

## Electronic Supplementary Material

**Table S1** Feeder wise house distribution with several types of domestic transformers

Feeder	Phase	Type of transformer/ kVA	KANAL house (500 m <sup>2</sup> )	10-Marla house (250 m <sup>2</sup> )	7-Marla house (175 m <sup>2</sup> )	5-Marla house (125 m <sup>2</sup> )
671	<i>A</i>	300	3	4	2	2
675		250	2	4	3	1
692		200	1	2	3	3
632		100	1	2	1	1
633		50	0	0	1	2
680	<i>B</i>	300	2	5	3	2
		250	2	3	3	2
		200	1	2	4	4
		100	1	1	1	1
		50	0	1	1	1
	<i>C</i>	300	2	4	2	1
		250	1	3	2	4
		200	1	2	3	3
		100	1	1	1	1
		50	0	0	2	2
645	<i>B</i>	300	4	6	4	3
646		250	2	5	4	4
		200	2	3	5	5
		100	1	2	2	1
		50	0	1	2	3
	<i>C</i>	300	3	7	3	2
		250	3	5	4	3
		200	1	3	5	5
		100	1	2	1	2
		50	0	0	2	2
684	<i>A</i>	300	4	6	4	3
		250	2	5	4	4
		200	2	3	5	5
		100	1	2	2	1
		50	0	1	2	3
	<i>C</i>	300	4	6	4	3
		250	2	5	4	4
		200	2	3	5	5
		100	1	2	2	1
		50	0	1	2	3
652	<i>A</i>	300	7	13	7	5
		250	5	10	8	7
		200	3	6	10	10
		100	2	4	3	3
		50	0	1	4	5
611	<i>C</i>	300	7	13	7	5
		250	5	10	8	7
		200	3	6	10	10
		100	2	4	3	3
		50	0	1	4	5

**Table S2** Total House Distribution on Phase-*A*, *B* and *C*

Feeder	Phase- <i>A</i>	Phase- <i>B</i>	Phase- <i>C</i>
632, 633	37	40	36
671, 692			
675, 680			
611	0	0	113
684	54	0	59
652	113	0	0
645	0	59	54
646	0	59	54