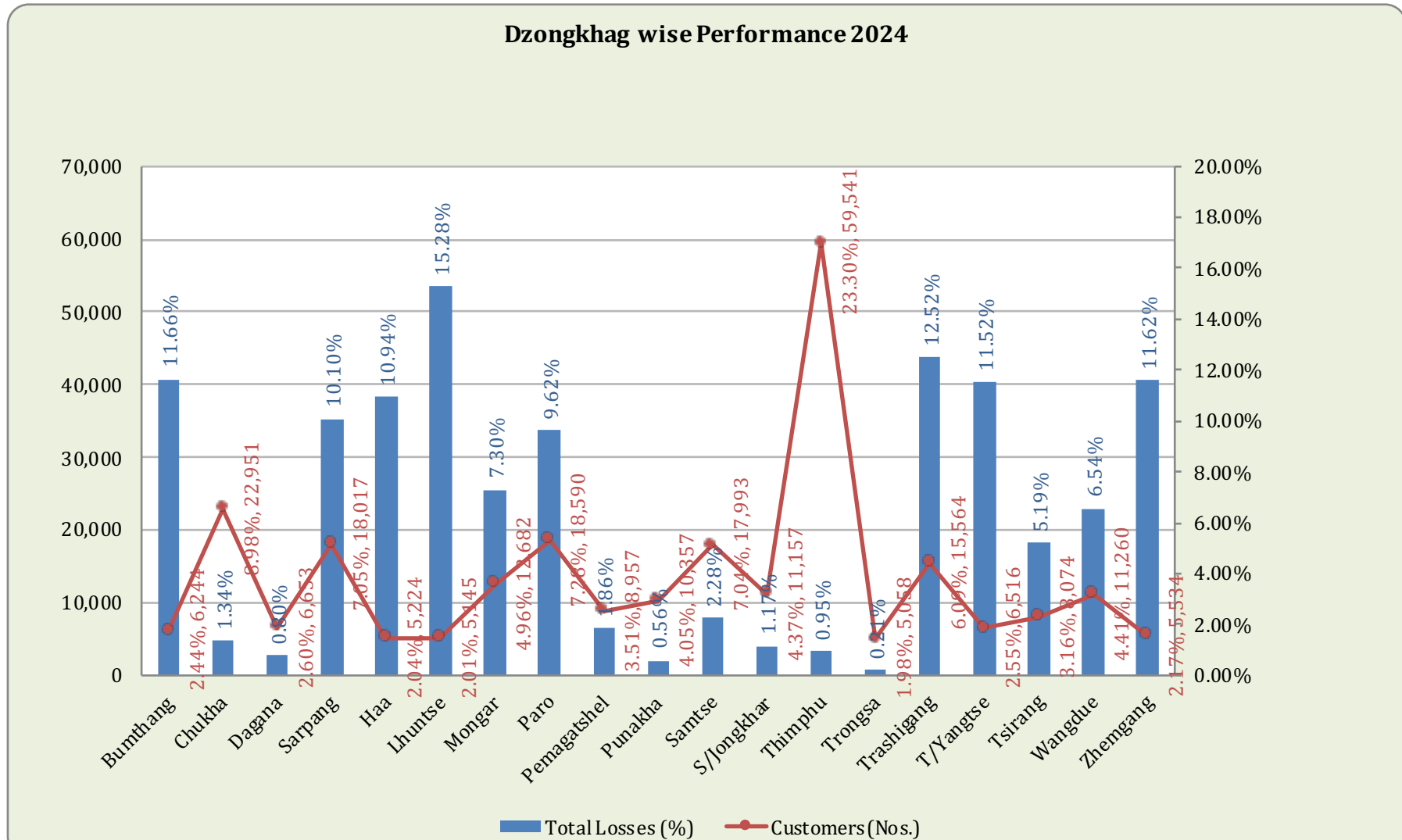


Table 5.1. BUMTHANG

Sl. No.	Particulars	2020	2021	2022	2023	2024
1	Energy Requirement in kWh					
i)	Purchase from TD			15,377,176.87	12,486,224.80	10,614,849.20
ii)	Mini/Micro Hydel Generation	5,160,978.53	5,179,655.38		5242559.45	4,408,400.00
iii)	Diesel Generation	0.00	0.00		0	
iv)	Net Import from Trongsa	7,857,479.00	8916137.79		787150	2751100
v)	Net Export to Trongsa	-112,563.00	-515,394.05	-318,650.00	-1,749,450.00	-2650.00
	Total	12,905,894.53	13,580,399.12	15,058,526.87	16,766,484.25	17,771,699.20
	% growth over previous year	-1.12%	5.23%	10.88%	11.34%	6.00%
2	Energy Sales in kWh (Category Wise)					
i)	Rural Residential	2,966,120.81	3,088,286.00	3,553,559.37	3,750,519.80	3,867,473.83
ii)	Rural Cooperatives	17,602.00	17,403.00	21,964.00	20,114.00	23,270.00
iii)	Rural Micro Trade	47,104.50	40,851.00	44,587.00	42,450.00	42,164.00
iv)	Rural Community Lhakhangs	126,497.00	156,327.00	195,558.00	198,383.00	188,564.00
v)	Highlanders	0.00	0.00	0.00	0.00	0.00
vi)	Urban	2,354,439.97	2,579,952.00	2,744,902.98	2,831,084.02	3,035,119.12
vii)	Religious Institutions	763,326.00	848,270.00	795,423.00	871,166.00	965,111.00
viii)	Cottage and Small Scale Industries	625,513.16	686,143.00	713,128.00	736,610.00	707,047.00
ix)	Commercial	607,077.00	639,314.00	714,545.41	798,629.59	796,537.00
x)	Industrial	27,810.00	29,904.00	24,575.00	20,686.00	21,923.00
xi)	Agriculture	52,207.00	64,609.00	59,006.00	21,926.00	39,862.00
xii)	Institutions	1,433,725.00	1,663,551.00	1,642,777.87	1,881,378.13	2,047,399.00
xiii)	Street lighting	43,152.00	36,421.00	100,388.00	111,045.00	111,398.00
xiv)	Power house auxiliaries	21,192.00	20,019.00	22,503.00	19,021.00	20,900.00
xv)	Temporary connections	257,276.24	322,733.00	355,686.00	472,587.00	408,465.00
xvi)	Bulk	2,242,264.00	1,956,100.00	2,243,294.00	3,212,665.00	3,417,498.00
xvii)	EVCS (Electric Vehicle charging station)				10,998.00	7,655.00
	LV Total	11,585,306.68	12,149,883.00	13,231,897.63	14,988,264.54	15,700,385.95
xviii)	Medium Voltage					
ix	High Voltage					
	Total Energy Sales	11,585,306.68	12,149,883.00	13,231,897.63	14,988,264.54	15,700,385.95
	% growth over previous year	0.94%	4.87%	0.00		4.75%
3	Number of Customers (Categorywise)					
i)	Rural Residential	2,632.00	2,778.00	2,956	3,184	3,251.00
ii)	Rural Cooperatives	45	51.00	55	58	59
iii)	Rural Micro Trade	31	31.00	31	33	33
iv)	Rural Community Lhakhangs	89	93.00	94	96	98
v)	Highlanders	0	0.00	-	-	0.00
vi)	Urban	1,345	1,419.00	1,478	1,616	1,721.00
vii)	Religious Institutions	45	45.00	46	49	48
viii)	Cottage and Small Scale Industries	174	177.00	189	189	133
ix)	Commercial	245	251.00	257	264	242
x)	Industrial	14	13.00	14	14	14
xi)	Agriculture	30	32.00	35	34	38
xii)	Institutions	213	210.00	219	228	222
xiii)	Street lighting	12	12.00	15	15	15
xiv)	Power house auxiliaries	4	4.00	4	4	4
xv)	Temporary connections	134	147.00	197	231	258
xvi)	Bulk	101	105.00	105	110	107
xvii)	EVCS (Electric Vehicle charging station)				2.00	1
	LV Total	5,114	5,368.00	5,695.00	6,127.00	6,244.00
ix)	Medium Voltage					
x)	High Voltage					
	Total Customers	5,114	5,368.00	5,695.00	6,127.00	6,244.00
	% growth over previous year	4.52%	4.97%	6.09%	7.59%	1.91%
4	Total Loss (%)	10.23%	10.53%	11.88%	9.51%	11.66%

Table 5.2: CHHUKHA

Sl. No.	Particulars	2020	2021	2022	2023	2024
1	Energy Requirement in kWh					
i)	Purchase from TD	1,152,997,204.32	1,230,069,319.00	1,300,027,355.92	1,853,698,840.49	2,762,861,231.40
ii)	Mini/Micro Hydel Generation					
iii)	Diesel Generation	-	-			
iv)	Import	1,964,174.77	1,798,603.48		3,602,578.00	5,242,086.17
v)	Export	(450,789.07)	-450,790.38	(262,963.75)		(889,920.00)
vi)	HV Purchase	1,058,153,637.00	1,139,872,100.00	1,183,048,227.00	1,671,545,581.00	2,642,886,040.29
	Total	1,154,510,590.02	1,231,417,132.10	1,299,764,392.17	1,857,301,418.49	2,767,213,397.57
	% growth over previous year	-19.00%	6.74%	5.55%	42.90%	48.99%
2	Energy Sales in kWh (Category Wise)					
i)	Rural Residential	7,622,107.95	7,786,876.00	8,363,657.18	8,660,637.80	9,193,142.72
ii)	Rural Cooperatives	37,397.00	88,781.00	92,113.00	117,842.00	179,815.00
iii)	Rural Micro Trade	98,198.40	102,849.00	107,341.00	98,400.00	109,773.00
iv)	Rural Community Lhakhangs	98,807.00	86,777.00	88,246.00	99,386.00	110,547.00
v)	Highlanders	-	-	-		0.00
vi)	Urban	17,111,667.07	17,199,976.00	17,438,342.30	18,416,678.43	110,547.00
vii)	Religious Institutions	272,462.00	255,870.00	259,993.00	277,561.00	353,934.00
viii)	Cottage and Small Scale Industries	253,565.00	283,641.00	307,755.00	352,966.00	343,181.00
ix)	Commercial	8,272,239.15	7,642,497.00	9,363,802.23	11,494,611.65	12,549,429.05
x)	Industrial	3,911,984.27	3,767,440.00	4,049,684.00	3,940,244.50	3,918,764.50
xi)	Agriculture	30,535.00	44,681.00	48,417.00	54,577.00	106,075.00
xii)	Institutions	9,830,376.43	10,514,997.00	11,288,933.00	12,832,709.00	13,723,419.10
xiii)	Street lighting	1,123,861.77	1,158,862.00	1,229,552.00	1,224,221.00	1,223,388.00
xiv)	Power house auxiliaries	99,101.00	111,407.00	100,289.00	107,452.00	91,793.00
xv)	Temporary connections	2,400,458.20	2,795,031.00	3,264,953.19	3,620,741.81	3,715,205.70
xvi)	Bulk Consumption	5,346,320.00	5,329,134.00	4,763,946.00	4,965,120.00	6,444,786.00
xvii)	EVCS (Electric Vehicle charging station)				316,356.00	317,883.00
	LV Total	56,509,080.24	57,168,819.00	60,767,023.90	66,579,504.19	52,491,683.07
xviii)	Medium Voltage	32,757,061.00	28,225,191.00	48,877,479.00	108,985,495.75	44,596,638.99
ix	High Voltage	1,059,256,500.00	1,139,872,100.00	1,184,350,100.00	1,671,359,752.74	2,632,985,017.25
	Total Energy Sales	1,148,522,641.24	1,225,266,110.00	1,293,994,602.90	1,846,924,752.68	2,730,073,339.31
	% growth over previous year	-19.02%	6.68%	5.61%	42.73%	47.82%
3	Number of Customers (Categorywise)					
i)	Rural Residential	8,283.00	8,514	8,485	8,746	9,092
ii)	Rural Cooperatives	51.00	63	60	74	88
iii)	Rural Micro Trade	73.00	71	63	66	68
iv)	Rural Community Lhakhangs	53.00	54	54	47	51
v)	Highlanders	0	-	-		0.00
vi)	Urban	9,072.00	9,141	9,400	9,547	9,699
vii)	Religious Institutions	22.00	24	23	38	41
viii)	Cottage and Small Scale Industries	107.00	75	70	110	97
ix)	Commercial	1,519.00	1,510	1,660	1,784	1,849
x)	Industrial	70.00	69	73	72	72
xi)	Agriculture	30.00	38	42	51	75
xii)	Institutions	845.00	869	882	952	1,151
xiii)	Street lighting	81.00	86	94	97	99
xiv)	Power house auxiliaries	4.00	4	4	4	3
xv)	Temporary connections	426.00	466	441	441	441
xvi)	Bulk	101.00	102	75	75	84
xvii)	EVCS (Electric Vehicle charging station)				7.00	7
	LV Total	20,737	21,086	21,426	22,111	22,917
ix)	Medium Voltage	32	30	29	30	21
x)	High Voltage	11	11	11	12	13
	Total Customers	20,780	21,127	21,466	22,153	22,951
	% growth over previous year	9.84%	1.67%	1.60%	3.20%	3.60%
4	Total Loss (%)	0.52%	0.50%	0.52%	0.56%	1.34%

Table 5.3: Dagana

Sl. No.	Particulars	2020	2021	2022	2023	2024
1	Energy Requirement in kWh					
i)	Purchase from TD	9,654,279.00	27,678,172.50	297,478,668.90	500,427,147.70	474,944,173.60
ii)	Mini/Micro Hydel Generation	364,462.00	297,717.00		152,350.00	98,420.00
iii)	Diesel Generation	0.00	0.00			
iv)	Import	0.00	0.00			
v)	Export	-1955719.76	-1,798,603.48	(1,313,237.36)	(2,412,250.00)	(3,035,000.00)
vi)	HV Purchase	0.00	0.00		488,927,100.00	462,485,100.00
	Total	8,063,021.24	26,177,286.02	296,165,431.54	498,167,247.70	472,007,593.60
	% growth over previous year	7.79%	224.66%	1031.38%	68.21%	-5.25%
2	Energy Sales in kWh (Category Wise)					
i)	Rural Residential	4,983,234.90	5,186,101.00	5,583,925.00	5,434,165.00	5,436,578.00
ii)	Rural Cooperatives	7,405.00	10,300.00	12,819.00	16,915.00	21,004.00
iii)	Rural Micro Trade	132,884.00	129,781.00	157,244.00	133,844.00	100,150.00
iv)	Rural Community Lhakhangs	51,752.00	48,377.00	46,369.00	48,695.00	58,586.00
v)	Highlanders	0.00	0.00	-	-	0.00
vi)	Urban	275,183.05	295,348.00	313,502.00	317,099.00	319,442.00
vii)	Religious Institutions	41,520.00	41,270.00	39,149.00	36,993.00	36,638.00
viii)	Cottage and Small Scale Industries	146,143.00	172,161.00	151,041.00	155,184.00	145,344.00
ix)	Commercial	124,599.00	118,155.00	126,776.00	200,990.00	382,397.00
x)	Industrial	667.00	0.00	-	-	0.00
xi)	Agriculture	18,915.00	73,783.00	49,178.00	36,742.00	49,748.00
xii)	Institutions	754,432.25	885,868.00	987,608.54	1,031,822.00	1,075,368.64
xiii)	Street lighting	30,563.00	35,473.00	37,669.00	41,948.00	42,502.00
xiv)	Power house auxiliaries	8,849.00	8,943.00	12,283.00	13,392.00	14,258.00
xv)	Temporary connections	55,148.00	123,595.00	131,940.00	74,622.00	89,692.00
xvi)	Bulk	418,729.01	464,490.00	470,832.94	393,296.13	412,036.62
xvii)	EVCS (Electric Vehicle charging				900.00	5820.00
	LV Total	7,050,024.21	7,593,645.00	8,120,336.48	7,936,607.13	8,189,564.26
xviii)	Medium Voltage	0.00	18,276,734.00	38,926,508.40		
ix)	High Voltage	38.00	0.00	246,126,834.20	490,655,139.80	460,048,880.00
	Total Energy Sales	7,050,062.21	25,870,379.00	293,173,679.08	498,591,746.93	468,238,444.26
	% growth over previous year	9.23%	266.95%	1033.24%	70.07%	-6.09%
3	Number of Customers (Categorywise)					
i)	Rural Residential	4,909	5,016	5,161	5,238	5,423.00
ii)	Rural Cooperatives	22	22	22	22	24.00
iii)	Rural Micro Trade	87	89	92	92	60.00
iv)	Rural Community Lhakhangs	44	46	49	50	57.00
v)	Highlanders	-	-	-		0.00
vi)	Urban	191	194	198	208	212.00
vii)	Religious Institutions	10	8	8	8	9.00
viii)	Cottage and Small Scale Industries	71	73	70	73	64.00
ix)	Commercial	100	101	116	176	297.00
x)	Industrial	-	-	-		0.00
xi)	Agriculture	39	47	49	54	68.00
xii)	Institutions	243	251	278	309	345.00
xiii)	Street lighting	9	9	10	12	12.00
xiv)	Power house auxiliaries	4	4	4	4	5.00
xv)	Temporary connections	26	34	45	48	66.00
xvi)	Bulk	9	9	9	9	9.00
xvii)	EVCS (Electric Vehicle charging				1.00	1
	LV Total	5,764	5,903	6,111	6,304	6,652
ix)	Medium Voltage	0	1			
x)	High Voltage	0	0	1	1	1.00
	Total Customers	5,764	5,904	6,112	6,305	6,653
	% growth over previous year	3.61%	2.43%	3.52%	3.16%	5.52%
4	Total Loss (%)	12.56%	1.17%	1.01%	0.54%	0.80%

Table 5.4: SARPANG

Sl. No.	Particulars	2020	2021	2022	2023	2024
1	Energy Requirement in kWh					
i)	Purchase from TD	34,640,834.0	35,296,604.00	38,389,458.00	48,126,469.90	52,733,311.51
ii)	Mini/Micro Hydel Generation					
iii)	Diesel Generation	0.0	0.00	0.00	0.00	
iv)	Import					
	Total	34,640,834.0	35,296,604.00	38,389,458.00	48,126,469.90	52,733,311.51
	% growth over previous year	0.0	1.89%	8.76%	25.36%	9.57%
2	Energy Sales in kWh (Category Wise)					
i)	Rural Residential	10,319,529.0	10,492,554.00	11,153,368.76	12,103,650.15	12,981,269.09
ii)	Rural Cooperatives	85,669.2	85,266.00	85,824.00	88,074.00	92,292.00
iii)	Rural Micro Trade	430,064.6	444,242.00	467,835.00	458,687.00	458,024.00
iv)	Rural Community Lhakhangs	52,771.5	58,055.00	74,887.00	105,800.00	119,209.00
v)	Highlanders	0.0	0.00	-		0.00
vi)	Urban	5,777,534.2	6,184,119.00	6,797,465.55	7,683,322.28	8,821,597.17
vii)	Religious Institutions	147,965.2	152,328.00	146,019.00	172,321.00	201,623.00
viii)	Cottage and Small Scale Industries	318,142.0	648,407.00	572,863.00	668,505.00	707,664.00
ix)	Commercial	2,348,143.7	2,256,006.00	2,351,978.86	2,705,256.14	2,934,405.00
x)	Industrial	60,919.7	59,503.00	91,249.00	799,067.42	240,085.20
xi)	Agriculture	743,452.3	671,232.00	593,098.00	545,722.00	261,849.00
xii)	Institutions	2,916,549.6	3,413,961.00	3,894,171.32	4,034,034.12	4,395,556.70
xiii)	Street lighting	298,644.1	586,119.00	698,875.00	797,563.00	1,017,157.00
xiv)	Power house auxiliaries	380,840.0	305,040.00	297,395.00	230,684.00	267,107.00
xv)	Temporary connections	1,106,045.3	958,360.00	1,136,249.00	1,362,711.00	1,051,270.00
xvi)	Bulk	3,839,988.7	4,286,449.00	4,222,815.00	5,268,859.00	6,320,003.00
xvii)	EVCS (Electric Vehicle charging station)				16,020.00	39,660.00
	LV Total	28,826,259.0	30,601,641.00	32,584,093.49	37,040,276.11	39,908,771.16
xviii)	Medium Voltage	2,749,964.0	4,493,222.00	3,393,209.00	6,923,667.00	7,500,485.00
ix	High Voltage	0.0	0.00	0.00	0.00	
	Total Energy Sales	31,576,223.0	35,094,863.00	35,977,302.49	43,963,943.11	47,409,256.16
	% growth over previous year	0.0	11.14%	2.51%	22.20%	7.84%
3	Number of Customers (Categorywise)					
i)	Rural Residential	8,365.0	8,746	9,145	9,553	9,880.00
ii)	Rural Cooperatives	42.0	44	32	50	51
iii)	Rural Micro Trade	254.0	256	255	256	254
iv)	Rural Community Lhakhangs	28.0	34	23	36	38
v)	Highlanders	0.0	-	-	-	0.00
vi)	Urban	3,524.0	3,738	4,110	4,461	4,905.00
vii)	Religious Institutions	43.0	43	35	48	49
viii)	Cottage and Small Scale Industries	142.0	152	155	156	156
ix)	Commercial	754.0	752	769	815	840
x)	Industrial	14.0	14	16	19	17
xi)	Agriculture	302.0	309	313	329	335
xii)	Institutions	559.0	589	623	649	917
xiii)	Street lighting	91.0	105	90	135	148
xiv)	Power house auxiliaries	3.0	3	2	3	3
xv)	Temporary connections	435.0	403	390	372	364
xvi)	Bulk	40.0	42	37	51	55
xvii)	EVCS (Electric Vehicle charging station)				1.00	1
	LV Total	14,596.0	15,230.00	15,995.00	16,934.00	18,013.00
ix)	Medium Voltage	2.0	2	2	4	4
x)	High Voltage	0.0	0	0	0	0
	Total Customers	14,598.0	15,232.00	15,997.00	16,938.00	18,017.00
	% growth over previous year	0.1	4.34%	5.02%	5.88%	6.37%
4	Total Loss (%)	0.1	0.57%	6.28%	8.65%	10.10%

Table 5.5 : HAA

Sl. No.	Particulars	2020	2021	2022	2023	2024
1	Energy Requirement in kWh					
i)	Purchase from TD	15,097,022.00	16,036,865.00	17131027.9	16647897	16,700,000.00
ii)	Mini/Micro Hydel Generation					
iii)	Diesel Generation					
iv)	Import	86,833.00	358,933.00		1356020	1960501.4
v)	Export				-1,229,132.00	-904,840.17
	Total	15,183,855.00	16,395,798.00	17,131,027.90	16,774,785.00	17,755,661.23
	% growth over previous year	5.87%	7.98%	4.48%	-2.08%	5.85%
2	Energy Sales in kWh (Category Wise)					
i)	Rural Residential	3,844,219.87	4,119,953.00	4,521,871.00	4,528,243.00	4,780,813.00
ii)	Rural Cooperatives	52,488.00	54,832.00	54,966.00	43,224.00	36,740.00
iii)	Rural Micro Trade	103,904.00	125,933.00	131,652.00	113,382.00	117,413.00
iv)	Rural Community Lhakhangs	32,311.00	38,202.00	36,106.00	35,981.00	40,817.00
v)	Highlanders	0.00	0.00	0.00	0.00	0.00
vi)	Urban	786,971.10	908,854.00	1,018,059.00	1,033,730.00	1,092,230.00
vii)	Religious Institutions	151,449.14	136,172.00	164,300.00	179,479.00	189,085.00
viii)	Cottage and Small Scale Industries	289.00	2,164.00	10,412.00	9,854.00	9,124.00
ix)	Commercial	818,011.00	945,287.00	1,102,818.00	1,162,905.00	1,153,125.00
x)	Industrial	0.00	0.00	0.00	0.00	0.00
xi)	Agriculture	31,089.00	59,023.00	77,601.00	76,775.00	72,500.00
xii)	Institutions	2,177,829.00	2,713,647.00	2,660,209.00	2,495,692.00	2,556,615.00
xiii)	Street lighting	52,074.00	39,197.00	43,106.00	47,570.00	47,095.00
xiv)	Power house auxiliaries	49,142.00	57,090.00	39,128.00	32,330.00	42,168.00
xv)	Temporary connections	681,477.55	478,499.00	642,349.00	985,645.60	1,118,984.00
xvi)	Bulk	5,015,815.00	4,765,923.00	5,036,610.00	4,834,180.00	4,553,253.00
xvii)	EVCS (Electric Vehicle charging station)				5,180.00	3,400.00
	LV Total	13,797,069.66	14,444,776.00	15,539,187.00	15,584,170.60	15,813,362.00
xviii)	Medium Voltage					
ix	High Voltage					
	Total Energy Sales	13,797,069.66	14,444,776.00	15,539,187.00	15,584,170.60	15,813,362.00
	% growth over previous year	6.90%	4.69%	7.58%	0.29%	1.47%
3	Number of Customers (Categorywise)					
i)	Rural Residential	3,091	3,252	3,364	3,715	3,837
ii)	Rural Cooperatives	8	10	11	10	12
iii)	Rural Micro Trade	49	50	51	51	53
iv)	Rural Community Lhakhangs	27	28	29	33	35
v)	Highlanders	0	0	-		0.00
vi)	Urban	452	484	485	517	545
vii)	Religious Institutions	23	25	29	29	32
viii)	Cottage and Small Scale Industries	1	3	6	6	7
ix)	Commercial	208	237	245	280	299
x)	Industrial			-		0.00
xi)	Agriculture	58	66	77	84	79
xii)	Institutions	151	168	189	223	234
xiii)	Street lighting	11	10	11	12	12
xiv)	Power house auxiliaries	1	1	1	1	1
xv)	Temporary connections	108	44	54	58	67
xvi)	Bulk	9	10	10	10	10
xvii)	EVCS (Electric Vehicle charging station)				1	1
	LV Total	4,197	4,388	4,562	5,030	5,224
ix)	Medium Voltage					
x)	High Voltage					
	Total Customers	4,197	4,388	4,562	5,030	5,224
	% growth over previous year	3.50%	4.55%	3.97%	10.26%	3.86%
4	Total Loss (%)	9.13%	11.90%	9.29%	7.54%	10.94%

Table 5.6: LHUNTSE

Sl. No.	Particulars	2020	2021	2022	2023	2024
1	Energy Requirement in kWh					
i)	Purchase from TD	5,452,674.00	5,650,758.00	6,562,305.27	7,470,842.00	7,992,365.00
ii)	Mini/Micro Hydel Generation	833,574.00	815,818.00	343,845.00	511,055.75	791,830.80
iii)	Diesel Generation					
iv)	Import					
	Total	6,286,248.00	6,466,576.00	6,906,150.27	7,981,897.75	8,784,195.80
	% growth over previous year	9.10%	2.87%	6.80%	15.58%	10.05%
2	Energy Sales in kWh (Category Wise)					
i)	Rural Residential	3,311,933.80	3,277,267.00	3,451,982.43	3,506,741.57	3,673,451.00
ii)	Rural Cooperatives	0.00	0.00	654	1188	964
iii)	Rural Micro Trade	40,288.00	35,377.00	36,989.00	35,156.00	35,750.00
iv)	Rural Community Lhakhangs	61,597.00	67,644.00	75,007.86	74,707.14	77,630.00
v)	Highlanders	0.00	0.00	-	0	0
vi)	Urban	672,334.00	681,599.00	717,615.91	706,206.09	739,136.00
vii)	Religious Institutions	161,387.00	181,957.00	165,057.00	195,252.00	200,734.00
viii)	Cottage and Small Scale Industries	0.00	0.00	-	0	0.00
ix)	Commercial	213,175.00	227,815.00	285,561.00	333,541.00	380,196.00
x)	Industrial	15,365.00	10,914.00	15,449.00	12,247.00	12,583.00
xi)	Agriculture	22,791.00	14,575.00	12,557.00	6,610.00	13,857.00
xii)	Institutions	704,571.40	858,396.00	890,900.54	958,800.96	1,014,006.06
xiii)	Street lighting	57,278.00	47,846.00	44,500.00	72,049.00	96,992.00
xiv)	Power house auxiliaries	0.00	0.00	702	384	1,736.00
xv)	Temporary connections	80,505.00	72,336.00	196,386.00	164,257.00	153,652.00
xvi)	Bulk	88,901.00	129,359.00	181,923.00	791,937.00	1,040,191.77
xvii)	EVCS (Electric Vehicle charging station)				80.00	760.00
	LV Total	5,430,126.20	5,605,085.00	6,075,284.74	6,859,156.76	7,441,638.83
xviii)	Medium Voltage					
ix	High Voltage					
	Total Energy Sales	5,430,126.20	5,605,085.00	6,075,284.74	6,859,156.76	7,441,638.83
	% growth over previous year	8.80%	3.22%	8.39%	12.90%	8.49%
3	Number of Customers (Categorywise)					
i)	Rural Residential	3,551	3,622	3,706	3,864	3,928.00
ii)	Rural Cooperatives	0	0	1	1	1
iii)	Rural Micro Trade	28	28	28	28	27
iv)	Rural Community Lhakhangs	99	98	98	98	101
v)	Highlanders	0	0	-		0.00
vi)	Urban	395	399	399	414	429
vii)	Religious Institutions	38	38	39	39	41
viii)	Cottage and Small Scale Industries	0	0	-		0.00
ix)	Commercial	60	60	74	79	80
x)	Industrial	9	7	8	8	8
xi)	Agriculture	122	124	123	123	124
xii)	Institutions	250	254	260	282	290
xiii)	Street lighting	20	19	20	25	30
xiv)	Power house auxiliaries	0	0	2	2	2
xv)	Temporary connections	34	43	42	49	62
xvi)	Bulk	5	5	7	17	21
	EVCS (Electric Vehicle charging Station)				1	1
	LV Total	4,611	4,697	4,807	5,030	5,145
xvii)	Medium Voltage					
xviii)	High Voltage					
	Total Customers	4,611	4,697	4,807	5,030	5,145
	% growth over previous year	2.06%	1.87%	2.34%	4.64%	2.29%
4	Total Loss (%)	13.62%	13.32%	12.03%	14.09%	15.28%

Table 5.7: MONGAR

Sl. No.	Particulars	2020	2021	2022	2023	2024
1	Energy Requirement in kWh					
i)	Purchase from TD	14,895,205.00	16,139,270.00	20,973,699.07	17,735,777.40	17,882,260.00
ii)	Mini/Micro Hydel Generation	1,519,117.00	1,561,311.00	701,376.00	871,712.35	1,154,611.12
iii)	Diesel Generation	0.00	0.00	0.00		
iv)	Import	2,035,835.00	1,563,592.00	0.00	2,586,488.00	2,933,420.00
v)	Export	-7242.00	0	-135,058.00		
	Total	18,442,915.00	19,264,173.00	21,540,017.07	21,193,977.75	21,970,291.12
	% growth over previous year	6.03%	4.45%	11.81%	8.96%	3.66%
2	Energy Sales in kWh (Category Wise)					
i)	Rural Residential	6,421,477.15	6,470,210.00	7,343,997.00	7,662,841.00	7,984,165.00
ii)	Rural Cooperatives	2,045.00	2,380.00	6,997.00	8,487.00	8,684.00
iii)	Rural Micro Trade	71,647.34	70,661.00	76,014.00	76,521.00	81,607.00
iv)	Rural Community Lhakhangs	218,691.35	227,082.00	235,590.00	233,087.00	271,482.00
v)	Highlanders	0.00	0.00	0.00	0.00	0.00
vi)	Urban	3,745,213.21	3,677,674.00	3,836,936.00	3,547,747.00	3,613,403.72
vii)	Religious Institutions	138,188.00	167,593.00	210,594.00	227,178.00	240,695.00
viii)	Cottage and Small Scale Industries	243,914.30	450,470.00	531,760.69	552,628.05	586,352.00
ix)	Commercial	1,231,235.91	1,091,220.00	1,243,581.62	1,361,403.12	1,447,935.47
x)	Industrial	0.00	0.00	12,360.00	20,504.00	80,370.00
xi)	Agriculture	233,977.11	221,910.00	190,633.80	127,472.09	277,714.63
xii)	Institutions	1,526,741.68	1,662,424.00	1,931,718.00	2,299,960.00	2,802,802.00
xiii)	Street lighting	26,486.00	52,376.00	50,380.00	68,824.00	64,098.00
xiv)	Power house auxiliaries	17,580.00	16,045.00	17,201.00	16,228.00	15,002.00
xv)	Temporary connections	297,101.73	415,222.00	621,220.00	757,132.11	642,600.00
xvi)	Bulk	1,629,989.92	2,106,151.00	2,210,801.28	2,300,700.69	2,206,260.79
xvii)	EVCS (Electric Vehicle charging station)				1,940.00	9,920.00
	LV Total	15,804,288.70	16,631,418.00	18,519,784.39	19,262,653.06	20,333,091.61
xviii)	Medium Voltage	167,811.00	556,400.00	710,666.00	508,986.00	32,371.00
ix	High Voltage					
	Total Energy Sales	15,972,099.70	17,187,818.00	19,230,450.39	19,771,639.06	20,365,462.61
	% growth over previous year	8.06%	7.61%	11.88%	13.44%	5.74%
3	Number of Customers (Categorywise)					
i)	Rural Residential	7,201	7,650	7,900	8,474	8,774
ii)	Rural Cooperatives	12	21	27	27	27
iii)	Rural Micro Trade	47	48	49	50	51
iv)	Rural Community Lhakhangs	175	180	184	187	187
v)	Highlanders	0	-	-	-	0.00
vi)	Urban	1,926	1,868	1,895	1,938	2,005.00
vii)	Religious Institutions	47	60	62	62	62
viii)	Cottage and Small Scale Industries	123	123	121	119	118
ix)	Commercial	313	342	348	412	438
x)	Industrial	1	-	3	4	4
xi)	Agriculture	110	112	115	122	130
xii)	Institutions	490	517	572	652	686
xiii)	Street lighting	17	23	23	27	27
xiv)	Power house auxiliaries	4	3	3	3	3
xv)	Temporary connections	84	94	112	130	142
xvi)	Bulk	26	28	28	27	26
xvii)	EVCS (Electric Vehicle charging station)				2	2
	LV Total	10,576	11,069	11,442	12,236	12,682
ix)	Medium Voltage	1	1	1	1	
x)	High Voltage					
	Total Customers	10,577	11,070	11,443	12,237	12,682
	% growth over previous year	2.73%	4.66%	3.37%	6.94%	3.64%
4	Total Loss (%)	13.40%	10.78%	10.66%	6.71%	7.30%

Table 5.8 Paro

Sl. No.	Particulars	2020	2021	2022	2023	2024
1	Energy Requirement in kWh					
i)	Purchase from TD	58,747,304.50	59,041,640.00	98,661,640.73	128,967,185.60	83,701,197.80
ii)	Mini/Micro Hydel Generation					
iii)	Diesel Generation					
iv)	Import	240,724.00	0		724,630.00	758721
v)	Export				-30,196,163.00	-1,153,199.40
	Total	58,988,028.50	59,041,640.00	98,661,640.73	99,495,652.60	83,306,719.40
	% growth over previous year	-14.26%	0.09%	67.11%	0.85%	-16.27%
2	Energy Sales in kWh (Category Wise)					
i)	Rural Residential	21,963,902.35	23,392,312.00	26,812,426.91	29,928,531.75	32,428,284.48
ii)	Rural Cooperatives	28,777.00	36,122.00	65,561.00	85,971.00	97,565.00
iii)	Rural Micro Trade	73,798.00	77,054.00	146,871.00	162,967.00	168,819.00
iv)	Rural Community Lhakhangs	492,857.36	488,117.00	471,828.00	455,269.00	502,347.00
v)	Highlanders	473,254.00	632,249.00	630,572.00	577,863.00	387,150.00
vi)	Urban	1,232,310.35	1,481,865.00	1,733,752.00	1,743,799.00	1,903,443.52
vii)	Religious Institutions	672,282.00	901,353.00	776,921.00	769,327.00	802,314.00
viii)	Cottage and Small Scale Industries	400,304.00	517,058.00	724,713.60	945,793.00	1,034,156.00
ix)	Commercial	6,750,295.12	6,142,323.00	6,665,930.07	7,944,347.18	9,194,857.13
x)	Industrial	456,005.00	380,784.00	503,711.81	649,114.88	905,523.98
xi)	Agriculture	120,527.91	143,701.00	148,907.67	163,526.33	171,925.00
xii)	Institutions	6,727,110.34	8,394,282.00	8,765,419.46	10,598,193.74	11,389,210.00
xiii)	Street lighting	80,979.14	62,644.00	87,861.49	193,171.48	209,302.00
xiv)	Power house auxiliaries			12,732.00	0.00	0.00
xv)	Temporary connections	3,556,829.77	2,689,141.00	3,538,423.95	1,559,664.00	1,062,171.00
xvi)	Bulk	9,350,840.00	5,530,735.00	7,169,061.88	11,745,210.36	13,007,012.77
xvii)	EVCS (Electric Vehicle charging				136,266.00	150,582.00
	LV Total	52,380,072.33	50,869,740.00	58,254,693.84	67,659,014.72	73,414,662.88
xviii)	Medium Voltage	1,036,369.60	918,035.00	32,599,580.00	20,692,729.00	1,877,508.00
ix	High Voltage					
	Total Energy Sales	53,416,441.93	51,787,775.00	90,854,273.84	88,351,743.72	75,292,170.88
	% growth over previous year	-13.74%	-3.05%	75.44%	-2.75%	-14.78%
3	Number of Customers (Categorywise)					
i)	Rural Residential	10,530	11,288	12,316	13,465	14,608
ii)	Rural Cooperatives	25	51	85	103	109
iii)	Rural Micro Trade	20	39	48	54	71
iv)	Rural Community Lhakhangs	115	118	117	123	123
v)	Highlanders	239	255	259	280	242
vi)	Urban	399	507	535	564	626
vii)	Religious Institutions	61	60	46	39	39
viii)	Cottage and Small Scale Industries	53	92	106	112	117
ix)	Commercial	1,519	1,452	1,554	1,630	1,708
x)	Industrial	54	54	52	47	46
xi)	Agriculture	144	167	167	157	155
xii)	Institutions	352	377	419	504	546
xiii)	Street lighting	11	12	13	18	18
xiv)	Power house auxiliaries			2	0	0.00
xv)	Temporary connections	468	518	547	103	120
xvi)	Bulk	43	47	54	57	56
xvii)	EVCS (Electric Vehicle charging				2	4
	LV Total	14,033	15,037	16,320	17,258	18,588
ix)	Medium Voltage	2	2	3	2	2
x)	High Voltage					
	Total Customers	14,035	15,039	16,323	17,260	18,590
	% growth over previous year	4.78%	7.15%	8.54%	5.74%	7.71%
4	Total Loss (%)	9.45%	12.29%	7.92%	8.67%	9.62%

Table 5.9 Pemagatshel

Sl.No.	Particulars	2020	2021	2022	2023	2024
1	Energy Requirement in kWh					
i)	Purchase from TD	92,168,469.50	91,679,930.00	93,825,695.00	90,016,019.00	82,165,619.00
ii)	Mini/Micro Hydel Generation					
iii)	Diesel Generation	0.00	0.00			
iv)	Export to Trashigang and Zhemgang	-3,056,328.50	-2,982,774.00	-3,455,966.00	-4,020,723.00	-4,228,884.00
v)	HV Purchase	78,412,320.00	77,861,707.00	79,018,540.00	73,967,455.00	64,217,613.30
	Total	89,112,141.00	88,697,156.00	90,369,729.00	85,995,296.00	77,936,735.00
	% growth over previous year	-17.55%	-0.47%	1.89%	-4.84%	-9.37%
2	Energy Sales in kWh (Category Wise)					
i)	Rural Residential	4,442,338.03	4,366,806.00	4,753,737.06	4,541,393.94	4,599,202.00
ii)	Rural Cooperatives	31,563.00	31,281.00	33,926.00	22,557.00	24,961.00
iii)	Rural Micro Trade	106,344.53	105,138.00	100,119.00	99,556.00	96,338.00
iv)	Rural Community Lhakhangs	88,951.64	102,868.00	125,145.00	131,308.00	164,593.00
v)	Highlanders	0.00	0.00	-	0	0
vi)	Urban	1,178,454.17	1,230,706.00	1,238,039.00	1,314,262.00	1,648,365.00
vii)	Religious Institutions	128,937.05	136,155.00	151,603.00	118,773.00	111,379.00
viii)	Cottage and Small Scale Industries	25,512.00	23,071.00	27,165.00	21,637.00	18,376.00
ix)	Commercial	695,961.76	689,854.00	738,279.20	735,409.79	763,643.00
x)	Industrial	43,626.00	51,435.00	46,291.00	40,654.00	38,627.00
xi)	Agriculture	15,305.00	14,607.00	11,043.00	3,938.00	4,171.00
xii)	Institutions	833,122.24	1,035,072.00	1,135,592.18	1,081,236.82	1,236,501.00
xiii)	Street lighting	30,418.00	30,230.00	37,234.00	52,259.00	54,741.00
xiv)	Power house auxiliaries	0.00	8,800.00	3,550.00	3,350.00	15,800.00
xv)	Temporary connections	280,500.91	363,223.00	416,144.00	558,190.00	549,445.00
xvi)	Bulk	797,437.00	807,815.00	860,307.00	923,034.00	904,628.00
xvii)	EVCS (Electric Vehicle charging station)				80	120.00
	LV Total	8,698,471.33	8,997,061.00	9,678,174.44	9,647,638.55	10,230,890.00
xviii)	Medium Voltage	517,497.00	530,604.00	452,765.00	1,314,436.30	1,867,142.70
ix)	High Voltage	78,412,320.00	77,861,707.00	79,018,540.00	73,470,042.10	64,390,112.70
	Total Energy Sales	87,628,288.33	87,389,372.00	89,149,479.44	84,432,116.95	76,488,145.40
	% growth over previous year	-17.71%	-0.27%	2.01%	-5.29%	-9.41%
3	Number of Customers (Categorywise)					
i)	Rural Residential	6,065	6,227	6,352	6,182	6,367
ii)	Rural Cooperatives	46	50	53	60	62
iii)	Rural Micro Trade	78	78	78	80	82
iv)	Rural Community Lhakhangs	118	121	134	140	147
v)	Highlanders	0	-	-	0	0.00
vi)	Urban	705	710	766	879	1,222.00
vii)	Religious Institutions	41	42	53	49	51
viii)	Cottage and Small Scale Industries	6	6	7	8	10
ix)	Commercial	231	231	229	249	252
x)	Industrial	8	7	7	7	7
xi)	Agriculture	28	28	27	27	28
xii)	Institutions	398	439	448	451	449
xiii)	Street lighting	4	7	7	10	10
xiv)	Power house auxiliaries	1	1	1	1	1
xv)	Temporary connections	157	155	199	228	235
xvi)	Bulk	36	37	32	30	29
	EVCS (Electric Vehicle charging station)				1	1
	LV Total	7,922	8,139	8,393	8,402	8,953
xvii)	Medium Voltage	4	3	2	3	3
xviii)	High Voltage	1	1	1	1	1
	Total Customers	7,927	8,143	8,396	8,406	8,957
	% growth over previous year	2.19%	2.72%	3.11%	0.12%	6.55%
4	Total Loss (%)	1.67%	1.47%	1.27%	1.74%	1.86%

Table 5.10: PUNAKHA

Sl. No.	Particulars	2020	2021	2022	2023	2024
1	Energy Requirement in kWh					
i)	Purchase from TD	22,188,748.86	25,664,234.10	53,676,782.20	159,623,057.58	190,315,894.92
ii)	Mini/Micro Hydel Generation					
iii)	Diesel Generation					
iv)	Import					
v)	HV Purchase					159,640,722.00
	Total	22,188,748.86	25,664,234.10	53,676,782.20	159,623,057.58	190,315,894.92
	% growth over previous year	-6.38%	15.66%	109.15%	197.38%	19.23%
2	Energy Sales in kWh (Category Wise)					
i)	Rural Residential	8,827,284.16	8,988,238.00	9,798,888.00	10,268,601.97	10,744,387.02
ii)	Rural Cooperatives	2,920.00	3,639.00	22,180.00	18,908.00	16,445.00
iii)	Rural Micro Trade	133,745.13	149,969.00	152,430.00	160,544.00	163,706.00
iv)	Rural Community Lhakhangs	36,909.00	49,883.00	40,798.00	41,374.00	46,707.00
v)	Highlanders	291,539.00	326,341.00	338,729.00	439,936.00	450,042.00
vi)	Urban	1,843,751.75	1,837,876.00	1,928,880.00	1,831,887.00	1,799,144.59
vii)	Religious Institutions	813,597.31	851,185.00	731,983.40	749,844.00	821,453.60
viii)	Cottage and Small Scale Industries	684,533.00	583,454.00	653,937.20	648,113.80	657,638.60
ix)	Commercial	1,461,314.64	1,568,306.00	1,847,213.00	2,287,745.60	2,798,445.20
x)	Industrial			-		0.00
xi)	Agriculture	265,394.00	302,502.00	368,251.00	419,360.00	462,014.00
xii)	Institutions	2,887,058.64	3,484,578.00	3,454,799.80	3,606,488.00	4,029,971.40
xiii)	Street lighting	105,547.00	60,315.00	91,816.00	116,427.00	124,201.00
xiv)	Power house auxiliaries	4,760.00	6,070.00	5,110.00	6,960.00	8,290.00
xv)	Temporary connections	419,863.05	279,824.00	363,812.00	514,326.00	449,625.00
xvi)	Bulk	3,064,826.69	2,323,082.00	2,833,515.60	4,922,090.80	5,589,886.60
xvii)	EVCS (Electric Vehicle charging station)				72,948.80	42,148.00
	LV Total	20,843,043.37	20,815,262.00	22,632,343.00	26,105,554.97	28,204,105.01
xviii)	Medium Voltage		3,426,450.00	29,283,180.00	7,755,975.00	1,403,950.00
ix	High Voltage				124054290	159642053.00
	Total Energy Sales	20,843,043.37	24,241,712.00	51,915,523.00	157,915,819.97	189,250,108.01
	% growth over previous year	-0.78%	16.31%	114.16%	204.18%	19.84%
3	Number of Customers (Categorywise)					
i)	Rural Residential	5,846	6,008	6,347	6,732	7,323
ii)	Rural Cooperatives	11	10	9	9	9
iii)	Rural Micro Trade	65	65	67	73	77
iv)	Rural Community Lhakhangs	34	36	38	38	39
v)	Highlanders	326	337	347	371	376
vi)	Urban	894	879	867	873	709
vii)	Religious Institutions	75	77	70	78	74
viii)	Cottage and Small Scale Industries	106	103	102	102	98
ix)	Commercial	431	466	519	597	652
x)	Industrial	0	-	-		0.00
xi)	Agriculture	341	382	402	421	431
xii)	Institutions	369	380	375	387	386
xiii)	Street lighting	6	7	7	7	7
xiv)	Power house auxiliaries	1	1	1	1	1
xv)	Temporary connections	107	107	119	131	146
xvi)	Bulk	21	27	25	24	25
	EVCS (Electric Vehicle charging				2	2
	LV Total	8,633	8,885	9,295	9,846	10,355
xvii)	Medium Voltage		1	1		1
xviii)	High Voltage				1	1
	Total Customers	8,633	8,886	9,296	9,847	10,357
	% growth over previous year	4.49%	2.93%	4.61%	5.93%	5.18%
4	Total Loss (%)	6.06%	5.54%	3.28%	1.07%	0.56%

Table 5.11: SAMTSE

Sl.No.	Particulars	2020	2021	2022	2023	2024
1	Energy Requirement in kWh					
i)	Purchase from TD	68,784,715.00	80,493,957.00	67,860,994.25	94,692,098.00	99,834,181.00
ii)	Mini/Micro Hydel Generation					
iii)	Diesel Generation					
iv)	Import from WBSEB	0.00	0.00	0.00		
v)	Import from Chukhha	857,622.20	450790.38			
vi)	Export to Haa	-406833.00	-358,933.00	-415,894.00	-750,196.00	-1,249,132.00
vii)	HV Purchase	21,033,000.00	28,540,400	16,481,500.00	39,108,000.00	41,065,095.00
	Total	69,235,504.20	80,585,814.38	67,445,100.25	93,941,902.00	98,585,049.00
	% growth over previous year	-29.87%	16.39%	-16.31%	19.80%	4.94%
2	Energy Sales in kWh (Category Wise)					
i)	Rural Residential	11,440,458.61	11,685,976.00	12,224,138.00	12,742,525.00	13,870,040.50
ii)	Rural Cooperatives	22,080.00	13,256.00	12,267.00	11,248.00	14,814.00
iii)	Rural Micro Trade	47,011.67	53,881.00	61,900.00	75,084.00	104,922.00
iv)	Rural Community Lhakhangs	12,754.86	13,286.00	18,732.00	18,170.00	18,643.00
v)	Highlanders	0.00	0.00	0.00	0.00	0.00
vi)	Urban	2,112,028.05	2,126,286.00	2,198,945.25	2,213,616.48	2,511,278.30
vii)	Religious Institutions	28,971.00	32,573.00	40,208.00	56,821.00	63,461.00
viii)	Cottage and Small Scale Industries	159,597.76	167,914.00	184,222.00	214,367.00	235,840.00
ix)	Commercial	1,208,103.82	1,307,724.00	1,593,759.77	1,895,416.44	2,352,550.00
x)	Industrial	335,191.00	387,765.00	399,684.00	553,176.00	1,933,342.00
xi)	Agriculture	81,333.09	101,633.00	115,371.64	148,887.47	185,876.77
xii)	Institutions	2,146,175.65	2,577,091.00	2,882,195.08	3,362,175.81	4,965,778.04
xiii)	Street lighting	186,996.00	152,268.00	175,211.00	205,512.00	226,780.00
xiv)	Power house auxiliaries			-	-	0.00
xv)	Temporary connections	412,609.47	427,690.00	643,863.00	1,009,315.00	2,619,235.00
xvi)	Bulk	4,815,981.00	5,268,752.00	5,625,682.50	5,557,729.50	3,601,127.00
	EVCS (Electric Vehicle charging station)				1,560.00	8,040.00
	LV Total	23,009,291.97	24,316,095.00	26,176,179.24	28,064,043.70	32,703,687.61
xvii)	Medium Voltage	22,122,302.00	23,660,685.00	20,885,329.00	24,059,023.00	22,544,236.94
xviii)	High Voltage	21,054,700.00	28,540,400.00	16,294,500.00	39,123,470.00	41,091,105.00
	Total Energy Sales	66,186,293.97	76,517,180.00	63,356,008.24	91,246,536.70	96,339,029.55
	% growth over previous year	-30.96%	15.61%	-17.20%	19.25%	5.58%
3	Number of Customers (Categorywise)					
i)	Rural Residential	12,273	12,684	13,424	13,525	13,846
ii)	Rural Cooperatives	25	24	26	25	25
iii)	Rural Micro Trade	42	46	53	58	62
iv)	Rural Community Lhakhangs	18	20	19	19	20
v)	Highlanders	0	-	-	0	0.00
vi)	Urban	1,143	1,150	1,217	1,278	1,451
vii)	Religious Institutions	19	19	20	24	24
viii)	Cottage and Small Scale Industries	82	88	94	95	96
ix)	Commercial	590	620	755	833	939
x)	Industrial	15	15	16	17	25
xi)	Agriculture	205	212	220	225	235
xii)	Institutions	552	594	637	657	839
xiii)	Street lighting	31	33	34	44	43
xiv)	Power house auxiliaries			-	0	0.00
xv)	Temporary connections	163	173	211	242	311
xvi)	Bulk	61	68	70	64	56
	EVCS (Electric Vehicle charging station)				1	1
	LV Total	15,219	15,746	16,796	17,107	17,973
xvii)	Medium Voltage	12	11	14	14	19
xviii)	High Voltage	1	1	1	1	1
	Total Customers	15,232	15,758	16,811	17,122	17,993
	% growth over previous year	4.32%	3.45%	6.68%	8.66%	5.09%
4	Total Loss (%)	4.40%	5.05%	5.60%	2.84%	2.28%

Table 5.12: SAMDRUP JONGKHAR

Sl. No.	Particulars	2020	2021	2022	2023	2024
1	Energy Requirement in kWh					
i)	Purchase from TD	161218731	221,210,919.00	236,156,435.00	240,197,512.00	242,516,556.00
ii)	Mini/Micro Hydel Generation					
iii)	Diesel Generation					
iv)	Export to Zhemgang	0.00	0.00	0.00		
v)	Import from ASEB	0.00	0.00	0.00		
vi)	HV Purchase	142,259,677.00	199,947,486	210,716,819	209,888,154	207,055,042.00
	Total	161,218,731.00	221,210,919.00	236,156,435.00	240,197,512.00	242,516,556.00
	% growth over previous year	12.96%	37.21%	6.76%	1.71%	0.97%
2	Energy Sales in kWh (Category Wise)					
i)	Rural Residential	5,250,114.49	5,169,714.00	5,580,823.16	6,072,972.84	6,966,805.00
ii)	Rural Cooperatives	14,189.00	18,299.00	17,532.00	23,312.00	32,311.00
iii)	Rural Micro Trade	91,177.00	85,847.00	92,035.00	111,903.00	110,054.00
iv)	Rural Community Lhakhangs	130,530.00	128,843.00	137,093.04	159,670.96	154,839.00
v)	Highlanders	7,032.00	6,431.00	5,481.00	7,312.00	11,666.00
vi)	Urban	3,540,565.26	3,541,692.00	3,647,530.39	3,854,993.61	4,267,495.00
vii)	Religious Institutions	209,924.00	202,345.00	180,308.00	173,503.00	228,873.00
viii)	Cottage and Small Scale Industries	148,753.00	202,614.00	206,855.00	239,151.00	262,868.00
ix)	Commercial	1,187,923.68	1,421,867.00	1,748,473.11	2,074,709.00	2,426,321.00
x)	Industrial	64,109.00	52,993.00	56,312.00	61,200.00	73,712.00
xi)	Agriculture	14,339.00	14,046.00	16,249.00	12,131.00	14,002.00
xii)	Institutions	1,722,028.56	2,153,469.00	2,658,117.00	2,833,190.00	3,315,924.00
xiii)	Street lighting	306,652.00	250,359.00	271,075.00	301,188.00	345,636.00
xiv)	Power house auxiliaries				-	0.00
xv)	Temporary connections	591,716.93	654,123.00	584,847.00	636,620.00	906,790.00
xvi)	Bulk	3,413,380.30	3,458,292.00	3,581,242.00	4,655,721.00	4,164,531.00
	EVCS (Electric Vehicle charging station)				-	3,200.00
	LV Total	16,692,434.22	17,360,934.00	18,783,972.70	21,217,577.41	23,281,827.00
xvii)	Medium Voltage	485,681.00	1,614,397.00	4,426,150.00	6,675,321.00	9,582,454.00
xviii)	High Voltage	141,035,473.00	199,947,486.00	210,716,819.00	209,907,556.00	206,826,280.00
	Total Energy Sales	158,213,588.22	218,922,817.00	233,926,941.70	237,800,454.41	239,690,561.00
	% growth over previous year	8.99%	38.37%	6.85%	1.66%	0.79%
3	Number of Customers (Categorywise)					
i)	Rural Residential	5,988	6,189	6,436	6,720	7,116
ii)	Rural Cooperatives	32	33	33	34	37
iii)	Rural Micro Trade	67	68	68	68	71
iv)	Rural Community Lhakhangs	119	120	122	123	131
v)	Highlanders	12	12	12	31	31
vi)	Urban	2,060	2,137	2,205	2,187	2,296
vii)	Religious Institutions	18	17	18	18	22
viii)	Cottage and Small Scale Industries	29	32	38	38	37
ix)	Commercial	381	400	405	448	487
x)	Industrial	20	17	17	18	18
xi)	Agriculture	10	11	9	9	14
xii)	Institutions	423	458	482	524	570
xiii)	Street lighting	72	72	76	78	84
xiv)	Power house auxiliaries			-	-	0.00
xv)	Temporary connections	127	138	133	158	193
xvi)	Bulk	120	77	40	42	42
	EVCS (Electric Vehicle charging station)				-	1
	LV Total	9,478.00	9,781.00	10,094.00	10,496.00	11,150.00
xvii)	Medium Voltage	3.00	4.00	4.00	2.00	5.00
xviii)	High Voltage	2.00	1.00	1.00	1.00	2.00
	Total Customers	9,483.00	9,786.00	10,099.00	10,499.00	11,157.00
	% growth over previous year	4.67%	3.20%	3.20%	3.96%	6.27%
4	Loss (%)	1.86%	1.03%	0.94%	0.99%	1.17%

Table 5.13: THIMPHU

Sl. No.	Particulars	2020	2021	2022	2023	2024
1	Energy Requirement in kWh					
i)	Purchase from TD	240,844,201.46	585,367,333.06	950,317,415.31	1,924,226,446.32	2,523,998,613.70
ii)	Mini/Micro Hydel Generation	5,491,949.00	3,624,580.00		1,970,636.10	1,519,085.00
iii)	Diesel Generation	4,240.00	950.00		8,027.20	
iv)	Import				29,651,873.00	
v)	HV Purchase		324,877,912.00	664,606,231.00	1,647,912,900.00	2,203,294,954.00
vi)	Export				-445,533.00	-1,619,140.00
	Total	246,340,390.46	588,992,863.06	950,317,415.31	1,955,411,449.62	2,523,898,558.70
	% growth over previous year	0.70%	139.10%	61.35%	105.76%	29.07%
2	Energy Sales in kWh (Category Wise)					
i)	Rural Residential	15,458,211.36	17,674,913.00	20,787,373.55	22,369,325.94	25,157,382.42
ii)	Rural Cooperatives	10,996.31	10,732.00	21,773.00	24,097.00	30,431.00
iii)	Rural Micro Trade	440,550.62	474,128.00	481,783.78	505,185.69	512,231.00
iv)	Rural Community Lhakhangs	439,425.46	458,944.00	494,257.00	581,382.00	698,399.00
v)	Highlanders	0.00	0.00	43,368.00	19,073.00	21,620.00
vi)	Urban	105,837,744.85	117,150,182.00	128,610,974.56	134,186,190.57	140,330,648.65
vii)	Religious Institutions	109,311.05	97,799.00	82,644.00	71,421.00	80,575.00
viii)	Cottage and Small Scale Industries	1,742,509.25	1,748,952.00	2,082,502.00	2,441,854.00	2,499,191.43
ix)	Commercial	29,478,072.09	30,217,296.00	34,137,017.73	38,502,895.96	42,880,112.63
x)	Industrial	3,029,643.35	3,173,297.00	3,320,756.00	3,823,001.00	3,874,894.00
xi)	Agriculture	127,886.60	104,559.00	118,963.00	81,428.00	77,667.00
xii)	Institutions	25,615,612.74	26,694,129.00	27,381,002.65	31,666,165.71	33,175,602.57
xiii)	Street lighting	1,912,287.50	1,859,100.00	1,840,125.00	1,850,738.00	1,992,448.00
xiv)	Power house auxiliaries	532,138.42	440,483.00	421,985.00	364,532.82	347,846.75
xv)	Temporary connections	8,752,790.22	5,523,304.00	7,621,473.00	7,787,966.00	7,081,309.00
xvi)	Bulk	24,111,693.48	22,347,520.00	23,651,131.60	25,613,683.60	27,323,647.60
xvii)	EVCS (Electric Vehicle charging				726,038.20	688,957.80
	LV Total	217,598,873.29	227,975,338.00	251,097,129.87	270,614,978.49	286,772,963.85
xviii)	Medium Voltage	3,492,564.00	12,681,764.00	8,861,300.00	9,965,536.00	10,392,978.00
	High Voltage		324,877,912.00	664,605,465.00	1,648,489,223.00	2,202,673,141.00
	Total Energy Sales	221,091,437.29	565,535,014.00	924,563,894.87	1,929,069,737.49	2,499,839,082.85
	% growth over previous year	0.88%	155.79%	63.48%	108.65%	29.59%
3	Number of Customers (Categorywise)					
i)	Rural Residential	6,227	6,851	7,627	8,352	9,094.00
ii)	Rural Cooperatives	16	18	18	20	19
iii)	Rural Micro Trade	144	145	145	143	143
iv)	Rural Community Lhakhangs	80	84	88	96	94
v)	Highlanders	0	-	62	64	64
vi)	Urban	29,842	31,314	33,342	35,303	37,848.00
vii)	Religious Institutions	8	9	9	9	14
viii)	Cottage and Small Scale Industries	316	336	346	346	350
ix)	Commercial	6,965	7,383	7,766	8,378	8,857.00
x)	Industrial	28	28	28	27	27
xi)	Agriculture	46	42	43	44	45
xii)	Institutions	1,494	1,572	1,680	1,866	1,930.00
xiii)	Street lighting	141	141	143	141	141
xiv)	Power house auxiliaries	13	13	12	12	12
xv)	Temporary connections	1,166	1,016	945	848	808
xvi)	Bulk	67	67	62	63	66
xvii)	EVCS (Electric Vehicle charging				14	21
	LV Total	46,553	49,019	52,316	55,726	59,533
xviii)	Medium Voltage	4	6	5	5	5
	High Voltage		4	2	3	3
	Total Customers	46,557	49,029	52,323	55,734	59,541
	% growth over previous year	8.88%	5.31%	6.72%	6.52%	6.83%
4	Total Loss (%)	10.25%	3.98%	2.70%	1.39%	0.95%

Table 5.14: TRONGSA

Sl.No.	Particulars	2020	2021	2022	2023	2024
1	Energy Requirement in kWh					
i)	Purchase from TD	41,209,055.00	37,045,447.00	251,182,850.78	559,702,255.77	530,572,830.70
ii)	Mini/Micro Hydel Generation	169,132.67	21,476.78	0.00		
iii)	Diesel Generation					
iv)	Net Import Bumthang	347,009.00	518,135.05	318,650.00	2,072,000.00	71,722.00
v)	Net Import Zhemgang		223,233.00	548,795.00	72,325.00	
vi)	Net Import Zhemgang				260,980.00	
vii)	Net Export to Bumthang	-13,265,798.19	-13,382,514.69	-10,234,968.25	(3,127,283.00)	-3,316,135.00
viii)	Net Export to Wangdue					
xi)	HV Purchase					512,206,807.00
	Total	28,459,398.48	24,425,777.14	240,947,882.53	558,980,277.77	527,328,417.70
	% growth over previous year	-9.08%	-14.17%	886.45%	131.99%	-5.66%
2	Energy Sales in kWh (Category Wise)					
i)	Rural Residential	3,759,136.59	3,879,657.00	3,996,107.00	3,910,560.00	3,804,938.00
ii)	Rural Cooperatives	16,294.00	12,674.00	3.00	170.00	755
iii)	Rural Micro Trade	125,848.00	106,406.00	107,258.00	112,400.00	79,634.00
iv)	Rural Community Lhakhangs	11,502.00	15,187.00	21,827.00	31,300.00	47,920.00
v)	Highlanders			-	-	0
vi)	Urban	1,331,078.00	1,307,907.00	1,314,850.00	1,335,072.00	1,361,913.02
vii)	Religious Institutions	138,809.00	126,507.00	101,771.00	99,402.00	127,268.00
viii)	Cottage and Small Scale Industries	73,640.00	89,425.00	84,778.00	68,121.00	78,097.00
ix)	Commercial	303,137.00	409,227.00	444,100.00	531,661.00	536,084.10
x)	Industrial	51,721.00	47,285.00	41,195.00	31,296.00	28,205.00
xi)	Agriculture	144.00	7,985.00	21,937.00	56,108.00	25,260.00
xii)	Institutions	567,890.00	837,172.00	1,050,665.00	1,113,847.00	1,063,962.00
xiii)	Street lighting	106,642.00	98,462.00	107,664.00	115,123.00	124,529.00
xiv)	Power house auxiliaries	54,585.00	48,378.00	30,084.00	28,313.00	49,877.00
xv)	Temporary connections	169,785.00	173,649.00	292,692.00	263,064.00	328,977.00
xvi)	Bulk	972,562.20	876,863.00	748,305.00	959,857.00	1,006,872.00
xvi)	EVCS (Electric Vehicle charging				2,400.00	14,880.00
	LV Total	7,682,773.79	8,036,784.00	8,363,236.00	8,658,694.00	8,679,171.12
xviii)	Medium Voltage	17,605,586.15	13,685,976.00	32,587,478.71	10,747,021.66	5,312,150.77
ix)	High Voltage			198,311,834.50	537,544,146.80	512,210,095.80
	Total Energy Sales	25,288,359.94	21,722,760.00	239,262,549.21	556,949,862.46	526,201,417.69
	% growth over previous year	-12.17%	-14.10%	1001.44%	132.78%	119.93%
3	Number of Customers (Categorywise)					
i)	Rural Residential	3,027	3,047	3,191	3,235	3,269.00
ii)	Rural Cooperatives	139	5	4	7	5
iii)	Rural Micro Trade	69	56	54	54	53
iv)	Rural Community Lhakhangs	12	14	19	20	22
v)	Highlanders			-	-	0.00
vi)	Urban	672	683	684	690	717
vii)	Religious Institutions	49	47	40	37	37
viii)	Cottage and Small Scale Industries	30	29	30	29	28
ix)	Commercial	102	106	121	129	131
x)	Industrial	10	10	10	9	9
xi)	Agriculture	9	236	258	272	291
xii)	Institutions	186	281	301	312	311
xiii)	Street lighting	20	21	22	22	22
xiv)	Power house auxiliaries	3	3	3	3	2
xv)	Temporary connections	50	54	75	77	93
xvi)	Bulk	99	53	57	56	56
xvii)	EVCS (Electric Vehicle charging				1	1
	LV Total	4,477	4,645	4,869	4,953	5,047
xvii)	Medium Voltage	4	12	6	13	10
xviii)	High Voltage			1	1	1
	Total Customers	4,481	4,657	4,876	4,967	5,058
	% growth over previous year	4.45%	3.93%	4.70%	1.87%	1.83%
4	Total Loss (%)	11.14%	11.07%	0.67%	0.30%	0.21%

Table 5.15: TRASHIGANG

Sl.No.	Particulars	2020	2021	2022	2023	2024
1	Energy Requirement in kWh					
i)	Purchase from TD	14,733,085.00	16,161,991.00	25,692,873.00	14,679,817.00	16,961,029.00
ii)	Mini/Micro Hydel Generation	9,410,780.00	7,861,759.00		9115225	7,606,195.00
iii)	Diesel Generation					
iv)	Import from Pemagatshel & Trashi Yangtse	1,716,481.00	910,250.00		2457344	2,159,617.00
v)	Export to Trashi Yangtse & Mongar	-4,793,865.00	-3,549,170.00	-3,138,579.00	-2,869,524.00	-3,130,078.00
	Total	21,066,481.00	21,384,830.0	22,554,294.0	23,382,862.0	23,596,763.00
	% growth over previous year	4.18%	1.51%	5.47%	3.67%	0.91%
2	Energy Sales in kWh (Category Wise)					
i)	Rural Residential	9,416,571.03	9,397,583.00	10,122,611	10,947,162	9,915,736.20
ii)	Rural Cooperatives	15,528.00	17,241.00	18,341	24,638	20,836.00
iii)	Rural Micro Trade	215,778.00	216,707.00	249,438	244,554	261,874.00
iv)	Rural Community Lhakhangs	286,109.75	293,079.00	320,248	361,570	381,059.00
v)	Highlanders	460,732.00	597,554.00	599,618	713,740	798,638.00
vi)	Urban	1,458,988.19	1,446,032.00	1,621,280	1,543,197	1,630,427.17
vii)	Religious Institutions	314,648.78	338,575.00	350,752	346,096	428,776.00
viii)	Cottage and Small Scale Industries	267,477.00	296,299.00	303,864	301,293	307,723.00
ix)	Commercial	800,930.22	894,565.00	996,992	1,027,194	1,121,278.00
x)	Industrial	24,611.00	8,764.00	7,097	6,985	14,885.00
xi)	Agriculture	59,985.00	68,027.00	41,969	44,218	55,036.00
xii)	Institutions	2,001,972.99	2,799,688.00	2,677,403	2,855,918	2,979,396.82
xiii)	Street lighting	123,148.00	127,579.00	127,498	131,211	120,272.00
xiv)	Power house auxiliaries	37,862.00	32,345.00	34,957	33,323	28,108.00
xv)	Temporary connections	122,374.98	113,463.00	193,531	262,389	261,273.00
xvi)	Bulk	2,211,167.63	2,246,426.00	2,333,637.00	2,502,071.00	2,308,640.00
xvi)	EVCS (Electric Vehicle charging station)			-		8,088.00
	LV Total	17,817,884.57	18,893,927.00	19,999,235.28	21,345,558.73	20,642,046.19
xvii)	Medium Voltage					
xviii)	High Voltage					
	Total Energy Sales	17,817,884.57	18,893,927.00	19,999,235.28	21,345,558.73	20,642,046.19
	% growth over previous year	1.68%	6.04%	5.85%	6.73%	
3	Number of Customers (Categorywise)					
i)	Rural Residential	10,408	10,635	10,838	11,086	11,216.00
ii)	Rural Cooperatives	19	21	23	23	24
iii)	Rural Micro Trade	139	140	142	143	143
iv)	Rural Community Lhakhangs	219	238	244	251	272
v)	Highlanders	767	781	798	885	943
vi)	Urban	919	916	927	967	980
vii)	Religious Institutions	55	55	56	67	70
viii)	Cottage and Small Scale Industries	106	112	111	118	120
ix)	Commercial	360	369	398	390	416
x)	Industrial	12	12	14	14	15
xi)	Agriculture	392	394	397	425	424
xii)	Institutions	669	657	691	735	738
xiii)	Street lighting	56	54	54	56	57
xiv)	Power house auxiliaries	3	3	3	3	3
xv)	Temporary connections	58	57	74	89	111
xvi)	Bulk	27	31	33	35	31
xvii)	EVCS (Electric Vehicle charging station)				-	1
	LV Total	14,209	14,475	14,803	15,287	15,564
xvii)	Medium Voltage					
xviii)	High Voltage					
	Total Customers	14,209	14,475	14,803	15,287	15,564
	% growth over previous year	2.43%	1.87%	2.27%	3.27%	1.81%
4	Total Loss (%)	15.42%	11.65%	9.94%	7.01%	12.52%

Table 5.16: TRASHI YANGTSE

Sl. No.	Particulars	2020	2021	2022	2023	2024
1	Energy Requirement in kWh					
i)	Purchase from TD	4,985,531.00	6,953,369.50	9,392,575.50	8,398,487.50	8,735,621.25
ii)	Mini/Micro Hydel Generation					
iii)	Diesel Generation					
iv)	Import from Trashigang (Chenary & Jamkhar)	2,899,905.00	802,709.00		488,797.00	382,235.00
v)	Export to Trashigang (Chenary & Jamkhar)	-204,506.00	-285,924.00	-205,022.00	-188,487.00	-43,093.00
	Total	7,680,930.00	7,470,154.50	9,187,553.50	8,698,797.50	9,074,763.25
	% growth over previous year	6.89%	-2.74%	22.99%	-5.32%	4.32%
2	Energy Sales in kWh (Category Wise)					
i)	Rural Residential	3,374,835.52	3,324,117.00	3,786,031.00	3,584,135.00	3,674,408.00
ii)	Rural Cooperatives	2,131.00	1,878.00	1,915.00	2,049.00	3,189.00
iii)	Rural Micro Trade	63,144.00	65,097.00	72,127.00	69,637.00	68,621.00
iv)	Rural Community Lhakhangs	55,287.00	59,852.00	65,212.00	59,576.00	64,811.00
v)	Highlanders	0.00	0.00	-	-	0.00
vi)	Urban	1,204,125.82	1,266,322.00	1,411,675.00	1,329,087.00	1,340,152.91
vii)	Religious Institutions	148,568.00	122,956.00	128,406.00	114,340.00	136,380.00
viii)	Cottage and Small Scale Industries	107,544.00	111,856.00	108,917.00	113,780.00	107,471.00
ix)	Commercial	465,259.00	491,130.00	573,464.00	615,061.00	669,538.00
x)	Industrial	44,236.00	40,526.00	51,826.00	52,436.00	49,774.00
xi)	Agriculture	38,071.00	32,609.00	34,844.00	34,703.00	28,070.00
xii)	Institutions	736,032.00	934,729.00	1,033,964.00	1,101,056.00	1,228,277.00
xiii)	Street lighting	77,310.00	91,081.00	102,045.00	101,734.00	72,395.00
xiv)	Power house auxiliaries	74,560.00	73,280.00	73,240.00	72,640.00	73,400.00
xv)	Temporary connections	212,788.67	207,661.00	342,508.00	216,224.00	281,793.00
xvi)	Bulk	90,520.00	115,360.00	120,320.00	126,700.00	103,400.00
xvii)	EVCS (Electric Vehicle charging)				4,387.00	4,681.00
	LV Total	6,694,412.01	6,938,454.00	7,906,494.00	7,597,545.00	7,906,360.91
xvii)	Medium Voltage	36,320.00	97,604.00	145,023.00	49,113.00	123,416.00
xviii)	High Voltage					
	Total Energy Sales	6,730,732.01	7,036,058.00	8,051,517.00	7,646,658.00	8,029,776.91
	% growth over previous year	6.45%	4.54%	14.43%	-5.03%	5.01%
3	Number of Customers (Categorywise)					
i)	Rural Residential	4,064	4,210	4,382	4,448	4,612.00
ii)	Rural Cooperatives	5	5	4	5	5
iii)	Rural Micro Trade	56	58	59	56	55
iv)	Rural Community Lhakhangs	67	70	72	74	77
v)	Highlanders	0	-	-	-	-
vi)	Urban	732	772	794	832	872
vii)	Religious Institutions	27	27	30	30	30
viii)	Cottage and Small Scale Industries	58	60	62	62	65
ix)	Commercial	135	143	169	165	175
x)	Industrial	21	22	24	21	21
xi)	Agriculture	129	133	135	141	139
xii)	Institutions	334	356	365	354	337
xiii)	Street lighting	15	17	17	16	15
xiv)	Power house auxiliaries	2	2	2	2	2
xv)	Temporary connections	77	105	114	105	105
xvi)	Bulk	5	5	5	4	4
xvii)	EVCS (Electric Vehicle charging)				1	1
	LV Total	5,727	5,985	6,234	6,316	6,515
xvii)	Medium Voltage	1	1	2	1	1
xviii)	High Voltage					
	Total Customers	5,728	5,986	6,236	6,317	6,516
	% growth over previous year	3.60%	4.50%	4.18%	1.30%	3.15%
4	Total Loss (%)	12.37%	5.81%	11.97%	11.84%	11.52%

Table 5.17: TSIRANG

Sl#	Particulars	2020	2021	2022	2023	2024
1	Energy Requirement in kWh					
i)	Purchase from TD	8,999,033.00	9,680,711.00	11,129,939.59	10,651,328.00	12,041,636.00
ii)	Mini/Micro Hydel Generation	425,952.00	523,695.00		538695.24	461,326.09
iii)	Diesel Generation			0		
iv)	Import from Wangdue	124,272.00	139,518.00	187,840.00	177,328.30	229,160.00
v)	Export					
	Total	9,549,257.00	10,343,924.00	11,129,939.59	11,367,351.54	12,732,122.09
	% growth over previous year	4.33%	8.32%	7.60%	2.13%	12.01%
2	Energy Sales in kWh (Category Wise)					
i)	Rural Residential	5,618,204.97	5,924,219.00	6,700,690.45	6,826,306.55	7,247,346.74
ii)	Rural Cooperatives	12,220.00	10,563.00	14,269.00	13,942.00	18,368.00
iii)	Rural Micro Trade	154,096.00	157,110.00	161,299.00	168,635.00	168,804.00
iv)	Rural Community Lhakhangs	21,722.00	26,259.00	30,185.00	38,099.00	38,870.00
v)	Highlanders			-	-	0.00
vi)	Urban	1,230,413.44	1,246,470.00	1,371,448.00	1,476,337.00	1,574,716.91
vii)	Religious Institutions	75,283.00	85,765.00	83,605.00	68,432.00	74,254.00
viii)	Cottage and Small Scale Industries	427,886.74	407,198.00	409,806.00	422,521.00	429,402.00
ix)	Commercial	375,532.00	407,093.00	467,775.00	585,974.00	693,839.13
x)	Industrial	19,587.00	57,827.00	87,975.00	91,872.00	134,303.00
xi)	Agriculture	90,047.12	122,255.00	206,540.00	142,453.00	140,940.00
xii)	Institutions	616,590.93	715,479.00	790,535.00	802,044.00	799,549.00
xiii)	Street lighting	86,214.04	108,128.00	98,925.00	100,914.00	104,196.00
xiv)	Power house auxiliaries	80,872.00	79,193.00	83,333.00	81,782.00	64,285.00
xv)	Temporary connections	106,537.74	135,873.00	103,664.00	57,646.00	46,335.00
xvi)	Bulk	433,498.00	601,516.00	598,042.00	526,087.00	525,875.00
xvii)	EVCS (Electric Vehicle charging)				47,220.00	10,380.00
	LV Total	9,348,704.98	10,084,948.00	11,208,091.45	11,450,264.55	12,071,463.78
xvii)	Medium Voltage					
xviii)	High Voltage					
	Total Energy Sales	9,348,704.98	10,084,948.00	11,208,091.45	11,450,264.55	12,071,463.78
	% growth over previous year	8.67%	7.88%	11.14%	2.16%	5.43%
3	Number of Customers (Categorywise)					
i)	Rural Residential	5,484	5,721	5,865	6,045	6,267.00
ii)	Rural Cooperatives	9	9	9	9	9
iii)	Rural Micro Trade	103	103	104	103	104
iv)	Rural Community Lhakhangs	19	19	20	26	27
v)	Highlanders	0	-	-	-	0.00
vi)	Urban	614	623	679	721	770
vii)	Religious Institutions	17	20	20	20	20
viii)	Cottage and Small Scale Industries	109	109	107	104	101
ix)	Commercial	156	174	4	230	279
x)	Industrial	3	4	180	7	7
xi)	Agriculture	111	119	280	134	137
xii)	Institutions	242	269	29	285	290
xiii)	Street lighting	26	29	3	29	30
xiv)	Power house auxiliaries	3	3	35	3	3
xv)	Temporary connections	34	32	6	18	23
xvi)	Bulk	6	6	6	6	6
xvii)	EVCS (Electric Vehicle charging)				1	1
	LV Total	6,936	7,240	7,347	7,741	8,074
xvii)	Medium Voltage					
xviii)	High Voltage					
	Total Customers	6,936	7,240	7,347	7,741	8,074
	% growth over previous year	3.54%			5.36%	4.30%
4	Total Loss (%)	2.10%	2.50%	-0.70%	-1.07%	5.19%

Table 5.18: WANGDUE PHODRANG

Sl#	Particulars	2020	2021	2022	2023	2024
1	Energy Requirement in kWh					
i)	Purchase from TD	51,421,402.59	48,788,021.20	52,215,417.41	49,629,176.00	50,671,219.60
ii)	Mini/Micro Hydel Generation	1,499,442.00	911,639.00		789175.06	387,968.17
iii)	Diesel Generation					
iv)	Import from Trongsa	5,325,633.19	4,466,372.90		2338700	409477.00
v)	Export to Tsirang	-123337.00	-139,518.00	-177,415.00	-177,328.34	-346095.00
vi)	HV Purchase	30,362,402.00	25,659,641.00	22,032,200.00	19,766,711.00	11,287,863.25
	Total	58,123,140.78	54,026,515.10	52,038,002.41	52,579,722.72	51,122,569.77
	% growth over previous year	-13.26%	-7.05%	-3.68%	1.04%	-2.77%
2	Energy Sales in kWh (Category Wise)					
i)	Rural Residential	8,845,923.11	9,165,760.00	9,728,683.00	9,943,884.00	10,352,103.01
ii)	Rural Cooperatives	13,766.00	15,687.00	19,001.00	12,751.00	17,960.00
iii)	Rural Micro Trade	113,012.00	125,898.00	141,751.00	167,870.00	143,182.00
iv)	Rural Community Lhakhangs	157,000.00	167,127.00	171,261.00	194,298.00	247,452.00
v)	Highlanders	0.00	0.00	-	-	0.00
vi)	Urban	3,125,259.00	3,035,904.00	3,140,522.00	2,898,928.00	2,912,002.00
vii)	Religious Institutions	615,243.00	628,940.00	614,112.00	663,495.00	724,138.00
viii)	Cottage and Small Scale Industries	871,450.00	652,255.00	838,230.00	1,238,575.00	1,403,542.00
ix)	Commercial	2,290,307.00	2,171,208.00	2,390,366.60	2,813,593.00	3,307,329.65
x)	Industrial			-	-	0.00
xi)	Agriculture	262,299.88	270,531.00	260,916.00	331,356.00	343,770.00
xii)	Institutions	2,049,900.00	2,355,951.00	2,349,861.00	2,474,930.89	2,423,719.00
xiii)	Street lighting	267,091.00	255,602.00	238,852.00	339,697.00	378,868.00
xiv)	Power house auxiliaries	11,042.00	8,068.00	8,270.00	6,707.00	19,697.00
xv)	Temporary connections	2,292,189.00	2,710,068.00	3,496,917.00	4,347,652.00	4,680,648.00
xvi)	Bulk	3,334,896.50	2,868,208.00	3,455,937.70	4,085,149.00	4,725,977.70
xvii)	EVCS (Electric Vehicle charging				29,540.00	41,100.00
	LV Total	24,249,378.49	24,431,207.00	26,854,680.30	29,548,425.89	31,721,488.36
xvii)	Medium Voltage	522,121.00	444,581.00	234,556.00	91,737.00	4,755,470.94
xviii)	High Voltage	30,343,138.00	25,659,641.00	21,969,000.00	19,516,695.00	11,301,543.00
	Total Energy Sales	55,114,637.49	50,535,429.00	49,058,236.30	49,156,857.89	47,778,502.30
	% growth over previous year	-13.04%	-8.31%	-2.92%	0.20%	-2.80%
3	Number of Customers (Categorywise)					
i)	Rural Residential	6,674	6,829	6,991	7,153	7,337.00
ii)	Rural Cooperatives	6	6	6	6	6
iii)	Rural Micro Trade	50	53	56	59	55
iv)	Rural Community Lhakhangs	111	134	136	143	166
v)	Highlanders	0	-	-	-	0.00
vi)	Urban	1,486	1,480	1,487	1,489	1,493.00
vii)	Religious Institutions	69	67	66	74	78
viii)	Cottage and Small Scale Industries	121	130	137	137	136
ix)	Commercial	538	528	537	592	621
x)	Industrial		1	-	-	0.00
xi)	Agriculture	319	419	463	485	491
xii)	Institutions	469	476	493	512	521
xiii)	Street lighting	37	37	37	37	37
xiv)	Power house auxiliaries	2	2	2	2	3
xv)	Temporary connections	327	339	340	272	280
xvi)	Bulk	26	24	24	29	32
xvii)	EVCS (Electric Vehicle charging				2	2
	LV Total	10,235	10,525	10,775	10,992	11,258
xvii)	Medium Voltage	1	1	1	-	2
ix)	High Voltage	1	1	1	1	
	Total Customers	10,237	10,527	10,777	10,993	11,260
	% growth over previous year	3.86%	2.83%	2.37%	2.00%	2.43%
4	Total Loss (%)	5.18%	6.46%	5.81%	6.49%	6.54%

Table 5.19: ZHEMGANG

Sl#	Particulars	2020	2021	2022	2023	2024
1	Energy Requirement in kWh					
i)	Purchase from TD	4,878,435.00	5,159,205.00	7,942,376.53	6,595,189.50	7,688,260.50
ii)	Mini/Micro Hydel Generation	561,474.34	707,814.04		449,472.36	468,187.41
iii)	Diesel Generation					
iv)	Import from Pema Gatsbel/Trongsa	1,368,114.50	160,647.00		147,342.8	178,894.00
v)	Export to Trongsa	-234,430.00	-223,053.00	-233,351.00	-72,325.00	-48,620.00
	Total	6,573,593.84	7,250,436.04	7,709,025.53	8,445,764.86	9,896,775.91
	% growth over previous year	11.5%	10.3%	6.3%	9.6%	17.2%
2	Energy Sales in kWh (Category Wise)					
i)	Rural Residential	2,583,908.00	275,622.00	3,021,357.28	3,446,570.24	3,814,952.48
ii)	Rural Cooperatives	5,437.00	2380.00	2,648.00	3,016.00	4,091.00
iii)	Rural Micro Trade	54,638.00	55,403.00	56,163.00	57,577.00	61,444.00
iv)	Rural Community Lhakhangs	66,634.00	57,559.00	63,173.00	73,641.00	84,149.00
v)	Highlanders			-	-	0.00
vi)	Urban	1,113,782.00	1,025,081.00	1,041,098.99	1,013,909.67	1,063,526.72
vii)	Religious Institutions	87,183.00	88,872.00	101,097.00	100,756.00	108,384.00
viii)	Cottage and Small Scale Industries	76,477.00	105,228.00	117,018.00	146,768.00	104,045.00
ix)	Commercial	322,639.00	381,501.00	455,015.25	466,723.99	512,047.00
x)	Industrial	4,982.37	2,533.00	42	-	0.00
xi)	Agriculture	47,514.63	19,271.00	10,672.00	7,772.00	7,353.00
xii)	Institutions	1,024,696.48	1,223,588.00	1,291,001.69	1,375,623.00	1,475,138.76
xiii)	Street lighting	92,620.00	102,244.00	104,156.00	134,071.00	156,422.00
xiv)	Power house auxiliaries			-	-	0.00
xv)	Temporary connections	79,790.00	96,474.00	114,667.00	97,606.00	265,711.00
xvi)	Bulk	142,398.00	287,871.00	229,842.00	754,777.00	1,089,120.00
xvii)	Electric Vehicle				-	160
	LV Total	5,702,699.48	6,204,229.00	6,607,951.21	7,678,810.90	8,746,383.96
xvii)	Medium Voltage					
xviii)	High Voltage					
	Total Energy Sales	5,702,699.48	6,204,229.00	6,607,951.21	7,678,810.90	8,746,383.96
	% growth over previous year	5.1%	8.8%	6.5%	16.2%	13.9%
3	Number of Customers (Categorywise)					
i)	Rural Residential	3,015	3,307	3,625	3,764	3,933.00
ii)	Rural Cooperatives	20	11	11	11	12
iii)	Rural Micro Trade	41	39	41	41	41
iv)	Rural Community Lhakhangs	79	79	92	95	100
v)	Highlanders	0	-	-	-	0.00
vi)	Urban	764	687	677	676	684
vii)	Religious Institutions	36	36	37	36	36
viii)	Cottage and Small Scale Industries	24	31	32	31	36
ix)	Commercial	117	121	139	151	169
x)	Industrial	10	1	-	-	0
xi)	Agriculture	28	35	35	37	37
xii)	Institutions	307	325	340	360	378
xiii)	Street lighting	36	38	40	42	43
xiv)	Power house auxiliaries			-	-	-
xv)	Temporary connections	45	28	23	36	51
xvi)	Bulk	10	8	4	12	13
xvii)	EVCS (Electric Vehicle charging station)				-	1
	LV Total	4,532	4,746	5,096	5,292	5,534
xvii)	Medium Voltage					
xviii)	High Voltage					
	Total Customers	4,532	4,746	5,096	5,292	5,534
	% growth over previous year	2.98%	4.72%	7.37%	3.85%	4.57%
4	Total Loss (%)	13.25%	14.43%	12.77%	9.00%	11.62%

5.20. PATTERN OF DAILY ELECTRICITY USE

Comparison of domestic load consumption pattern of Thimphu and Phuentsholing during summer and winter for year 2024 shown in Table 5.20. Thimphu has huge energy demand variances during winter and summer while Phuentsholing has very negligible variances.

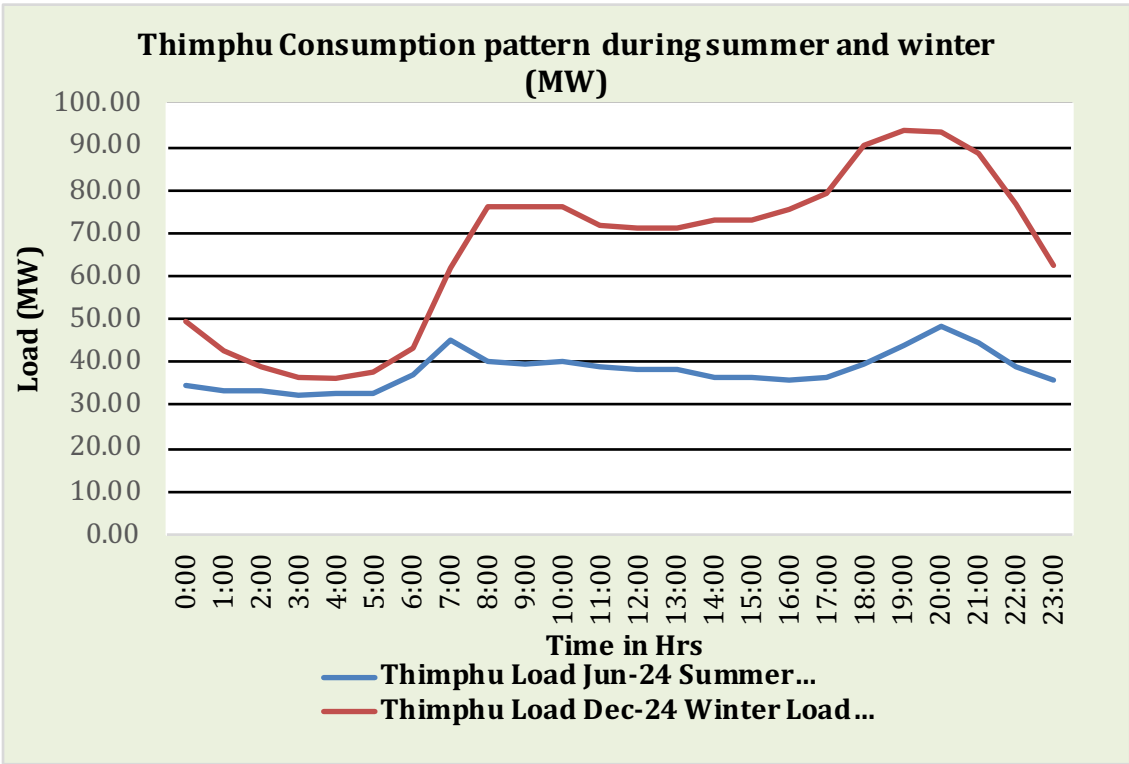
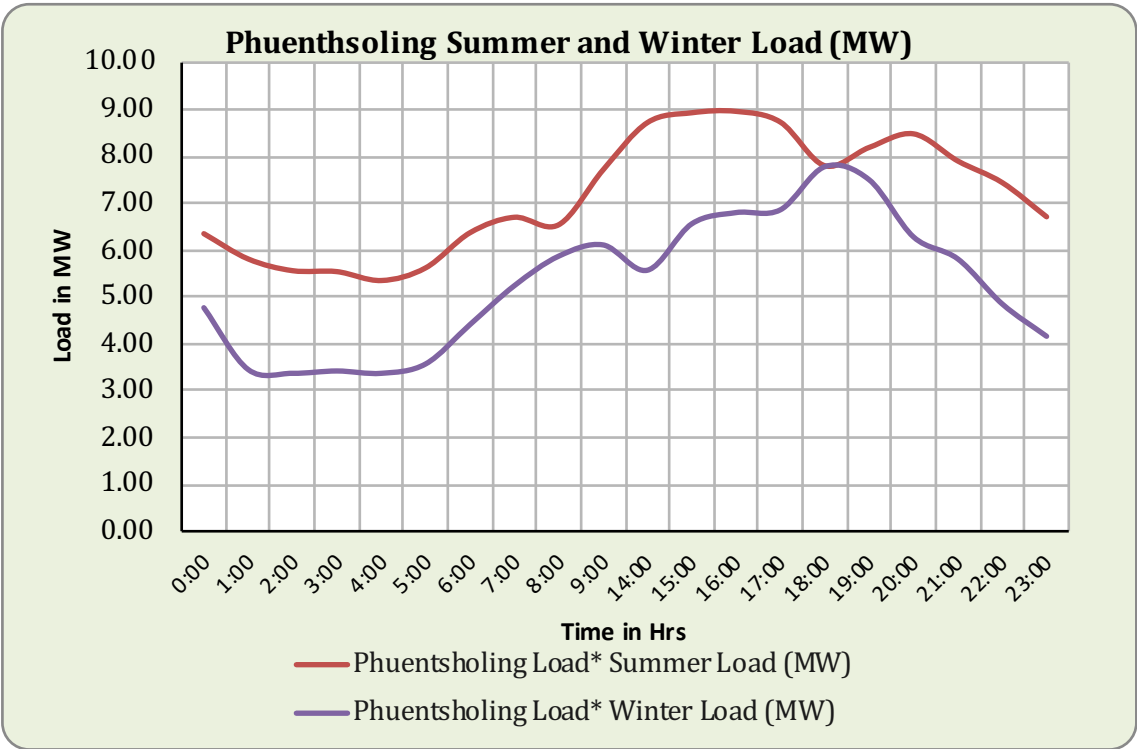
Table 5.20 shows Comparison of daily electricity consumption in Thimphu and Phuentsholing

Time	Thimphu Load		Phuentsholing Load*	
	Jun-24	Dec-24	Jun-24	Dec-24
	Summer Load (MW)	Winter Load (MW)	Summer Load (MW)	Winter Load (MW)
0:00	34.37	49.25	6.35	4.77
1:00	33.52	42.6	5.81	3.45
2:00	33.08	38.94	5.56	3.37
3:00	32.34	36.4	5.54	3.42
4:00	32.8	36.26	5.35	3.37
5:00	32.62	37.78	5.62	3.57
6:00	36.80	43.59	6.37	4.41
7:00	44.84	61.67	6.70	5.24
8:00	39.98	76.21	6.54	5.87
9:00	39.45	75.81	7.71	6.11
10:00	39.99	75.94	8.59	7.30
11:00	38.95	72.02	8.96	7.16
12:00	38.58	70.98	8.89	6.90
13:00	38.60	71.08	8.93	5.80
14:00	36.25	73.14	8.72	5.57
15:00	36.59	72.91	8.93	6.56
16:00	35.71	75.48	8.96	6.80
17:00	36.21	79.07	8.73	6.86
18:00	39.31	90.52	7.80	7.78
19:00	43.81	93.8	8.19	7.50
20:00	48.34	93.21	8.48	6.28
21:00	44.47	88.76	7.90	5.81
22:00	38.82	76.68	7.44	4.85
23:00	35.82	62.18	6.71	4.16

 - Minimum load  - Maximum load

Note : * Only from Phuentsholing Substation

The daily electricity consumptions during winter and summer month in Phuentsholing and Thimphu is presented in the figures below.



5.3 : Yearly Overall Reliability Indices for Year 2023 and 2024

SAIFI

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG	Total
2023	1.09	1.36	2.76	2.96	3.25	3	3.64	3.53	3.23	2.33	1.92	1.73	2.57	30.81
2024	1.03	1.35	2.11	3.16	4.24	3.29	3.72	3.27	2.57	2.29	1.02	0.76	2.4	28.82

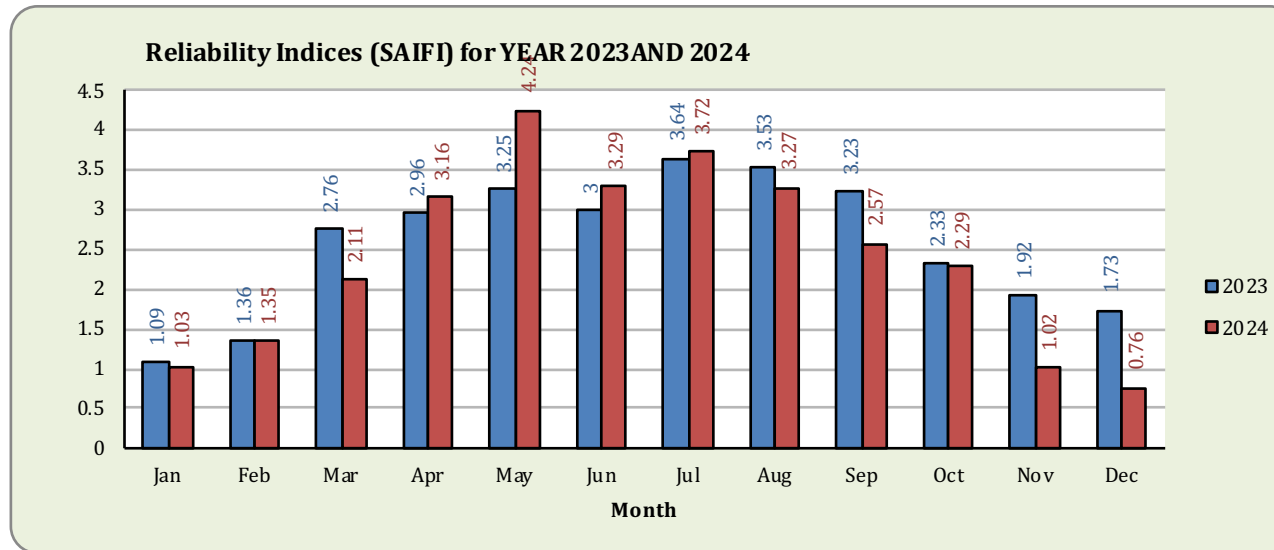
SAIDI

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG	Total
2023	1.33	1.42	0.54	0.54	0.77	0.64	0.76	1.03	4.08	2.46	3.25	2.53	1.61	19.36
2024	1.15	1.5	2.94	4.48	8.56	5.86	5.99	4.9	2.92	2.86	0.95	0.93	3.59	43.03

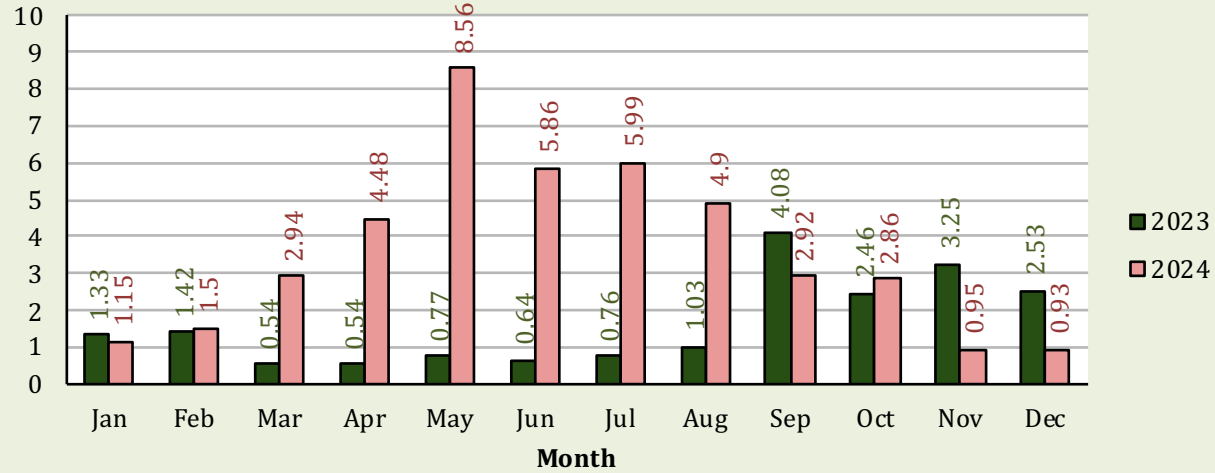
MAIFI

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	AVG	Total
2023	0.47	0.62	0	0	1.45	2.11	3.01	1.99	1.92	1.53	0.67	0.56	1.19	14.33
2024	0.37	0.45	1.2	1.5	1.5	1.86	1.92	1.46	1.63	1.39	0.61	0.69	1.21	14.58

Figures shows the SAIFI, SADI and MAIFI comparision during Year 2023 and 2024



Reliability Indices (SAIDI) for Year 2023 and 2024



Reliability Indices (MAIFI) for Year 2023 and 2024

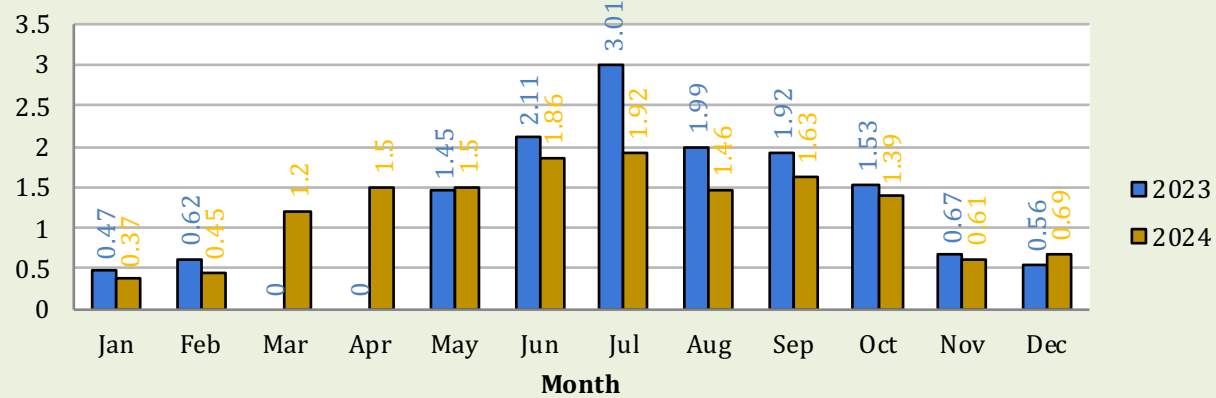
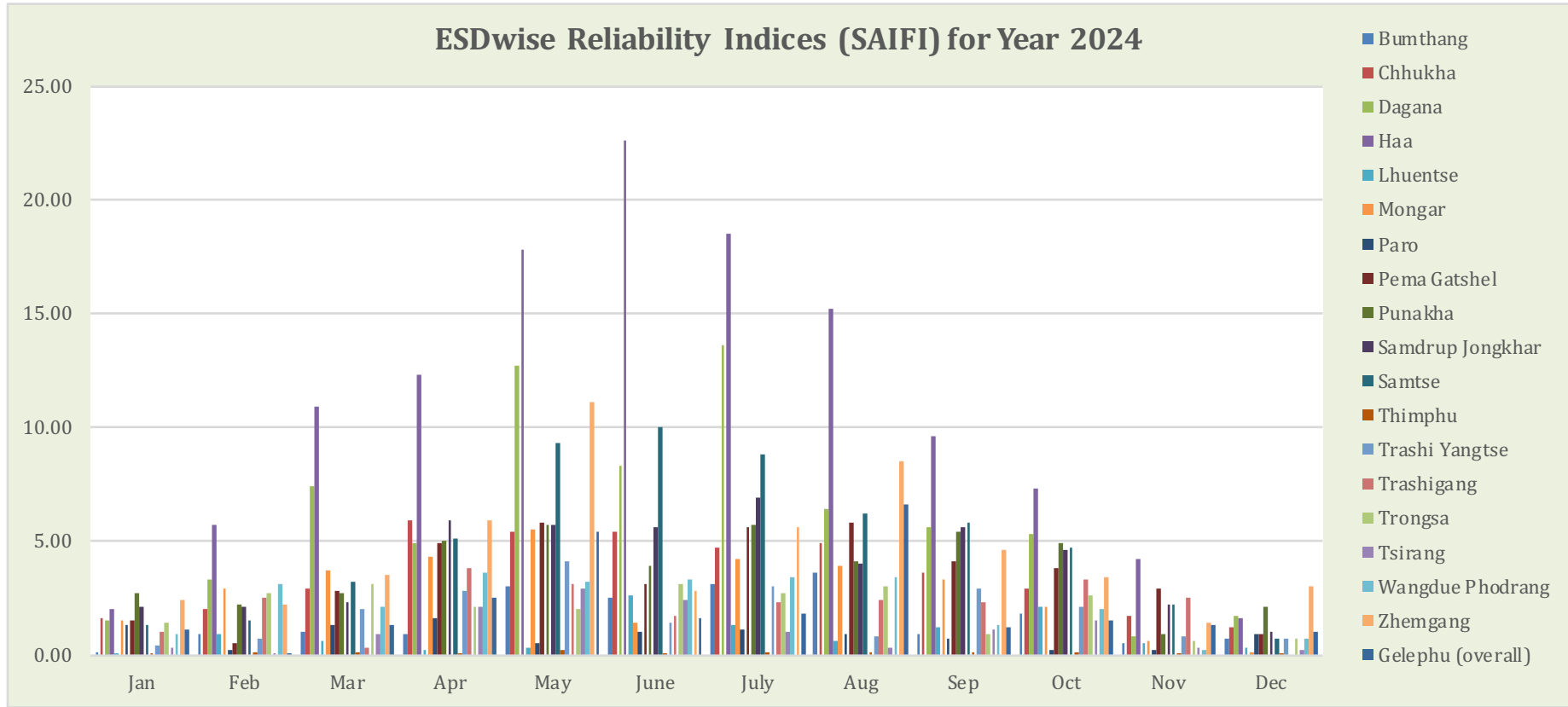


Table 5.4 : ESDwise Reliability Indices (SAIFI) for Year 2024

SN	Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
1	Bumthang	0.16	0.90	1.03	0.93	3.05	2.56	3.17	3.68	0.95	1.89	0.57	0.77
2	Chhukha	1.64	2.06	2.93	5.97	5.43	5.44	4.71	4.97	3.63	2.98	1.77	1.22
3	Dagana	1.54	3.34	7.44	4.94	12.79	8.39	13.60	6.48	5.68	5.36	0.86	1.71
4	Haa	2.03	5.72	10.98	12.34	17.80	22.65	18.54	15.28	9.67	7.32	4.20	1.66
5	Lhuentse	0.08	0.99	0.62	0.23	0.37	2.62	1.32	0.60	1.23	2.14	0.59	0.33
6	Mongar	1.56	2.98	3.70	4.38	5.53	1.43	4.23	3.99	3.34	2.16	0.60	0.17
7	Paro	1.33	0.22	1.37	1.64	0.56	1.06	1.15	0.94	0.75	0.24	0.26	0.91
8	Pema Gatshel	1.52	0.54	2.82	4.97	5.84	3.17	5.66	5.81	4.13	3.81	2.98	0.92
9	Punakha	2.75	2.20	2.71	5.08	5.77	3.99	5.74	4.16	5.49	4.94	0.99	2.18
10	Samdrup Jongkhar	2.14	2.15	2.31	5.91	5.77	5.68	6.93	4.05	5.66	4.66	2.21	1.01
11	Samtse	1.30	1.55	3.25	5.13	9.35	10.04	8.88	6.23	5.88	4.73	2.22	0.76
12	Thimphu	0.05	0.16	0.18	0.07	0.29	0.07	0.17	0.16	0.19	0.18	0.05	0.09
13	Trashigang	0.47	0.76	2.03	2.83	4.13	1.44	3.05	0.81	2.96	2.13	0.81	0.71
14	Trashigang	1.01	2.57	0.33	3.88	3.13	1.71	2.36	2.43	2.35	3.39	2.55	0.00
15	Trongsa	1.48	2.72	3.14	2.16	2.00	3.14	2.70	3.04	0.95	2.62	0.62	0.76
16	Tsirang	0.30	0.05	0.97	2.15	2.92	2.46	1.01	0.39	1.17	1.58	0.39	0.24
17	Wangdue Phodrang	0.98	3.19	2.12	3.61	3.26	3.35	3.46	3.46	1.35	2.09	0.21	0.72
18	Zhemgang	2.40	2.21	3.57	5.90	11.18	2.80	5.63	8.55	4.61	3.43	1.49	3.01
19	Gelephu (overall)	1.19	0.01	1.33	2.56	5.44	1.63	1.81	6.67	1.29	1.55	1.30	1.01
	BPC Overall	1.03	1.34	2.11	3.16	4.24	3.29	3.72	3.27	2.57	2.29	1.02	0.76



5.5 : ESDwise Reliability Indices (SAIDI) for Year 2024

SN	Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
1	Bumthang	0.49	0.65	7.03	2.21	6.3	3.63	4.92	23.62	1.400	1.940	0.200	0.160
2	Chhukha	4.13	1.6	4.72	6.97	10.48	6.81	7.49	8.24	6.530	5.340	1.200	2.437
3	Dagana	0.94	2.26	7.77	5.59	14.89	20.27	20.22	6.58	8.400	5.050	0.270	0.871
4	Haa	1.11	8.58	13.27	25.96	27.07	49.17	25.54	27.38	6.140	7.790	2.100	2.685
5	Lhuentse	0.14	1.45	0.59	2.65	7.4	8.77	6.25	0.93	5.060	15.490	1.160	0.375
6	Mongar	0.51	1.89	2.18	2.55	5.99	1.27	4.71	2.26	2.500	1.820	0.340	0.125
7	Paro	1.89	0.22	1.06	1.52	3.42	1.81	3.19	2.63	0.430	0.070	2.340	1.288
8	Pema Gatshel	0.67	0.45	6.54	6.89	10.66	2.57	6.08	7.44	8.660	3.920	3.470	1.263
9	Punakha	0.87	2.23	2.53	3.6	4.75	5.95	4.63	3.98	5.170	3.650	0.500	2.061
10	Samdrup Jongkhar	1.13	2.55	1.51	9.11	6.43	3.09	4.15	3.2	4.640	3.260	1.650	0.589
11	Samtse	2.42	3.21	8.17	9.45	14.18	21.25	17.81	10.9	6.290	6.700	1.420	1.367
12	Thimphu	0.11	0.42	0.06	0.1	0.32	0.23	0.54	0.45	0.310	0.170	0.160	0.082
13	Trashigang	0.14	2.13	3.12	1.74	25.54	2.65	4.58	1.93	2.320	4.750	0.600	2.564
14	Trashigang	0.4	2.89	1.47	6.46	5.48	0.8	8.63	3.2	2.090	1.500	0.710	0.000
15	Trongsa	1.19	2.15	3.12	3.48	1.05	8.21	3.57	2.12	0.520	1.960	1.670	0.818
16	Tsirang	1.1	0.31	0.2	19.4	11.15	0.96	1.13	0.16	3.110	3.170	0.490	0.069
17	Wangdue Phodrang	0.7	2.52	2.22	1.51	3.11	5	8.43	4.22	0.710	0.590	0.420	0.240
18	Zhemgang	0.95	1.11	3.66	8.2	50.52	2.25	7.65	12.04	3.470	3.370	0.520	0.882
19	Gelephu (overall)	1.61	0.02	2.31	4.62	9.52	7.03	5.66	6.86	1.210	1.830	1.110	0.555
	BPC Overall	1.15	1.5	2.94	4.48	8.56	5.86	5.99	4.9	2.92	2.86	0.95	0.93

ESDwise Reliability Indices (SAIDI) for Year 2024

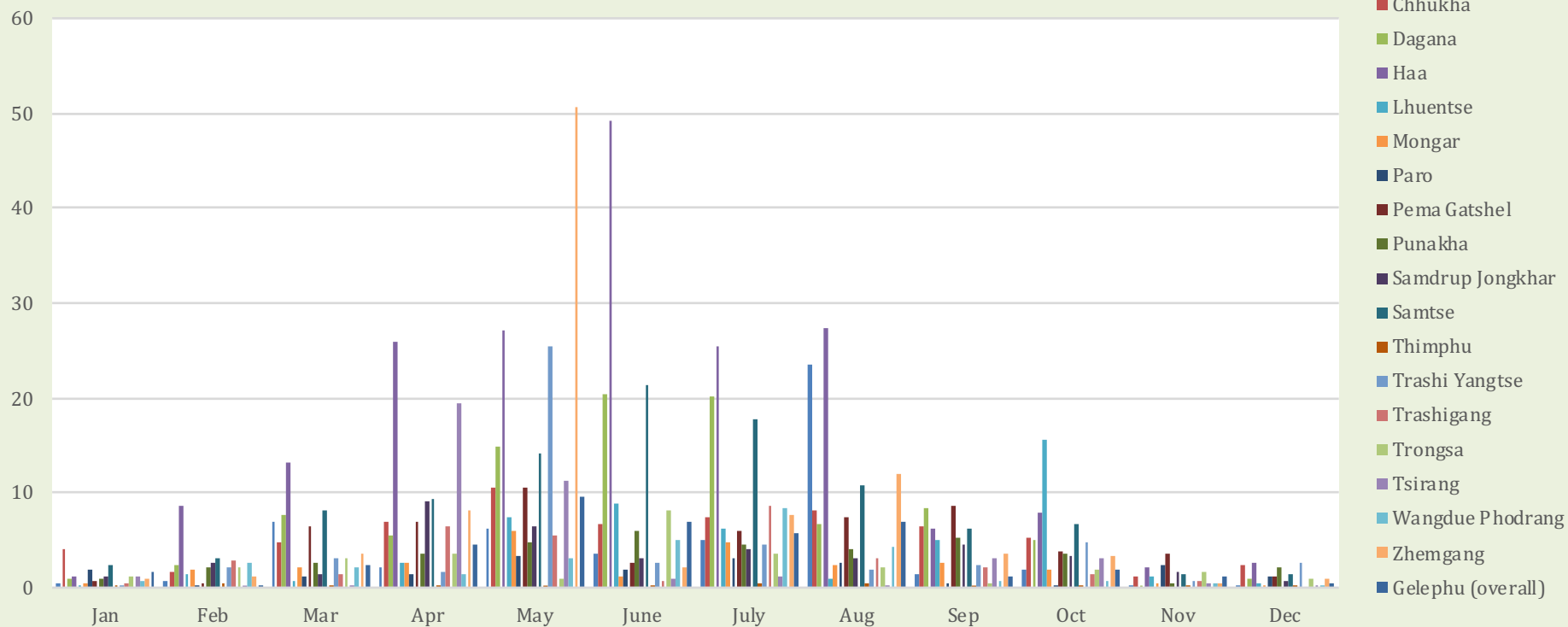
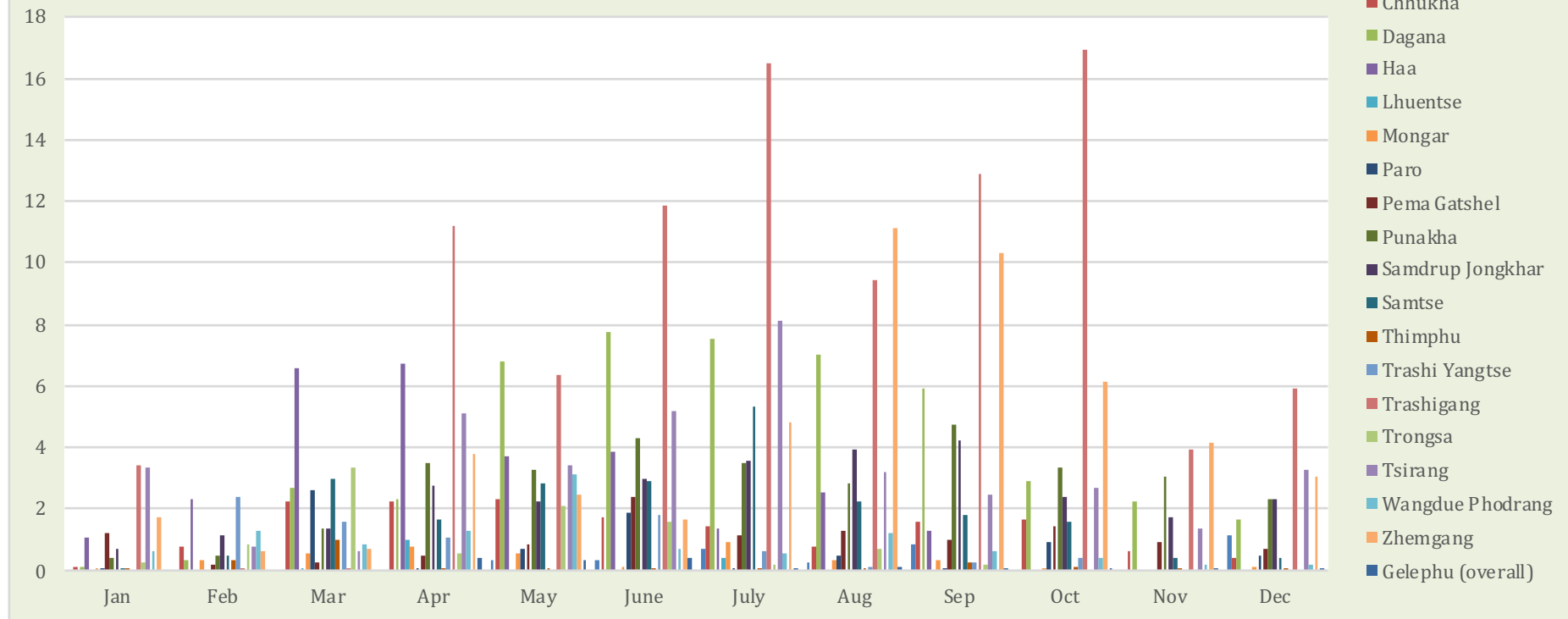


Table 5.6 : ESDwise Reliability Indices (MAIFI) for Year 2024

SN	Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
1	Bumthang	0	0	0	0	0.34	0.36	0.728	0.27	0.880	0.000	0.000	1.110
2	Chhukha	0.15	0.77	2.28	2.23	2.3	1.74	1.472	0.8	1.570	1.660	0.620	0.414
3	Dagana	0.15	0.32	2.72	2.33	6.79	7.75	7.52	7.01	5.890	2.920	2.240	1.635
4	Haa	1.08	2.34	6.6	6.76	3.71	3.84	1.354	2.53	1.310	0.000	0.000	0.000
5	Lhuentse	0	0	0.01	0.97	0	0	0.388	0	0.000	0.000	0.000	0.000
6	Mongar	0.07	0.31	0.59	0.78	0.57	0.15	0.947	0.33	0.310	0.050	0.000	0.150
7	Paro	0.01	0	2.58	0.02	0.69	1.88	0.042	0.52	0.010	0.930	0.000	0.469
8	Pema Gatshel	1.21	0.19	0.28	0.45	0.86	2.4	1.116	1.26	0.970	1.420	0.930	0.697
9	Punakha	0.38	0.5	1.35	3.53	3.26	4.3	3.49	2.83	4.710	3.360	3.070	2.299
10	Samdrup Jongkhar	0.71	1.11	1.36	2.77	2.24	3.01	3.59	3.95	4.230	2.420	1.720	2.314
11	Samtse	0.05	0.5	2.95	1.64	2.85	2.88	5.35	2.26	1.810	1.610	0.410	0.407
12	Thimphu	0.01	0.33	1.03	0.02	0.02	0.04	0.0267	0.04	0.300	0.100	0.020	0.025
13	Trashhi Yangtse	0	2.41	1.6	1.05	0	1.79	0.6446	0.14	0.270	0.390	0.000	0.000
14	Trashigang	3.43	0.02	0.01	11.2	6.33	11.85	16.5	9.42	12.900	16.910	3.960	5.929
15	Trongsa	0.23	0.82	3.37	0.53	2.08	1.59	0.1615	0.74	0.220	0.000	0.000	0.000
16	Tsirang	3.38	0.79	0.62	5.1	3.4	5.16	8.11	3.22	2.470	2.700	1.380	3.306
17	Wangdue Phodrang	0.63	1.32	0.86	1.3	3.12	0.67	0.5594	1.19	0.620	0.430	0.220	0.215
18	Zhemgang	1.75	0.62	0.74	3.81	2.45	1.68	4.83	11.13	10.330	6.110	4.120	3.081
19	Gelephu (overall)	0	0	0	0.4	0.35	0.44	0.0019	0.1	0.030	0.030	0.030	0.034
	BPC Overall	0.37	0.46	1.2	1.5	1.53	1.86	1.92	1.46	1.63	1.39	0.61	0.69

ESDwise Reliability Indices (MAIFI) for Year 2024



CHAPTER 6 ELECTRICITY TARIFF

The information on various electricity tariff is given in this chapter. The electricity tariff levied by BPC to its customer, the wheeling charge, the tariff levied by DGPC to BPC & export and import prices are included.

Table 6.1: DOMESTIC ELECTRICITY TARIFFS LEVIED BY BPC

Tariff Structure	Unit	1st July 2021 to 31st August 2022	1st September 2022 - 30th June 2025
Low Voltage (LV)			
LV Block I (Rural) 0-100 kWh	Nu./kWh	0	0
LV Block I (Highlanders) 0-200 kWh	Nu./kWh	0	0
LV Block I(Others) 0-100 kWh	Nu./kWh	1.28	1.28
LV Block II(All) 101-500 kWh	Nu./kWh	2.68	2.66
LV Block III(All) >500 kWh	Nu./kWh	3.64	
LV Bulk	Nu./kWh	4.14	
Medium Voltage (MV)			
Energy Charge	Nu./kWh	2.65	1.6
Demand Charge	Nu./kVA/Month	325	170
High Voltage (HV)			
Energy Charge	Nu./kWh	1.5	1.6
Demand Charge	Nu./kVA/Month	292	496

Table 6.2: AVERAGE TARIFF

Customer	Unit	1st July 2021 to 31st August 2022	1st SEPTEMBER 2022 - 30th JUNE 2025
HV	Nu./kWh	2.26	2.66
MV	Nu./kWh	5.15	2.66
LV	Nu./kWh	5.06	2.66

Table 6.3: WHEELING CHARGES

	Unit	1st July 2021 to 31st August 2022	1st SEPTEMBER 2022 - 30th JUNE 2025
Charges	Nu./kWh	0.27	0.23

Table 6.4: ELECTRICITY TARIFF LEVIED BY GENERATING COMPANIES

Name of Plant	Export Tariff (Nu./kWh)	Domestic Tariff	
		1st July 2021 - 31st August 2022	1st July 2024 - 30th June 2025
Chukha	3.00	1.42	1.34
Basochhu			
Kurichhu	2.23	1.42	1.34
Tala	2.23	1.42	1.34
Dagachhu	3.40	1.42	1.34
Mangdechhu	4.12	3.77	3.64
PHPA-II		-	4.60
DSP - Solar		-	3.64

CHAPTER 7

FIBER NETWORK

This chapter provides information on the ground wire with Optical Ground Wire (OPGW) on transmission lines and All Dielectric Self Supporting (ADSS) Optical Fibers on BPC distribution Poles. The National Broadband Master Plan of Bhutan envisages optical fiber connectivity to all the twenty (20) District Headquarters and Gewogs. As part of the first phase of the National ICT Broadband Master Plan, BPC has carried out live line replacement of the existing Ground Wire with OPGW on existing 220kV, 132kV and 66kV transmission lines and live line installation of All Dielectric Self Supporting (ADSS) Optical Fibers on existing BPC distribution Poles. The OPGW has terminated at the high voltage substations of BPC, which are generally located near the Dzongkhag Headquarters.

All Dielectric Self Supporting (ADSS) Optical Fiber cable connectivity is taken up from the high voltage substations to the Districts Headquarters, BPC Offices, Gewog Centers and further extended to the government offices. The total OPGW line length coverage around the country is 1,528.51 KM (table 7.1) and total ADSS line length coverage around the country is 5,406.75 KM (table 7.2) as of December 2024.

Table 7.1: OPTICAL GROUND WIRE (OPGW) IN TRANSMISSION LINES

Sl.No.	Terminal Points	Line Length (KM)	Voltage level (kV)	Total No. of fibres
1	Malbase - Siliguri	27.08	400	24
2	MHP - Jigmeling	169.73	400	24
3	Tala Power House - Malbase	27.80	400	24
Sub -Total		224.61		
4	Semtokha - Rurichu (BHPC)	37.24	220	24
5	Semtokha - Chhukha	57.20	220	24
6	Chhukha - Malbase	33.30	220	24
7	Darjeey - Dagapela	25.23	220	16
8	Darjeey - Dagachhu	22.44	220	8
9	Darjeey - Jigmeling	33.95	220	24
10	Jigmeling - Gelephu	16.93	220	24
11	Malbase-Damdum	42.82	220	24
12	Rurichu -Tsirang	50.55	220	24
13	Malbase - Singegaon	2.50	220	24
14	Jamjee - Chhukha	39.40	220	18
Sub -Total		361.56		
18	Gelephu-Tintibi	49.06	132	24
19	Tintibi-Nganglam	82.93	132	24
20	Nangkhoh-Deothang	25.60	132	24
21	Nangkhoh-Nganglam	36.80	132	24
22	Kurichhu-Nangkhoh	33.74	132	24
23	Kurichhu-Kilikhar	11.39	132	24
24	Kilikhar-Kanglung	32.19	132	12
25	Kilikhar-Corlung	47.92	132	12
26	Kanglung -Corlung	24.45	132	12
27	Kilikhar-Tangmachu	45.93	132	24
28	Deothang - Motanga	12.33	132	24
29	Motang - Phuntshothang	23.03	132	24
30	Phuntshothang - Kanglung	55.56	132	24
31	Motanga-Nganglam	34.92	132	24
32	MHP- Yurmoo	2.23	132	24
32	Nikachhu-Mangdechhu Line	20.69	132	24
Sub - Total		538.77		
33	Olakha -Gigakom Hydel	13.33	66	24
34	Gigakom Hydel - Jamjee	9.67	66	24
35	Jamjee - Paro	25.19	66	24
36	Jamjee - Haa	36.16	66	24
37	Chukha - Gedu	21.70	66	24
38	Gedu -Phuentsholing	18.01	66	24
39	Lobesa-Rurichhu	21.90	66	24
40	Tintibi-Yurmoo	32.29	66	24
41	Yurmoo - Garpang	39.36	66	24
42	Yurmoo - Kewathang	18.90	66	24
43	Olakha - Simtokha	1.90	66	24
44	Singegaon - Phuentsholling	9.10	66	24
45	Phuntsholing - Gomtu	28.29	66	24
46	Gomtu - Damdum	15.84	66	24
47	Damdum - Jamtsholing	28.30	66	24
48	Dechencholing - Damji	47.98	66	24
49	Jemina-Changedaphu	11.10	66	24
50	Simtokha-Lobesa	24.55	66	24
Sub - Total		403.57		
Grand Total		1,528.51		

Table 7.2: ALL DIELECTRIC SELF SUPPORTING (ADSS) OPTICAL FIBER CABLE CONNECTIVITY

Sl.No.	Dzongkhag	Terminal point (A)	Terminal point (B)	Line Length (KM)	Total No of fibers
1	Bumthang	Garpang S/S	Chumey gewog	12.16	12
			Tang	14.76	12
			Chhoekhor	11.83	12
			Ura	25.97	12
2	Chhukha	Gedu S/S	Getena	28.11	4
			Darla	10.30	4
			ESSD Gedu	1.13	2
			Bongo	8.38	48
		Watsa S/S	Chapcha	3.39	12
		Chukha S/yard	Tsimasham ESSD	6.41	8
			Bjachho	2.05	8
			Geling	18.78	8
		Malabase S/S	Sampheling	5.41	24
		Phuntsholing S/S	Metekha	31.60	6
			Dungna	27.33	6
			Logchina	12.51	6
			Phuntsholing	4.80	6
		Gedu S/S	Deorali/ Karmaling	73.27	4
			Lhamoizingkha	62.77	6
			Ninchula	73.81	4
		Darla	Sinchula BHU	0.94	24
		Darla	Rinchentse BHU	0.28	24
		Darla	Arikha BHU	0.14	24
		Dungna	BHU	0.26	24
		Logchina	Khatoekha BHU	0.45	24
3	Dagana	Dagapela S/S	Goshi	4.51	24
			Tsendagang	3.29	24
			Kana	17.24	12
			Tseza	31.68	12
			Tashiding	8.33	24
			Dorona	15.07	12
			Geserling	6.98	12
			Khibisa	12.57	24
			PL2 tower	5.00	24
		Darjei S/S (Tsirang)	Drujegang	16.44	8
			Lajab	25.42	8
4	Gasa	Goenkhatoe T-point	Laya	28.80	24
		Lobesa S/S	Goenkhatoe	59.93	4
			Goenkhamae	50.59	2
			Gakiling	59.36	4
5	Haa	Phuntsholing S/S	Sombaykha	73.45	4
		Haa S/S	Bji	7.08	8
			ESD office	1.65	8
			Samar	12.82	12
			Eusu	5.71	12
			Katsho	1.88	8

Sl.No.	Dzongkhag	Terminal point (A)	Terminal point (B)	Line Length (KM)	Total No of fibers	
6	Lhuntse	Tangmachu S/S	ESD office	11.56	6	
			Kurtoe	39.85	6	
			Khoma	13.61	6	
			Gangzur	17.44	6	
			Metsho	28.85	12	
			Tshenkhar	21.38	8	
			Jarey	33.40	8	
			Maenbi	2.96	24	
			Minjey	4.22	24	
			Ura, Bumthang	58.32	24	
		Gangzur	Thimyul BHU	1.33	24	
		Khoma	BHU	1.81	24	
		Tsenkhar	Autsho BHU	0.98	24	
		Menbi	Tangmachu BHU	0.28	24	
7	Mongar	kilikhar S/S	Medtsho	Gortsum BHU	0.76	24
			Minjey	BHU	1.07	24
			Drepoong	5.71	6	
			Kengkhar	30.64	6	
			Silambi	55.07	6	
			Jurmed	32.02	6	
			Ngatshang	17.60	12	
			Chagskhar	24.45	6	
			Thang-Rong	35.82	6	
			Shermuhoong	27.99	12	
			Balam	24.47	12	
			ESD Mongar	5.15	12	
			Monggar	5.32	12	
			Saling	15.84	6	
Tsamang	36.52		6			
Chhaling	12.51		6			
Tsakaling	17.02		6			
Bondeyma Gyalsung	17.73		24			
Kanglung S/S	Dramitse	13.54	6			
	Narang	21.50	6			
T-off Kurizampa	Gelposhing TOMS	0.66	2			
Nganglam S/S	Gongdue	28.42	8			
8	Paro	Olathang S/S	Mongar	Dzongdag Residence	0.30	24
			Weringla	Dungkhag	0.70	24
			Hungrel	2.18	6	
			Dopshari	5.07	6	
			Doteng	8.37	6	
			Shaba	9.86	6	
			Paro ESD	2.30	6	
			Wangchang	2.45	24	
			Royal Acadamy	19.02	6	
			Lyuni	5.57	12	
			Tsento	13.77	24	
			Lango	7.56	24	
		Jamjee S/S	Dogar	6.50	24	
		Watsa S/S	Naja	16.88	24	
Dogar	Chuzom RBP Check Point	0.29	24			

Sl.No.	Dzongkhag	Terminal point (A)	Terminal point (B)	Line Length (KM)	Total No of fibers
9	Pemagatsel	Nangkhor S/S	Khar	7.01	6
			TMD Nangkhor	0.07	2
			Dungmin	16.40	6
			Chongshing	5.95	12
			Zobel	8.71	12
			Nanong	29.83	12
			Yurung	8.32	12
			Chimung	17.15	12
			ESD office	4.48	12
			Shumar	1.65	12
		Nanglam S/S	Chokhorling	28.98	12
			Dechenling	8.54	28
			Gongdue	28.42	8
			Nganglam ESSD	3.50	2
			Norbugang	14.94	12
		Nanong	RNR	0.30	24
		Chimung	RNR	0.30	24
		Dungmin	RNR	0.34	24
		Nganglam	Dungkhag	1.50	24
10	Punakha	Lobesa S/S	Baap	1.81	6
			Talo	9.11	4
			Kabjisa	22.39	4
			Goenshari	32.34	4
			Shengana	16.86	6
			Guma	8.69	6
			Dzome	12.51	6
			Toewang	19.74	6
			Chhubu	18.22	6
			Khuruthang ESD office	6.36	10
			ESD, Wangdue	4.06	24
			Lingmukha	8.99	6
			Toepisa	10.83	24
		Barp	Lobesa sub post	0.33	24
		Barp	RNR	1.19	24
		Toepisa	BHU	0.19	24
		Toepisa	Thinleygang Pry School	0.20	24
		Toepisa	RNR	0.17	24
		Talo	Norbugang BHU	1.49	24
		Talo	Norbugang Pry School	0.17	24
		Talo	Lapsakha Pry School	0.52	24
		Kabisa	BHU	0.10	24
		Goenshari	BHU	0.30	24
		Goenshari	Goenshari Pry School	0.10	24
		Chubu	Nawakha CPS	0.62	24
		Toewang	Samdingkha BHU	0.20	24
		Toewang	RNR	0.08	24
		Dzomi	Mendrelgang Pry School	0.25	24
		Shengana	RNR	0.42	24
		Lingmukha	Tshochasa BHU	0.30	24
		Lingmukha	Tshochasa Pry School	0.40	24

Sl.No.	Dzongkhag	Terminal point (A)	Terminal point (B)	Line Length (KM)	Total No of fibers
10	Punakha	Lingmukha	RNR	0.26	24
			ESD S/jongkhar	14.17	12
			Deothang	4.60	12
			Orong	7.51	24
			Gomdar	26.12	12
			Wangphu	31.20	12
		Phuntshothang S/S	Phuntshothang	58.90	4
		Phuntshothang S/S	Pemathang	11.00	4
		Phuntshothang S/S	Martshala	5.50	24
		Phuntshothang S/S	Samrang	20.80	4
		Phuntshothang S/S	Langchenphug	58.90	4
		Phuntshothang S/S	Serthi	79.20	4
		Phuntshothang S/S	Lauri	104.70	4
		Tapping from	Dewathang ESSD	0.18	2
		Tapping from	Bangtar ESSD	0.09	2
		Pemathang	BHU	0.60	24
		Phuntshothang	BHU	0.50	24
		Martshalla	BHU	0.90	24
		Samrang	BHU	0.84	24
		Langchenphu	Jomotshangkha BHUI	0.44	24
		Serthi	Minjiwoong BHU I	0.90	24
		Wangphu	BHU	0.21	24
		Gomdar	BHU I	0.90	24
		Phuntshothang	Samdrupcholing Dungkhag	0.70	24
		Jomotshangkha	Dungkhag	0.30	24
		S/J Thromde	Thromde	3.00	24
		Phuntshothang S/S	Pemathang Gyalsung	23.35	24
			Samrang GC		
		Samrang GC	Langchenphu GC	38.00	24
		Langchenphu GC	Sethi GC	21.00	6
			Lauri GC	45.00	6
11	Samtse	Samtse ESD	Samtse	3.89	6
			Nainital/Ugyentse	14.99	6
			Chargarey/sangacholing	26.17	8
			Lehereni/Namgaychhoeling	31.05	8
			Biru /Pemaling	39.83	6
			Sipsu ESSD	38.54	6
			Chengmari/Norbugang	10.61	6
			Ghoumney/yoeseitse	19.67	6
			Sipsu/Tashicholing	37.44	6
			Tendu	50.57	6
			Bara/Norgaygang	52.70	6
			Gomtu S/S	16.95	24
			Damdum S/S	4.50	24
			Dzong	1.16	24
		Gomtu S/S	Pagli/Phuentshogpelri	1.09	24
		Phuntsholing S/S	Dorokha/Dophoogchen	38.06	4
			Dorokha ESSD	37.00	2
			Tading	11.47	10
			Dungtoe	48.59	4
			Denchukha	38.43	6
		Sipsoo S/S	Jamtsholing Gyalsung	4.01	24

Sl.No.	Dzongkhag	Terminal point (A)	Terminal point (B)	Line Length (KM)	Total No of fibers
12	Sarpang	Gelephu S/S	Bhur/Samtenling	10.55	8
			Gelephu	5.19	6
			Shershong	17.25	6
			Jigmecholing	23.92	8
			Umling	23.82	6
			Dekiling	23.69	8
			Shomphangkha	27.50	6
			Churzagang	19.31	6
			Hilley/Gakiling	35.58	6
			ESD office Gelephu	1.92	6
			ESSD office Sarpang	32.12	6
			Singye	43.40	8
			Dovan/ Chhudzom	26.90	6
			Takai/Tareythang	27.54	6
			Tareythang Gyalsung	21.17	24
13	Thimphu	Semtokha S/S	Chang	1.33	24
			Dagala	5.06	24
			IT park	4.30	24
			DPH	6.09	
			Olakha S/S	2.97	48
		Jamjee S/S	Gyenekha	8.90	24
		Gidagom	Jemina	5.93	24
			Mewang	0.67	24
		Dechencholing S/S	Kawang	2.64	24
			Begana	6.78	24
		Head Office	Simtokha	8.35	24
		Head Office	Chubachu S/S	0.79	24
			ESD office	0.50	24
		T-point (IT park)	Babesa ESSD	1.30	2
		Motithang S/S	Thimphu Hydel	3.91	2
		Chubachu S/S	Dechencholing	7.70	24
			Motithang	2.07	24
			Olakha S/S	7.87	24
		Mewang	RNR	1.23	24
		Mewang	Geology Mine &	0.68	24
		Geneykha	RNR	0.35	24
14	Trashiyangtse	CMTD Begana	Naro	25.59	24
		Gunitsawa PS	Soe GC	34.10	18
		Gunitsawa PS	Lingzhi GC	52.26	6
		Kanglung	Duksum	25.66	24
			Jamkhar	21.13	6
		Duksum	ESD	26.11	6
			Ramjar	4.31	24
			Yalang	8.65	24
			Khamdang	3.88	12
			Toedtsho	10.02	12
			Yangtse	25.50	6
			Dzong	26.99	6
			Bumdeling	34.35	6
			Tongmijangsa	5.28	24
		Tongmijangsa	BHU	1.76	24
		Khamdang	BHU	0.23	24
		Khamdang	RNR	0.22	24

Sl.No.	Dzongkhag	Terminal point (A)	Terminal point (B)	Line Length (KM)	Total No of fibers
14	Trashiyangtse	Toedtsho	BHU	0.28	24
		Yangtse	RNR	0.26	24
		Yallang	RNR	0.49	24
		Ramjar	BHU	0.67	24
		Ramjar	RNR	0.31	24
		Bomdeling	BHU	0.15	24
15	Trashigang	Kanglung s/s	Rangjung ESSD	26.95	6
			Udzorong	8.05	12
			Khaling ESSD	19.93	6
			Lumang	31.94	6
			Khaling	19.40	6
			Thrimshing	34.60	6
			Kangpara	45.72	24
			Bidung	31.25	6
			Radi	29.68	6
			Phongmey	38.72	6
			Merak	52.35	4
			Sakteng	59.73	4
			Samkhar	19.04	6
		Kanglung s/s	Shongphu	26.41	6
			Bartsham	35.56	6
			Kanglung	0.86	6
			Yangneer	15.92	6
			ESD Trashigang	11.67	6
		T-point(Thrimzhing	Wamrong ESSD	1.45	2
16	Trongsa	Kewathang S/S	Chumey	24.7	24
			Tangsibji	15.59	12
			Drangten	19.43	12
			ESD office	4.11	12
			Nubi	10.39	12
		Tingtibi S/S	Khorphu	30.31	6
		BT BTS	Langthel	7.88	24
		Yurmoo S/S	T-point	0.41	24
17	Tsirang	Darje S/S	Rangthangling	0.7	6
			Beteni/Patshaling	8.1	6
			Mendrelgang	7.2	6
			Barshong	13.07	6
			ESD office	4.18	24
			Kikhorthang	4.55	8
			Dunglagang	10.01	8
			Semjong	10.54	8
			Gosarling	8.54	6
			Tsirang Toed	11.76	6
			Pungtenchu	16.98	6
			Sergithang	20.31	6
			Tsholingkhar	5.2	24

Sl.No.	Dzongkhag	Terminal point (A)	Terminal point (B)	Line Length (KM)	Total No of fibers
18	Wangdue	Lobesa	Nyisho	20.35	6
			Thedtsho	7.88	12
			ESD office	4.06	12
			Nahi	12.23	6
			Gatseshogom	15.41	6
			Gatseshowom	19.18	6
			Ruepisa	7.59	6
			Phangyul	16.17	6
			Kazhi	23.44	6
			Bjena	22.15	6
			Gangtey	58.98	6
			Dangchhu	58.84	6
			Wind Power House	12.82	2
			Sephu	62.98	6
			Phobjikha	26.39	6
		Sephu T-point	Tangsibji T-point	24.09	24
		Gatey T-point	Dungdunesa T-point	10.11	24
		BHPC	Daga	16.71	12
		BHPC	Athang	18.92	12
		Kazhi	School	0.3	24
		Kazhi	BHU	0.26	24
		Phangyul	School	0.25	24
		BHP	Khotokha Gyalsung	18.61	24
19	Zhemgang	Tingtibi	ESD office	15.9	8
			Trong	1.7	8
			Shingkhar	64.89	8
			Bardo	79.69	8
			Nangkhor	24.79	8
			Phangkhar	40.11	8
			Bjoka	58.79	8
			Goshing	47.92	8
		T-point (Nangla	Panbang ESSD	1.16	2
		Nanglam	Nangla	20.37	12
Total (KM)				5,406.75	

CHAPTER 8

FINANCIAL INFORMATION

This chapter provides Energy and financial statistics on total energy purchase GENCOS (table 8.1), Revenue earned through sale of electricity to our domestic customers (table 8.2), wheeling charges (table 8.3) and the revenue earned through other projects (table 8.4) for 5 years from 2020 to 2024.

Table 8.1 PURCHASE OF POWER FROM GENERATING COMPANY (Million Nu.)

Sl#	Description	2020	2021	2022	2023	2024
1.00	CHP	3,169.73	3,842.86	6,305.08	8,730.82	10,741.93
2.00	BHP					
3.00	KHP					
4.00	THP					
5.00	DHP*					
6.00	DSP Solar					
7.00	PH-II					
8.00	MHP					
Total		3,169.73	3,842.86	6,305.08	8,730.82	10,741.93

Table 8.2. REVENUE FROM SALE OF ELECTRICITY (Million Nu.)

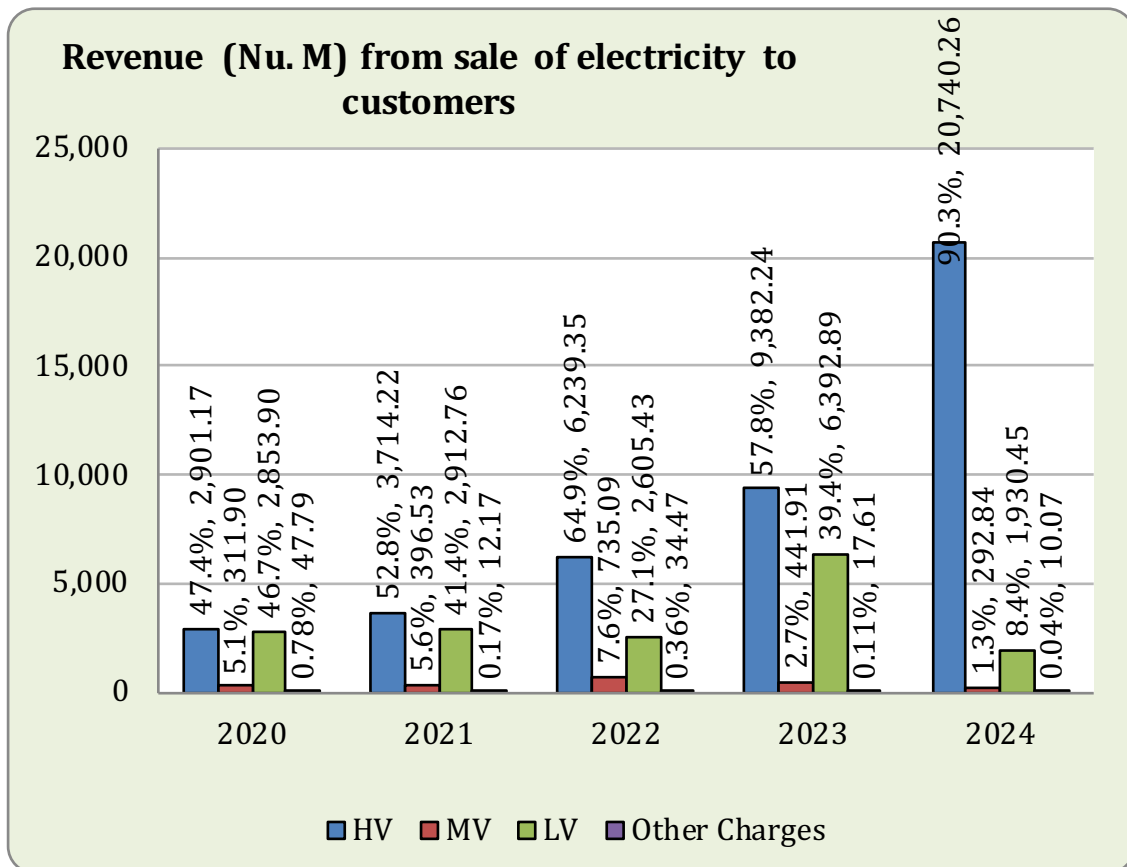
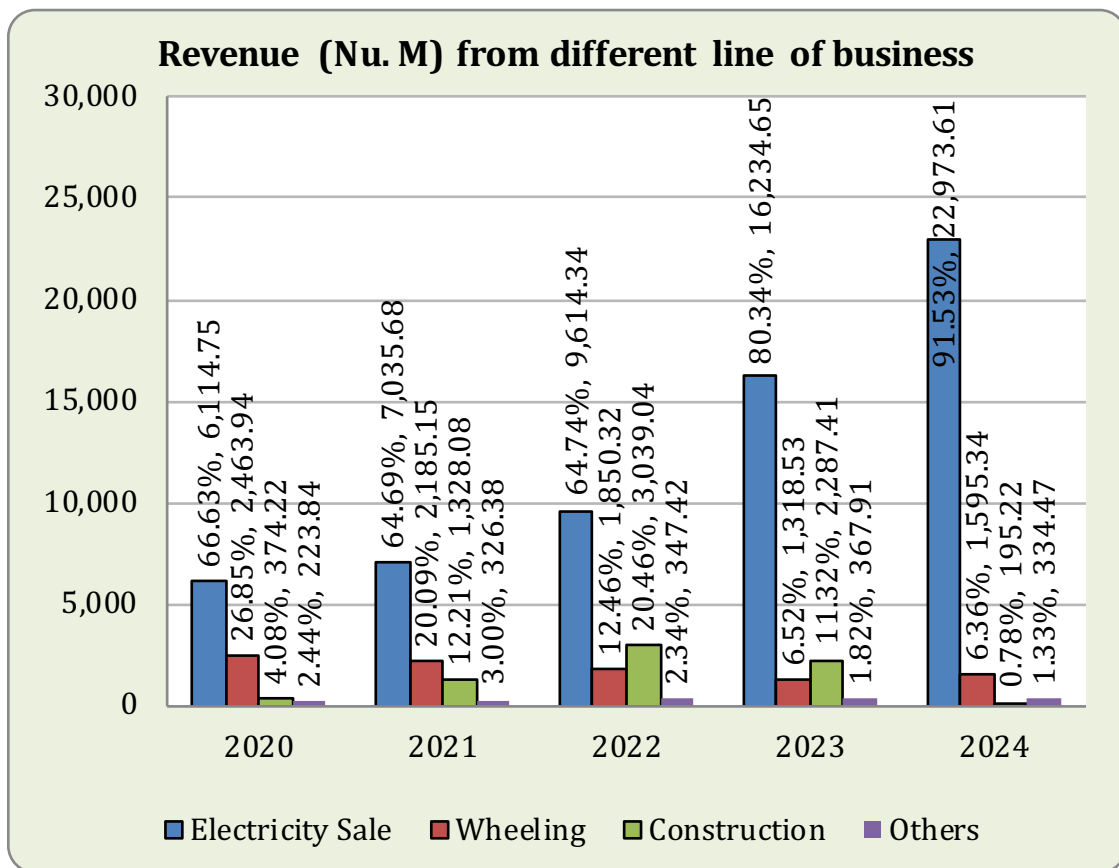
Sl#	Particulars	2020	2021	2022	2023	2024
1.00	HV Energy Charge	2,040.02	2,725.09	3,635.85	6,751.34	8,757.68
2.00	HV Demand Charge	861.15	989.13	1,805.28	2,630.90	6,037.13
	HV Charge (Import)			798.23	4,545.11	5,945.45
	HV (total)	2,901.17	3,714.22	6,239.35	9,382.24	20,740.26
3.00	MV Energy Charge	195.83	287.68	566.32	310.10	195.39
4.00	MV Demand Charge	116.07	108.85	168.78	131.81	97.45
	MV (Total)	311.90	396.53	735.09	441.91	292.84
5.00	LV Energy Charge	2,853.90	2,912.76	2,605.43	6,392.89	1,930.45
6.00	Other Charges	47.79	12.17	34.47	17.61	10.07
Total		6,114.75	7,035.68	9,614.34	16,234.65	22,973.61

Table 8.3: REVENUE FROM WHEELING CHARGE (Million Nu.)

Sl#	Particulars	2020	2021	2022	2023	2024
1.00	Wheeling Charge	2,463.94	2,185.15	1,850.32	1,318.53	1,595.34

Table 8.4: REVENUE FROM CONSTRUCTION CONTRACTS & OTHERS (Million Nu.)

Sl#	Particulars	2020	2021	2022	2023	2024
1.00	Revenue from Construction Contracts	374.22	1,328.08	3,039.04	2,287.41	195.22
2.00	Revenue from others	223.84	326.38	347.42	367.91	334.47
	Total	598.07	1,654.45	3,386.46	2,655.32	529.69



CHAPTER 9

EMPLOYEE DETAILS

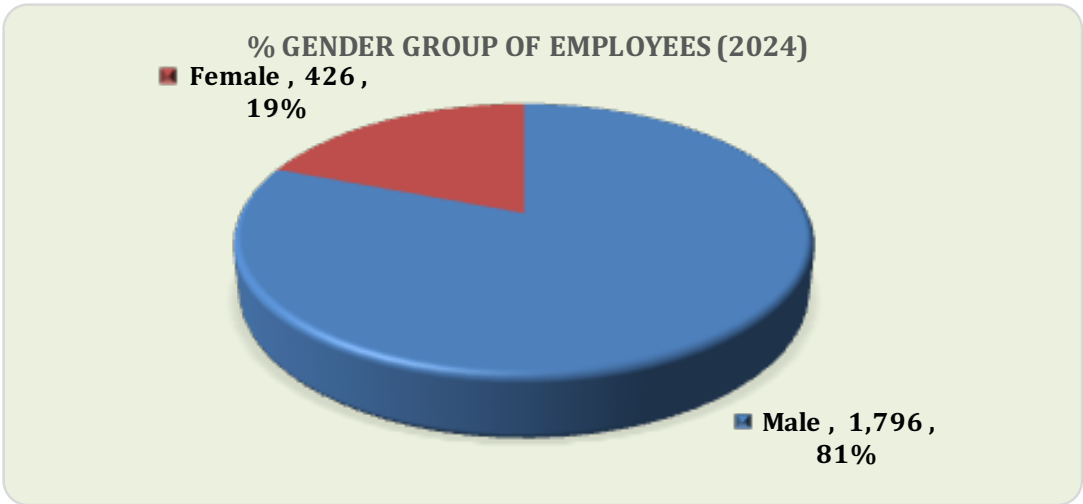
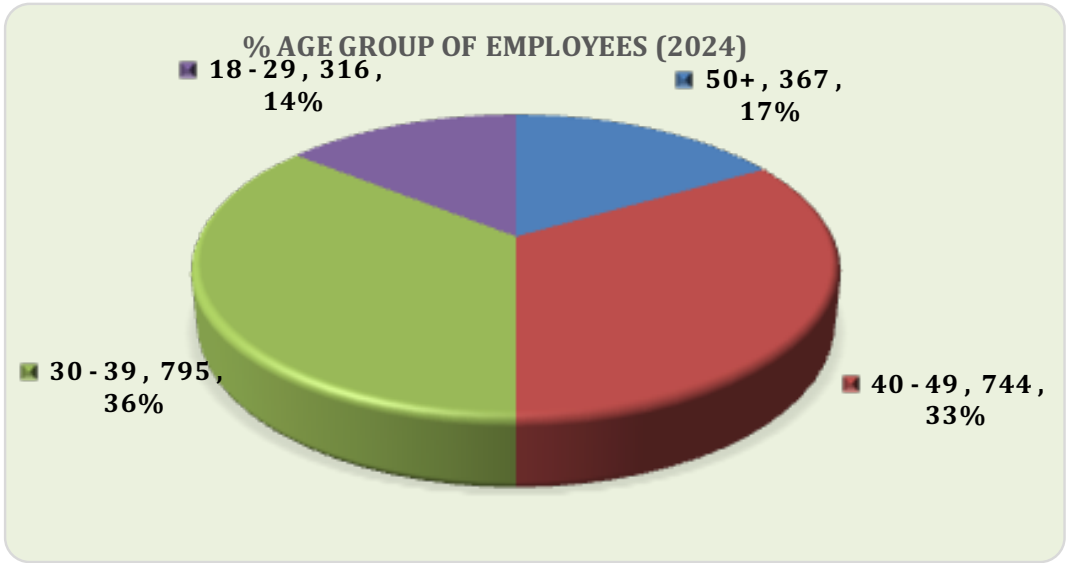
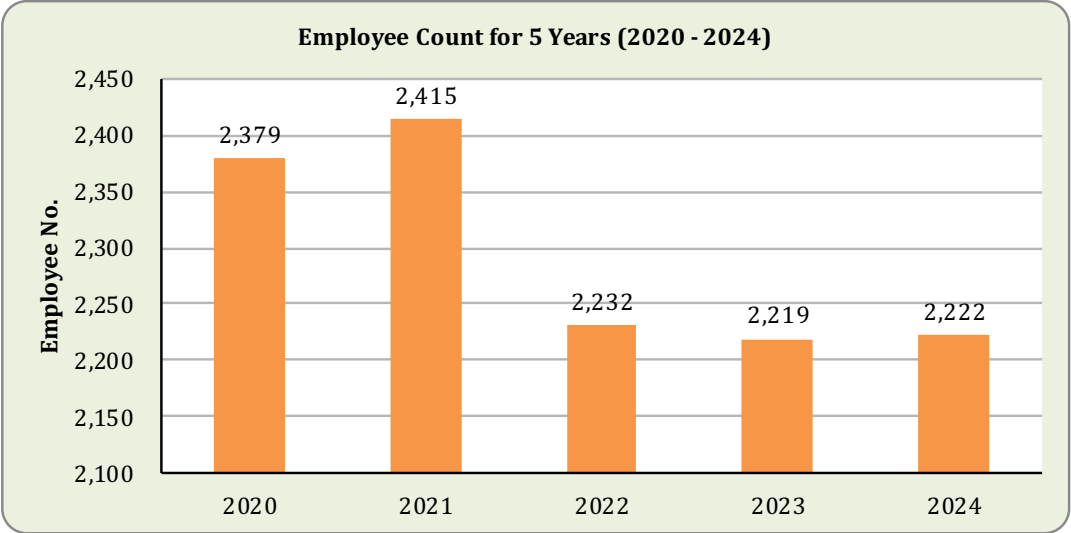
This chapter covers employee statistics of BPC during 2024 as shown in table 9.1 . In five years, 2021 had the highest employee count with 2415 numbers . Under the age category, age between 30 years to 39 years is the highest with 35.78% while age between 18 years to 29 years are the lowest with 14.22%.

TABLE 9.1: DZONGKHAG WISE EMPLOYEE - 2024

Sl#	Description	Count	%
A	Employment Type		
1	Regular	2,209	99%
2	Contract	13	1%
3	Total	2,222	
C	Grade		
1	A	167	8%
2	B	596	27%
3	C	919	41%
4	D	540	24%
	Total	2,222	
E	Dzongkhag		
1	Bumthang	31	1%
2	Chukha	257	12%
3	Dagana	71	3%
4	Gasa	20	1%
5	Haa	40	2%
6	Lhuentse	41	2%
7	Mongar	108	5%
8	Paro	74	3%
9	Pema Gatshel	82	4%
10	Punakha	71	3%
11	Samdrup Jongkhar	141	6%
12	Samtse	155	7%
13	Sarpang	194	9%
14	Thimphu	516	23%
15	Trashigang	40	2%
16	Trashigang	88	4%
17	Trongsa	49	2%
18	Tsirang	72	3%
19	Wangdue phodrang	88	4%
20	Zhemgang	84	4%
	Total	2,222	

Sl#	Description	Count	%
B	Gender		
1.00	Male	1,796	81%
2.00	Female	426	19%
	Total	2,222	
D	Qualification		
1.00	Masters	62	3%
2.00	Bachelors	185	8%
3.00	Diploma	248	11%
4.00	Certificate/Others	1,727	78%
	Total	2,222	
F	Office		
1.00	CEO Office	5	0.2%
2.00	Company Secretary Office	9	0.4%
3.00	DD	31	1.4%
4.00	DCSD	1,096	49.3%
5.00	TD	42	1.9%
6.00	TOMD	708	31.9%
7.00	CPD	24	1.1%
8.00	CD	116	5.2%
9.00	PD	41	1.8%
10.00	CSD	1	0.0%
11.00	SSD	62	2.8%
12.00	FAD	18	0.8%
13.00	ERD	51	2.3%
14.00	CSDiv	11	0.5%
15.00	IAU	7	0.3%
	Total	2,222	

Sl. No.	Age	Count	%
1.00	50+	367	17%
2.00	40 - 49	744	33%
3.00	30 - 39	795	36%
4.00	18 - 29	316	14%
	Total	2,222	



CHAPTER 10

COMPANY ASSET

This chapter presents the financial aspects of fixed asset of BPC for the last five years (2020-2024) as presented in Table 10.1. The company's net asset, capital work in progress and total fixed asset is demonstrated in figure.

TABLE 10.1 : ASSET

Financial year	2020	2021	2022	2023	2024
Total Asset (Million Nu) - TA	35,035.10	35,798.86	42,117.67	43,549.80	46,774.61
Gross fixed asset (Million Nu) - GFA	41,643.10	42,934.71	46,706.06	49,933.63	53,104.34
Accumulated Depreciation (Million Nu)	10,984.57	11,717.60	12,790.27	14,307.02	16,071.65
Net fixed assets (Million Nu)	27,939.46	28,428.76	33,915.79	35,626.62	37,032.68
Capital Work in Progress (Million Nu)	2,719.07	2,788.35	4,464.16	3,204.88	5,888.14
Total fixed Asset (Million Nu.) - TFA	30,658.53	31,217.11	38,379.95	38,831.50	42,920.82
Growth Rate	-1.60%	1.82%	22.95%	1.18%	10.53%

CHAPTER 11

RURAL ELECTRIFICATION

This chapter provides the number of households electrified under the rural electrification projects as on 31st December 2024.

Table 11.1 YEARLY TOTAL RE COVERAGE

Sl#	RE Coverage	Till 2020	Till 2021	Till 2022	Till 2023	Till 2024
1	Household(s)	90,483	91,195	91,195	92,476	93,725
2	% RE without off grid works	100.00%	100.00%	100.00%	100.00%	100.00%
3	% RE with off grid works	99.09%	99.87%	99.87%	99.97%	99.97%

CHAPTER 12

PERFORMANCE INDICATORS

This chapter displays indicators which are used in appraising the performance of BPC and provides information on yearly achievement of Five years from 2020 to 2024 as presented in table 12.1.

TABLE 12.1: PERFORMANCE INDICATORS, ACHIEVEMENT AND STATUS FROM 2020 TO 2024

Sl#	Indicators	2020	2021	2022	2023	2024
1	Number of Customers / Employee	89.80	99.58	104.76	109.64	114.99
2	Energy Sale (MU) / Employee	0.82	1.11	1.55	2.56	3.21
3	Revenue Earned (Million Nu.) /Employee	3.80	4.88	6.65	9.11	11.30
4	Revenue Earned (Million Nu.) /Total Customer	0.04	0.05	0.06	0.08	0.10
5	LV line length / MV line length	1.47	1.45	1.50	1.37	1.34
6	Global System losses (including Wheeling) (%)	1.70%	1.83%	1.81%	2.14%	2.15%
7	Global System losses (Excluding Wheeling) (%)	8.95%	7.36%	5.40%	4.12%	3.87%
8	Transmission Loss including wheeling (%)	1.08%	1.11%	1.23%	1.49%	1.49%
9	Distribution Losses including HV Industries (%)	2.82%	3.34%	2.30%	1.35%	0.16%
10	Fixed Assets Turnover Ratio (Sales / Average Net Block)	0.33	0.39	0.48	0.58	0.689
11	Current Ratio (Current Assets/Current Liabilities)	1.24	1.16	0.83	0.98	0.79
12	Quick Ratio (Current Asset-Inventory / Current Liabilities)	1.11	1.01	0.68	0.79	0.65
13	Interest Coverage Ratio (Profit before interest & tax/Interest)	2.15	2.79	2.45	2.79	3.92
14	Debt Service Coverage Ratio (PAT+Depreciation+Interest / (Interest +Principal Repayment)	1.56	2.36	2.54	2.83	3.28
15	Gearing Ratio (Debt/Net Fixed Asset)	34.89%	32.63%	32.63%	37.37%	39.25%
16	Debt Equity Ratio (Debt /average Equity)	93.80%	88.88%	112.45%	116.64%	127.80%
17	Return on Asset (Profit after tax/average net total assets)	1.99%	3.92%	2.66%	3.29%	4.69%
18	Return on Equity (return available/ Average Equity)	3.80%	7.46%	5.27%	7.11%	10.41%



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