

Appendix

Table A1: Data used to estimate the power (MW) of the boilers.

Biomass source		Coal source		Petroleum/gas source	
Power MW	Tons	Power MW	Tons	Power MW	Tons
53.7	201749.6	332.0	404104.5	16.9	6908.8
13.2	305330.1	10.5	991.1	14.5	6313.0
9.7	41666.7	7.6	320.2	19.1	6182.3
5.6	32154.8	7.6	320.2	12.4	5544.7
3.9	28865.7	7.6	320.2	16.9	5378.6
2.7	12640.7	7.6	320.2	16.3	4411.1
4.6	11416.1	1.3	246.6	13.4	4202.4
6.4	11139.6	1233.0	177500.0	15.8	3807.3
3.9	10902.6	1166.0	844935.0	14.6	2985.6
11.3	1735.1			19.1	2906.0
4.7	7110.4			16.0	2803.0
2.3	6926.4			23.7	2525.2
1.2	6493.5			8.1	1640.2
8.8	4935.1			9.6	1585.1
5.9	4207.8			10.0	1379.4
1.5	2646.6			23.0	1360.7
4.5	2646.6			23.0	1360.7
2.0	2251.1			10.0	1302.8
0.5	1721.5			18.0	1191.9
27.0	6291.1			9.5	1004.1
				6.2	787.5
				11.7	766.9

Source: UDT-PROTERM 2011.

Table A2: Variables used in the ENIA survey.

Variable	Description
ID	Industrial establishment identification
REGION	Administrative region of Chile
CIU3	Code of economic activity classification ISIC-Rev 3
DIATRA	Working days in the year
CARCAN	Quantity of coal and charcoal
UCARCAN	Unit of measure of coal and charcoal
COKCAN	Quantity of coke
UCOKCAN	Unit of measure of coke
PECCAN	Quantity of petroleum fuel
UPECCAN	Unit of measure of petroleum fuel
PEDCAN	Quantity of diesel petroleum
UPEDCAN	Unit of measure of petroleum fuel
LICCAN	Quantity of liquefied propane gas
ULICCAN	Unit of measure of liquefied propane gas
NATCAN	Quantity of natural gas
UNATCAN	Unit of measure of natural gas
PARCAN	Quantity of kerosene
UPARCAN	Unit of measure of kerosene
BENCAN	Quantity of gasoline
UBENCAN	Unit of measure of gasoline

Source: INE 2014

Table A3: Calculation methodology for industrial source selected to tax US\$10 per ton of CO₂.

ID	Consumption (tons)	BTU (millions)	Power (MW)	N° of boilers	Coal cost (US\$)	Biomass cost (US\$)	Petroleum N°6 cost (US\$)	Petroleum N°2 cost (US\$)	Natural gas cost (US\$)	Change	Original fuel	Final fuel	CO ₂ original (tons)	CO ₂ final (tons)	Tax collection (US\$)
58	41.5	577	50.0	5	19844216	2257	2646377	2652280	2571876	No	Biomass	Biomass	0	0	0
86	84.0	1167	50.0	9	40125160	6461	5351946	5364172	5197558	No	Biomass	Biomass	0	0	0
1548	6.9	96	38.5	1	2884631	531	371634	372639	358844	No	Biomass	Biomass	0	0	0
3169	56.3	781	50.0	6	26869529	4326	3583893	3592080	3480508	No	Biomass	Biomass	0	0	0
2267	9.7	134	27.0	2	3449829	513	425826	427178	407924	No	Biomass	Biomass	0	0	0
3755	560.0	15556	0.8	1	85711	125573	354843	507598	326739	No	Coal	Coal	1518	1518	15182
3861	18900.0	553500	27.8	1	2808776	4387982	13439111	19239527	11132903	No	Coal	Coal	54022	54022	540216
3861	3899.3	108314	5.7	1	549647	872734	2613543	3748621	2161775	No	Coal	Coal	10571	10571	105714
177	5684.5	157903	8.4	1	1180208	1161775	3720112	5328938	2889694	Yes	Coal	Biomass	15411	0	0
2045	4601.0	127805	6.8	1	955250	940331	3009559	4311729	2337336	Yes	Coal	Biomass	12474	0	0
2616	6402.4	177845	9.4	1	1329261	1308501	4191345	6003357	3256109	Yes	Coal	Biomass	17358	0	0
2812	7856.6	218239	11.6	1	1631172	1605696	5146891	7370459	3999344	Yes	Coal	Biomass	21300	0	0
2895	8813.4	244817	13.0	1	1124893	1417707	5876658	8420585	5230067	No	Coal	Coal	23894	23894	238941
17	1783.5	98	6.5	1	285353	310302	4956	6045	2522	No	Natural gas	Natural gas	6	6	58
1483	5636.4	310	20.6	1	1192979	980670	14649	18092	7971	No	Natural gas	Natural gas	18	18	183
2783	63998.9	3525	50.0	5	20054952	11136555	152430	187044	73265	No	Natural gas	Natural gas	207	207	2073
1473	173629.3	9563	50.0	13	54404976	30213361	425500	525717	188672	No	Natural gas	Natural gas	562	562	5623
2453	111.7	4813	0.4	1	186383	154905	162534	157594	164179	Yes	Petroleum N°2	Biomass	372	0	0
2856	562.0	24211	2.1	1	944139	778324	816888	792709	825167	Yes	Petroleum N°2	Biomass	1869	0	0
3656	4105.1	176863	15.0	1	7236494	5877452	6125219	5944549	6130671	Yes	Petroleum N°2	Biomass	13654	0	0
3696	51.2	2208	0.2	1	87067	73574	76621	74200	76689	Yes	Petroleum N°2	Biomass	170	0	0
1515	509.0	21931	1.9	1	899045	743480	776629	753537	784331	Yes	Petroleum N°2	Biomass	1693	0	0
2556	1204.5	48812	4.4	1	1268691	1106380	1172885	1689849	1196812	Yes	Petroleum N°6	Biomass	3768	0	0
2033	19637.1	795759	35.9	2	17214708	15220246	16651310	23851613	19390607	Yes	Petroleum N°6	Biomass	61433	0	0
3286	0.9	38	0.3	1	1066	946	800	1615	1401	No	Petroleum N°6	Petroleum N°6	3	3	30