

Plan de Expansión del Sistema Interconectado
Nacional
2015 – 2029

Plan Indicativo de Generación

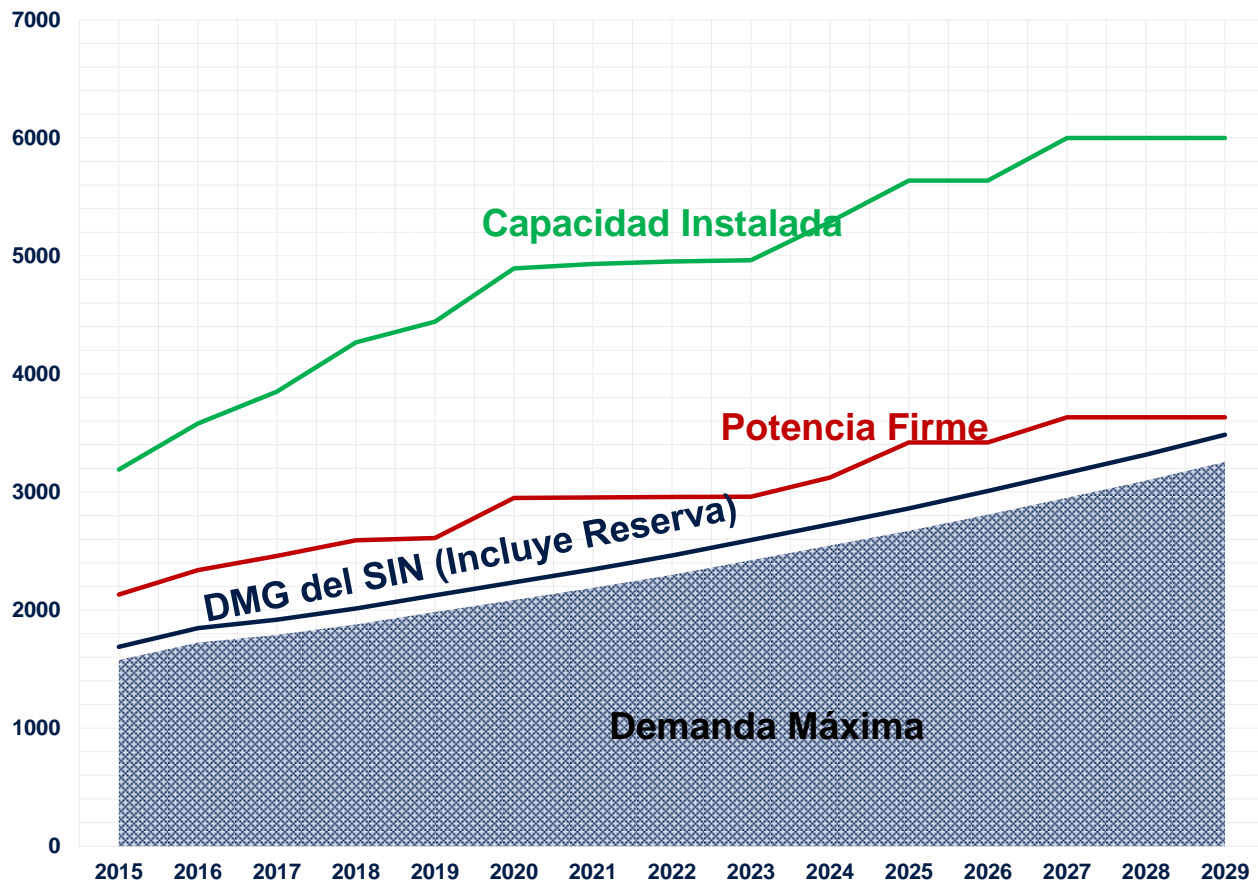
Tomo II - ANEXO – 2

Salidas del Escenario de Carbón:

Escenario renovable-térmico considerando:

- **Proyectos renovables que incluyen hidroeléctricos, eólicos y solares con licencia o concesión definitiva o en trámite.**
- **Proyectos térmicos que incluyen los combustibles convencionales (bunker y diésel) con licencia definitiva o en trámite.**
- **Considerar fuentes eólicas, solares y Carbón adicionales a partir del año 2019.**

Gráfico N° A2.1 Balance de Potencia vs Demanda del Escenario de Carbón



Cuadro N° A2.1 Capacidad Firme Escenario de Carbón

Agente Generador	Nombre	Capacidad Instalada (MW)	Potencia Firme (MW)	Años															
				2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	
AES Changuinola, S.A.	Changuinola I	212.40	165.67	165.67	165.67	165.67	165.67	165.67	165.67	165.67	165.67	165.67	165.67	165.67	165.67	165.67	165.67	165.67	165.67
AES Changuinola, S.A.	Mini Chan	9.77	9.66	9.66	9.66	9.66	9.66	9.66	9.66	9.66	9.66	9.66	9.66	9.66	9.66	9.66	9.66	9.66	9.66
AES Panamá, S.A.	Bayano	260.00	112.67	112.67	112.67	112.67	112.67	112.67	112.67	112.67	112.67	112.67	112.67	112.67	112.67	112.67	112.67	112.67	112.67
AES Panamá, S.A.	Estí	120.00	160.12	160.12	160.12	160.12	160.12	160.12	160.12	160.12	160.12	160.12	160.12	160.12	160.12	160.12	160.12	160.12	160.12
AES Panamá, S.A.	La Estrella	47.20	16.13	16.13	16.13	16.13	16.13	16.13	16.13	16.13	16.13	16.13	16.13	16.13	16.13	16.13	16.13	16.13	16.13
AES Panamá, S.A.	Los Valles	54.76	17.63	17.63	17.63	17.63	17.63	17.63	17.63	17.63	17.63	17.63	17.63	17.63	17.63	17.63	17.63	17.63	17.63
Alternegy, S.A.	Lorena	33.77	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28	30.28
Alternegy, S.A.	Prudencia	58.66	50.09	50.09	50.09	50.09	50.09	50.09	50.09	50.09	50.09	50.09	50.09	50.09	50.09	50.09	50.09	50.09	50.09
Bortex, S.A.	Gualaca	25.34	22.80	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8
Caldera Energy Corp.	Mendre	19.75	3.92	3.9243	3.9243	3.9243	3.9243	3.9243	3.9243	3.9243	3.9243	3.9243	3.9243	3.9243	3.9243	3.9243	3.9243	3.9243	3.9243
Electrogeneradora del Istmo, S.A	Mendre II	8.00	1.56	1.556	1.556	1.556	1.556	1.556	1.556	1.556	1.556	1.556	1.556	1.556	1.556	1.556	1.556	1.556	1.556
Electron Investment	Monte Lirio	47.75	32.38	32.38	32.38	32.38	32.38	32.38	32.38	32.38	32.38	32.38	32.38	32.38	32.38	32.38	32.38	32.38	32.38
Empresa Nacional de Energía, S.A.	Bugaba I	5.14	0.51	0.511	0.511	0.511	0.511	0.511	0.511	0.511	0.511	0.511	0.511	0.511	0.511	0.511	0.511	0.511	0.511
ENEL Fortuna, S.A.	Fortuna	300.00	290.21	290.21	290.21	290.21	290.21	290.21	290.21	290.21	290.21	290.21	290.21	290.21	290.21	290.21	290.21	290.21	290.21
Energía y Servicios de Panamá, S.A. (ESEPSA)	Algarrobos	9.86	2.41	2.41	2.41	2.41	2.41	2.41	2.41	2.41	2.41	2.41	2.41	2.41	2.41	2.41	2.41	2.41	2.41
Energía y Servicios de Panamá, S.A. (ESEPSA)	Dolega	3.12	1.10	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Energía y Servicios de Panamá, S.A. (ESEPSA)	La Yeguada	6.60	3.00	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Energía y Servicios de Panamá, S.A. (ESEPSA)	Macho Monte	2.50	0.80	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Generadora Alto Valle, S.A.	Cochea	14.93	3.06	3.064	3.064	3.064	3.064	3.064	3.064	3.064	3.064	3.064	3.064	3.064	3.064	3.064	3.064	3.064	3.064
Generadora Pedregalito, S.A.	Pedregalito I	20.00	2.04	2.043	2.043	2.043	2.043	2.043	2.043	2.043	2.043	2.043	2.043	2.043	2.043	2.043	2.043	2.043	2.043
Generadora Río Chico S.A.	Pedregalito II	12.89	0.38	0.376	0.376	0.376	0.376	0.376	0.376	0.376	0.376	0.376	0.376	0.376	0.376	0.376	0.376	0.376	0.376
Hidro Boquerón, S.A.	Macano	3.50	0.90	0.898	0.898	0.898	0.898	0.898	0.898	0.898	0.898	0.898	0.898	0.898	0.898	0.898	0.898	0.898	0.898
Hidro Panamá, S.A	Antón I	1.40	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
Hidro Panamá, S.A	Antón II	1.40	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
Hidro Panamá, S.A	Antón III	1.50	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
Hidro Piedra, S.A.	RP-490	14.00	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72
Hidroeléctrica San Lorenzo S.A.	San Lorenzo	8.70	1.33	1.333	1.333	1.333	1.333	1.333	1.333	1.333	1.333	1.333	1.333	1.333	1.333	1.333	1.333	1.333	1.333
Hidroibérica, S.A.	El Fraile	5.35	0.50	0.4993	0.4993	0.4993	0.4993	0.4993	0.4993	0.4993	0.4993	0.4993	0.4993	0.4993	0.4993	0.4993	0.4993	0.4993	0.4993
Hydro Caisán, S.A.	El Alto	69.49	22.14	22.14	22.14	22.14	22.14	22.14	22.14	22.14	22.14	22.14	22.14	22.14	22.14	22.14	22.14	22.14	22.14
Ideal Panamá, S.A	Baitún	85.90	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09	31.09
Ideal Panamá, S.A	Bajo de Mina	56.00	20.07	20.07	20.07	20.07	20.07	20.07	20.07	20.07	20.07	20.07	20.07	20.07	20.07	20.07	20.07	20.07	20.07
Isthmus Hydropower Corp	Concepción	11.00	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49	2.49
Las Perlas Norte, S.A	Las Perlas Norte	10.00	2.46	2.461	2.461	2.461	2.461	2.461	2.461	2.461	2.461	2.461	2.461	2.461	2.461	2.461	2.461	2.461	2.461
Las Perlas Sur, S.A	Las Perlas Sur	10.00	2.46	2.461	2.461	2.461	2.461	2.461	2.461	2.461	2.461	2.461	2.461	2.461	2.461	2.461	2.461	2.461	2.461
Paso Ancho Hydro-Power, Corp.	Paso Ancho	6.00	4.30	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
Salto de Franconi S.A.	Los Planetas I	4.95	0.93	0.927	0.927	0.927	0.927	0.927	0.927	0.927	0.927	0.927	0.927	0.927	0.927	0.927	0.927	0.927	0.927
Total Hidroeléctrico		1561.63	1017.55	1018	1018	1018	1018	1018	1018	1018	1018	1018	1018	1018	1018	1018	1018	1018	1018
Aggreko International Projects Limited	Aggreko Cerro Azul ¹	125.72	104	104	104	104													
Alternegy, S.A.	Cativa	87	83.5	83.5	83.5	83.5	83.5	83.5	83.5	83.5	83.5	83.5	83.5	83.5	83.5	83.5	83.5	83.5	83.5
Bahía Las Minas Corp.	BLM Carbon (BLM 2)	40	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67
Bahía Las Minas Corp.	BLM Carbon (BLM 3)	40	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67
Bahía Las Minas Corp.	BLM Carbon (BLM 4)	40	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67
Bahía Las Minas Corp.	John Brown TG5	34	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3
Bahía Las Minas Corp.	John Brown TG6	34	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3
Bahía Las Minas Corp.	BLM 8	34	33.35	33.35	33.35	33.35	33.35	33.35	33.35	33.35	33.35	33.35	33.35	33.35	33.35	33.35	33.35	33.35	33.35
Bahía Las Minas Corp.	BLM 9 ²⁴	58	56.03	56.03	56.03	56.03	56.03	56.03	56.03	56.03	56.03	56.03	56.03	56.03	56.03	56.03	56.03	56.03	56.03
Empresa de Generación Eléctrica, S.A.	TG1 Subestación Panamá ³	21.4	17.42	17.42	17.42	17.42													
Empresa de Generación Eléctrica, S.A.	TG2 Subestación Panamá ³	21.4	17.19	17.19	17.19	17.19													
Energía y Servicios de Panamá, S.A. (ESEPSA)	Capira Und. 6 ⁵	1	1																
Energía y Servicios de Panamá, S.A. (ESEPSA)	Capira Und. 8 y 9 ⁵	4.5	4.5																
Energía y Servicios de Panamá, S.A. (ESEPSA)	Chitré Und. 3 y 7 ⁶	4.5	4.5																
Generadora del Atlántico S.A.	Termo Colón	51	49.18	49.18	49.18	49.18	49.18	49.18	49.18	49.18	49.18	49.18	49.18	49.18	49.18	49.18	49.18	49.18	49.18
Generadora del Atlántico S.A.	Termo Colón	51	49.18	49.18	49.18	49.18	49.18	49.18	49.18	49.18	49.18	49.18	49.18	49.18	49.18	49.18	49.18	49.18	49.18
Generadora del Atlántico S.A.	Termo Colón ²	48	48.55	48.55	48.55	48.55	48.55	48.55	48.55	48.55	48.55	48.55	48.55	48.55	48.55	48.55	48.55	48.55	48.55
Pan Am Generating Ltd	Panam	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96	96
Pedregal Power Company	Pacora	53.53	53.52	53.52	53.52	53.52	53.52	53.52	53.52	53.52	53.52	53.52	53.52	53.52	53.52	53.52	53.52	53.52	53.52
Soenergy Panamá S. de R.L.	Panamá 2 ¹	103.32	80	80	80	80													
Valley Rise Investment Corp.	El Giral	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6	15.6
Valley Rise Investment Corp.	El Giral II	34.92	34.92	34.92	34.92	34.92	34.92	34.92	34.92	34.92	34.92	34.92	34.92	34.92	34.92	34.92	34.92	34.92	34.92
Autoridad del Canal de Panamá	Miraflores	226*	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117
Total Termoelectrico		998.89	925.05	859	915	915	696	696	696	696	696	696	696	696	696	696	696	696	696
Empresa de Generación Eléctrica S.A.	Sarigua	2.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UEP Penonomé I, S.A.	Nuevo Chagres Etapa 1	55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Renovable		57.40	0	0															

Cuadro N° A2.1 Capacidad Firme Escenario de Carbón (Continuación)

Proyectos Hidroeléctricos (Futuros)	Nombre	Capacidad Instalada MW	Potencia Firme MW	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Hidroecológica del Teribe, S.A	Bonyic	31.80	22.220	22.220	22.220	22.220	22.220	22.220	22.220	22.220	22.220	22.220	22.220	22.220	22.220	22.220	22.220	22.220
Fountain Intertrade Corp.	La Potra G4 (Bajo Frio)	2.10	2.100	2.100	2.100	2.100	2.100	2.100	2.100	2.100	2.100	2.100	2.100	2.100	2.100	2.100	2.100	2.100
Fountain Intertrade Corp.	La Potra (Bajo Frio)	27.90	8.050	8.050	8.050	8.050	8.050	8.050	8.050	8.050	8.050	8.050	8.050	8.050	8.050	8.050	8.050	8.050
Fountain Intertrade Corp.	Salsipuedes (Bajo Frio)	27.90	8.050	8.050	8.050	8.050	8.050	8.050	8.050	8.050	8.050	8.050	8.050	8.050	8.050	8.050	8.050	8.050
Corporación de Energía del Istmo Ltd.	Las Cruces	14.40	3.170	3.170	3.170	3.170	3.170	3.170	3.170	3.170	3.170	3.170	3.170	3.170	3.170	3.170	3.170	3.170
Desarrollos Hidroeléctricos Corp.	San Andres	10.30	2.538	2.538	2.538	2.538	2.538	2.538	2.538	2.538	2.538	2.538	2.538	2.538	2.538	2.538	2.538	2.538
Ideal Panamá, S.A	Baitún G3	0.58	0.580	0.580	0.580	0.580	0.580	0.580	0.580	0.580	0.580	0.580	0.580	0.580	0.580	0.580	0.580	0.580
Ideal Panamá, S.A	Bajo de Mina G3	1.73	1.730	1.730	1.730	1.730	1.730	1.730	1.730	1.730	1.730	1.730	1.730	1.730	1.730	1.730	1.730	1.730
Fuerza Eléctrica del Istmo, S.A.	Los Planetas 2	8.88	3.350	3.350	3.350	3.350	3.350	3.350	3.350	3.350	3.350	3.350	3.350	3.350	3.350	3.350	3.350	3.350
Hidronorth Corp.	La Huaca	11.62	0.172	0.172	0.172	0.172	0.172	0.172	0.172	0.172	0.172	0.172	0.172	0.172	0.172	0.172	0.172	0.172
Empresa Nacional de Energía, S.A	Bugaba 2	5.86	1.361	1.361	1.361	1.361	1.361	1.361	1.361	1.361	1.361	1.361	1.361	1.361	1.361	1.361	1.361	1.361
Electron Investment	Pando	32.90	25.130	25.130	25.130	25.130	25.130	25.130	25.130	25.130	25.130	25.130	25.130	25.130	25.130	25.130	25.130	25.130
Hidroeléctrica Bajos del Totuma, S.A.	Bajo de Totumas	5.00	1.949	1.949	1.949	1.949	1.949	1.949	1.949	1.949	1.949	1.949	1.949	1.949	1.949	1.949	1.949	1.949
Generadora del Istmo S.A.	Barro Blanco	28.49	11.570	11.570	11.570	11.570	11.570	11.570	11.570	11.570	11.570	11.570	11.570	11.570	11.570	11.570	11.570	11.570
Los Naranjos Overseas, S.A.	El Sindigo	17.30	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280	1.280
Corporación de Energía del Istmo Ltd.	San Bartolo	15.25	5.640	5.640	5.640	5.640	5.640	5.640	5.640	5.640	5.640	5.640	5.640	5.640	5.640	5.640	5.640	5.640
Generadora del Istmo S.A.	Cuesta de Piedra	4.78	0.827	0.827	0.827	0.827	0.827	0.827	0.827	0.827	0.827	0.827	0.827	0.827	0.827	0.827	0.827	0.827
Hidroeléctrica Barriles, S.A.	Cotito	5.00	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000
Empresa Nacional de Energía, S.A	La Herradura	5.20	1.026	1.026	1.026	1.026	1.026	1.026	1.026	1.026	1.026	1.026	1.026	1.026	1.026	1.026	1.026	1.026
Aht,S.A.	Los Trancos	0.80	0.260	0.260	0.260	0.260	0.260	0.260	0.260	0.260	0.260	0.260	0.260	0.260	0.260	0.260	0.260	0.260
Hidroeléctrica Tizingal S.A.	Tizingal	4.50	2.550	2.550	2.550	2.550	2.550	2.550	2.550	2.550	2.550	2.550	2.550	2.550	2.550	2.550	2.550	2.550
Navitas Internacional, S.A.	Chuspa	8.80	2.120	2.120	2.120	2.120	2.120	2.120	2.120	2.120	2.120	2.120	2.120	2.120	2.120	2.120	2.120	2.120
Eco-Hidro Paraiso, S.A.	Asturias	4.10	1.230	1.230	1.230	1.230	1.230	1.230	1.230	1.230	1.230	1.230	1.230	1.230	1.230	1.230	1.230	1.230
Hidroeléctrica Río Piedra, S.A.	Río Piedra	9.00	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700	2.700
Hidroecológica San Andrés, S.A.	San Andrés II	9.90	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430	2.430
Caldera Power Inc.	Caldera	6.10	1.830	1.830	1.830	1.830	1.830	1.830	1.830	1.830	1.830	1.830	1.830	1.830	1.830	1.830	1.830	1.830
Hidro Burica, S.A.	Burica	63.10	22.310	22.310	22.310	22.310	22.310	22.310	22.310	22.310	22.310	22.310	22.310	22.310	22.310	22.310	22.310	22.310
Estrella del Sur, S.A.	Ojo de Agua	6.45	1.935	1.935	1.935	1.935	1.935	1.935	1.935	1.935	1.935	1.935	1.935	1.935	1.935	1.935	1.935	1.935
Hidroeléctrica Barriles, S.A.	Colorado	6.74	1.940	1.940	1.940	1.940	1.940	1.940	1.940	1.940	1.940	1.940	1.940	1.940	1.940	1.940	1.940	1.940
Panama Hydroelectrical Development Co. S.A.	Santa María 82	28.35	8.505	8.505	8.505	8.505	8.505	8.505	8.505	8.505	8.505	8.505	8.505	8.505	8.505	8.505	8.505	8.505
AHB, S.A.	Guayabito	0.90	0.360	0.360	0.360	0.360	0.360	0.360	0.360	0.360	0.360	0.360	0.360	0.360	0.360	0.360	0.360	0.360
Fuerza Hidráulica del Caribe, S.A.	Potrerrillos	4.17	1.252	1.252	1.252	1.252	1.252	1.252	1.252	1.252	1.252	1.252	1.252	1.252	1.252	1.252	1.252	1.252
Panama Energy Business, Inc	Lalín III	20.00	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071	1.071
Argenta Resources Corp.	Caña Blanca	7.80	7.400	7.400	7.400	7.400	7.400	7.400	7.400	7.400	7.400	7.400	7.400	7.400	7.400	7.400	7.400	7.400
Hidroeléctrica Los Estrechos S.A.	Los Estrechos	9.50	2.850	2.850	2.850	2.850	2.850	2.850	2.850	2.850	2.850	2.850	2.850	2.850	2.850	2.850	2.850	2.850
Reforestadora Cañazas, S.A.	La Laguna	13.79	4.137	4.137	4.137	4.137	4.137	4.137	4.137	4.137	4.137	4.137	4.137	4.137	4.137	4.137	4.137	4.137
Panama Enegy Finance, Inc	Lalín II	40.00	4.267	4.267	4.267	4.267	4.267	4.267	4.267	4.267	4.267	4.267	4.267	4.267	4.267	4.267	4.267	4.267
Panama Power Energy, Inc	Lalín I	20.00	4.476	4.476	4.476	4.476	4.476	4.476	4.476	4.476	4.476	4.476	4.476	4.476	4.476	4.476	4.476	4.476
Hidroeléctrica Barriles, S.A.	Barriles	1.00	0.126	0.126	0.126	0.126	0.126	0.126	0.126	0.126	0.126	0.126	0.126	0.126	0.126	0.126	0.126	0.126
Empresa Nacional de Energía, S.A	El Recodo	10.00	3.000	3.000	3.000	3.000	3.000	3.000	3.000	3.000	3.000	3.000	3.000	3.000	3.000	3.000	3.000	3.000
Empresa de Generación Eléctrica, S. A.	Chan II	223.88	161.011	161.011	161.011	161.011	161.011	161.011	161.011	161.011	161.011	161.011	161.011	161.011	161.011	161.011	161.011	161.011
		756	373	46	93	140	153	170	170	174	178	181	343	343	343	343	343	343

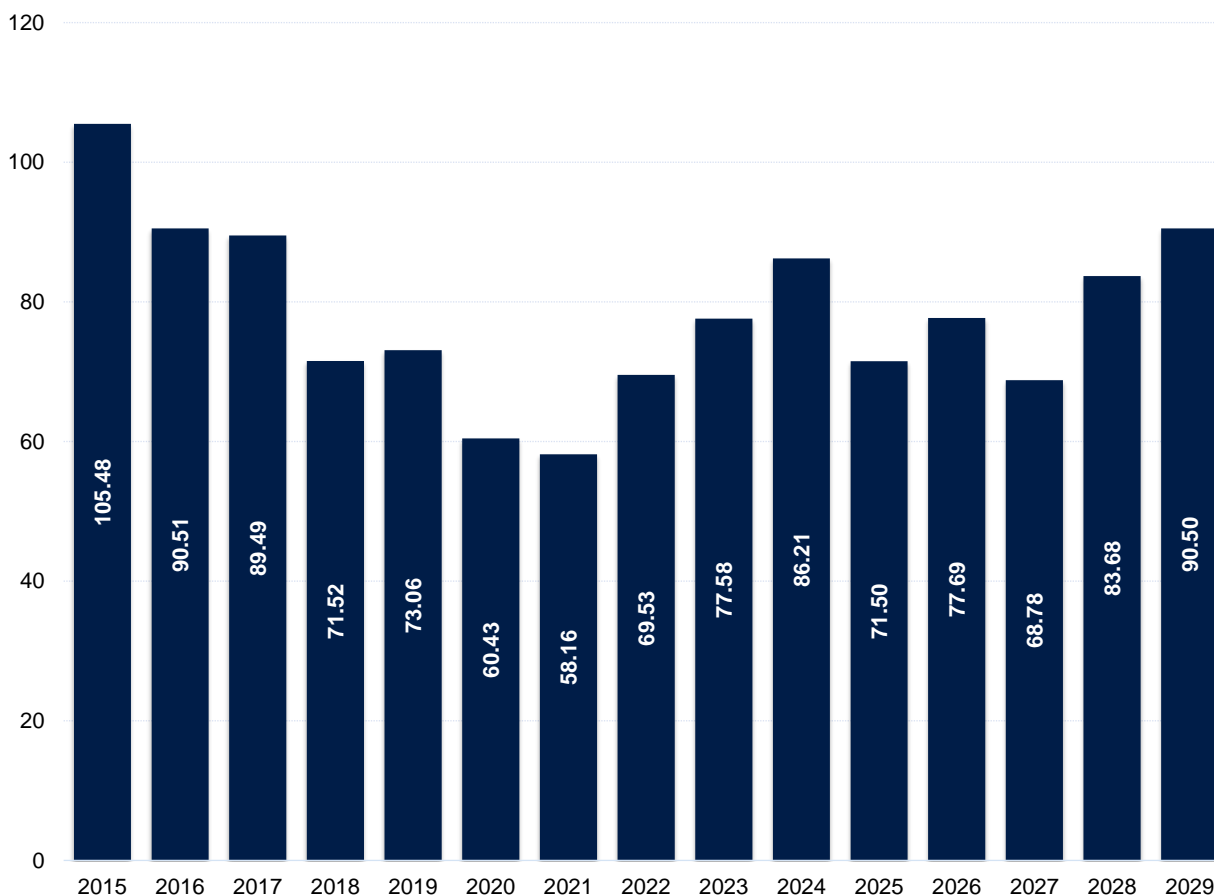
Proyectos Termoeléctricos (Futuros)	Nombre	Capacidad Instalada MW	Fact. Disp.	Potencia Firme MW	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Empresa de Generación Eléctrica, S. A.	Estrella del Mar (Barcaza)	72	1	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
Jinro Corporation	Jinro Power	57.8		50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Kanan Overseas3 1, INC.	Atlantic Gateway Project	92		86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86
Pan Am Generating Ltd	Amp. Panam	49.5		36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36
Erryl Capital, INC.	IEP PANAMÁ UNO	102.6		60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Minera Panamá, S.A.	Punta Rincón (Excedente 74 MW Aprox.)	274*		74	74	74	74	74	74	74	74	74	74	74	74	74	74	74	74
Térmica	Planta Térmica	400	0.85	340				340	340	340	340	340	340	340	340	340	340	340	340
Térmica	Planta Térmica	400	0.85	340					340	340	340	340	340	340	340	340	340	340	340
	CB 350	350	0.85	297.5											297.5	297.5	297.5	297.5	297.5
	CB 250	250	0.85	212.5													212.5	212.5	212.5
		1774		1568	208	304	378	718	718	1058	1058	1058	1058	1058	1356	1356	1568	1568	1568

Cuadro N° A2.1 Capacidad Firme Escenario de Carbón (Continuación)

Proyectos Solares (Futuros)		Capacidad Instalada MW	Potencia Firme MW	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Generación Solar, S.A.	Proyecto Fotovoltaico Zona Franca Albrook	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Azucarera Nacional, S.A.	Proyecto Solar Fotovoltaico Coclé Solar 1	0.96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ENEL Fortuna, S.A.	Chiriquí	9.87	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Proyecto Solar	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Proyecto Solar	9.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Proyecto Solar	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Proyecto Solar	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Proyecto Solar	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Proyecto Solar	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Proyecto Solar	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Proyecto Solar	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		351	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Proyectos Eólicos (Futuros) MW		Capacidad Instalada MW	Potencia Firme MW	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
UEP Penonomé II, S. A.	Rosa de los Vientos (Etapa 1)	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UEP Penonomé II, S. A.	Nuevo Chagres 2 (Etapa 1)	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UEP Penonomé II, S. A.	Marañón	17.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UEP Penonomé II, S. A.	Portobello Ballestillas (Etapa 1)	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UEP Penonomé II, S. A.	Nuevo Chagres 2 (Etapa 1)	12.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UEP Penonomé II, S. A.	Rosa de los Vientos (Etapa 1)	27.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UEP Penonomé II, S. A.	Rosa de los Vientos (Etapa 2)	37.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UEP Penonomé II, S. A.	Rosa de los Vientos (Etapa 2)	12.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UEP Penonomé II, S. A.	Portobello Ballestillas (Etapa 1)	17.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UEP Penonomé II, S. A.	Nuevo Chagres 2 (Etapa 2)	52.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UEP Penonomé II, S. A.	Portobello Ballestillas (Etapa 2)	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fersa Panamá, S.A.	Proyecto Eólico	105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Proyecto Eólico	105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Proyecto Eólico	120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Proyecto Eólico	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Proyecto Eólico	111.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Proyecto Eólico	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Proyecto Eólico	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		682	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Proyectos Biomasa (Futuros) MW		Capacidad Instalada MW	Potencia Firme MW	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Urbalia Panamá, S.A.	Cerro Patacón	8.20	7.50	0.00	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
		8.20	7.50	0.00	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50

CUADRO N° A2.2: Costos Marginales del Escenario de Carbón


Costo Marginal de Demanda													\$/MWh
Año	Ene	Feb	Mar	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Prom
2015	105.38	150.58	197.43	199.46	129.01	78.85	87.68	76.46	75.61	57.26	45.87	62.12	105.48
2016	75.10	103.45	133.66	165.48	114.10	92.80	94.77	82.78	65.04	51.86	45.56	61.53	90.51
2017	77.87	102.21	142.67	183.73	124.22	96.77	84.84	68.42	56.40	49.23	40.32	47.24	89.49
2018	84.29	96.04	91.37	113.13	90.99	78.32	72.86	60.37	48.45	34.76	37.72	49.96	71.52
2019	82.40	95.62	92.46	105.75	93.90	82.36	78.46	61.36	52.99	39.32	44.62	47.46	73.06
2020	85.42	77.19	76.72	91.08	85.69	61.88	65.78	44.55	35.34	37.10	30.78	33.60	60.43
2021	45.62	61.32	66.63	84.62	82.33	65.81	70.37	53.16	44.64	42.14	37.42	43.87	58.16
2022	58.90	86.43	89.25	98.59	88.33	77.69	82.34	59.75	48.57	45.76	44.85	53.91	69.53
2023	78.52	105.47	107.06	114.48	94.25	79.90	83.57	64.85	53.26	45.54	50.66	53.38	77.58
2024	71.83	83.57	91.78	121.98	115.38	99.59	101.20	85.31	72.34	63.66	58.28	69.54	86.21
2025	79.53	103.56	98.86	92.82	83.94	71.10	75.22	63.69	51.00	47.59	43.19	47.55	71.50
2026	67.22	93.03	93.26	117.43	106.80	86.09	83.59	68.24	56.26	55.35	49.54	55.43	77.69
2027	54.55	68.83	71.12	100.47	93.29	71.87	80.90	62.84	58.19	55.45	52.23	55.64	68.78
2028	71.87	108.72	105.41	128.16	116.74	84.35	87.20	71.10	59.19	56.83	55.81	58.78	83.68
2029	67.48	99.72	95.46	120.72	117.42	101.81	106.08	86.93	71.40	65.34	70.23	83.45	90.50

CUADRO N° A2.3: Informe Final de Generación del Escenario de Carbón

Planta	Informe Final de Generación														
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
PA_Algarrobo	48.90	47.92	48.74	47.49	48.48	49.33	49.95	49.96	50.08	48.25	50.82	50.61	49.31	50.63	49.51
PA_Antonl	6.31	6.98	7.15	7.06	7.53	7.15	7.00	7.16	6.89	7.13	6.93	7.11	6.85	6.84	6.94
PA_Antonll	6.31	6.98	7.15	7.06	7.53	7.15	7.00	7.16	6.89	7.13	6.93	7.11	6.85	6.84	6.94
PA_Antonlll	6.57	7.26	7.45	7.35	7.84	7.45	7.28	7.45	7.17	7.43	7.21	7.40	7.13	7.12	7.22
PA_Asturias	0.00	0.00	10.63	27.20	27.26	27.18	27.30	27.63	27.58	27.44	27.45	27.52	27.25	27.37	27.34
PA_B. Blanco	0.00	89.78	119.15	118.00	122.09	120.34	117.82	119.37	121.11	120.60	120.01	119.50	118.02	118.38	118.12
PA_B.BlancG3	0.00	8.34	16.28	16.31	16.31	16.28	16.22	16.24	16.29	16.36	16.24	16.24	16.22	16.25	16.30
PA_B.Totuma	0.00	19.87	31.19	31.38	31.46	30.75	30.28	30.92	31.17	31.45	31.47	31.26	30.80	31.29	30.45
PA_Baitun	459.97	482.92	483.06	477.26	485.27	476.11	472.75	488.19	485.30	484.00	478.77	482.92	475.29	478.94	475.76
PA_BaitunG3	0.00	15.15	15.15	15.15	15.15	15.15	15.15	15.15	15.15	15.15	15.15	15.15	15.15	15.15	15.15
PA_Barniles	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70	0.71	0.69	0.69	0.70	0.71	0.69
PA_Bartolo	0.00	0.00	64.23	64.22	65.11	63.82	63.29	64.39	65.73	63.49	64.00	65.04	64.20	64.68	63.27
PA_Bayano	677.03	526.89	521.78	622.83	558.08	497.63	588.72	566.09	580.34	612.38	482.89	539.83	667.16	474.62	655.63
PA_Bjo Mina	326.74	345.17	344.48	341.23	344.17	340.80	337.35	343.03	343.42	344.37	339.96	341.15	339.72	340.37	339.34
PA_BMina G3	0.00	5.11	5.12	5.12	5.11	5.12	5.11	5.11	5.12	5.11	5.12	5.11	5.12	5.11	5.11
PA_Bonyic	150.76	154.37	159.08	158.71	159.77	154.91	157.32	156.09	156.25	156.31	159.55	156.77	160.10	159.11	155.77
PA_Bugaba	21.03	21.91	21.45	21.49	21.72	21.36	21.62	22.09	21.88	21.80	21.39	21.49	21.46	21.79	21.30
PA_Bugaba2	0.00	21.91	23.35	23.38	23.63	23.25	23.61	24.10	23.84	23.74	23.27	23.36	23.34	23.77	23.16
PA_Burica	0.00	0.00	22.65	288.69	290.47	284.12	286.59	290.90	291.60	283.91	286.39	287.21	283.34	289.54	285.70
PA_C.Mina	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PA_C.Piedra	0.00	0.00	24.19	25.47	24.94	25.77	25.49	25.82	25.89	25.63	25.91	25.65	25.13	25.58	25.47
PA_C.Viejo	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PA_Caldera	0.00	0.00	3.32	17.85	18.11	17.59	17.61	17.76	17.63	17.68	17.89	17.76	17.22	17.76	17.83
PA_Cañablanc	0.00	0.00	0.00	0.00	25.74	27.69	27.45	27.87	28.88	28.27	27.86	27.87	27.58	27.78	27.79
PA_Cañazas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PA_Chan I	900.19	901.98	937.25	946.09	936.49	921.72	926.27	933.71	931.84	947.54	964.59	950.67	937.63	978.86	971.22
PA_Chan II	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PA_Chuspa	0.00	0.00	23.37	40.14	40.30	39.15	40.08	40.63	39.96	39.84	40.02	39.60	40.06	40.03	40.31
PA_Cochea	65.47	64.89	65.47	65.61	66.18	64.75	63.86	64.80	65.32	65.00	65.12	64.88	63.90	65.45	64.92
PA_Colorado	0.00	0.00	0.00	29.71	31.63	31.29	31.52	32.05	31.80	31.73	31.01	31.17	31.26	31.73	31.07
PA_Concepcio	60.95	64.51	63.24	62.66	62.81	61.93	61.95	62.72	63.03	63.05	62.57	62.51	62.27	62.43	62.45
PA_Cotito	0.00	0.00	10.84	10.93	11.18	11.03	11.26	11.52	11.20	11.21	10.82	10.87	11.03	11.26	10.87
PA_Dolega	17.50	18.14	18.36	18.17	18.51	18.15	18.05	18.18	18.33	18.21	18.35	18.27	17.94	18.15	18.15
PA_El Alto	275.56	278.22	280.95	278.06	285.59	279.68	276.83	281.88	286.13	276.65	277.75	277.09	280.75	279.37	278.96
PA_El Fraile	25.27	26.26	27.00	26.47	26.55	25.98	25.73	26.75	27.13	26.08	26.29	26.30	25.47	26.30	25.91
PA_ElRecodo	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	85.48	85.44	84.91	85.12	85.28	85.37	85.40
PA_ElRemance	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PA_Esperanza	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PA_Esti	608.18	580.48	564.59	564.80	566.86	589.03	602.28	602.91	618.98	598.62	595.54	605.25	598.98	602.02	593.74
PA_Estrechos	0.00	0.00	0.00	0.00	35.90	37.95	37.62	38.47	39.61	38.51	38.37	38.77	37.64	38.34	37.99
PA_Estrella	282.62	250.95	257.99	256.28	259.01	271.98	271.79	274.05	274.91	268.16	272.80	274.90	270.16	267.69	268.68
PA_Fortuna	1676.31	1567.22	1593.60	1667.48	1606.96	1568.55	1656.43	1582.20	1694.24	1622.10	1625.10	1650.87	1686.19	1619.17	1619.95
PA_Gualaca	126.52	122.64	119.10	119.22	119.74	122.86	125.23	125.46	128.90	125.50	124.06	126.14	124.71	124.59	123.28
PA_Guayabito	0.00	0.00	0.00	0.00	5.84	5.65	5.58	5.70	5.76	5.72	5.76	5.70	5.74	5.73	5.65
PA_HidroGene	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PA_La.Potra	118.07	120.12	117.91	116.03	118.29	116.81	115.83	120.46	121.21	117.29	116.74	118.71	116.91	119.08	115.97
PA_Laguna	0.00	0.00	0.00	0.00	4.67	44.57	43.73	45.42	46.02	45.22	45.00	45.08	44.57	45.07	44.14
PA_LaHerrad	0.00	0.00	20.46	21.77	22.01	21.64	22.00	22.46	22.19	22.10	21.63	21.71	21.71	22.17	21.56
PA_LaHuaca	0.00	44.23	48.16	48.95	48.37	47.76	49.64	49.14	48.48	47.50	49.28	47.61	49.47	48.23	48.60
PA_Lalin	0.00	0.00	0.00	0.00	0.00	0.00	0.00	99.51	99.87	99.89	97.66	98.65	98.28	97.28	96.93
PA_LalinII	0.00	0.00	0.00	0.00	0.00	0.00	162.53	166.80	171.43	165.34	164.03	166.29	164.94	164.50	163.15
PA_LalinIII	0.00	0.00	0.00	0.00	78.88	79.63	78.28	80.69	82.60	80.48	78.96	79.36	79.45	79.09	79.31
PA_LaPalma	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PA_LaPotraG3	17.76	17.77	18.11	18.08	18.11	18.09	18.09	18.07	18.09	18.10	18.07	18.08	18.06	18.10	18.09
PA_LasCruces	41.13	53.43	54.91	55.04	55.67	54.39	53.63	55.08	56.32	53.75	54.06	54.24	54.18	55.16	54.77
PA_Lorena	189.43	186.99	188.30	190.84	189.79	186.07	189.59	188.87	192.72	190.13	186.37	189.32	187.93	185.20	184.74
PA_LosTranco	0.00	0.00	2.07	3.21	3.30	3.17	3.11	3.30	3.22	3.28	3.25	3.23	3.17	3.23	3.16
PA_Macano	12.39	13.47	13.25	12.40	12.74	13.08	13.21	13.44	12.98	13.21	12.94	12.97	12.62	13.16	12.82
PA_Mendre	19.79	23.32	31.80	32.42	29.75	27.01	24.99	23.78	21.63	20.67	27.01	22.26	24.59	22.01	23.35
PA_Mendre2	39.99	40.88	41.49	40.89	41.64	41.24	41.20	40.95	41.43	40.08	41.92	41.51	40.75	41.02	40.54
PA_MinChan I	64.56	62.86	60.56	60.52	60.61	60.61	60.59	60.58	60.61	60.60	60.58	60.60	60.55	60.59	60.60
PA_Mmonte	11.88	12.18	12.08	11.98	12.12	12.21	11.92	12.10	12.15	12.20	12.19	11.98	12.16	12.11	12.37
PA_Mon Lirio	255.43	259.43	265.68	262.99	268.88	261.78	258.04	264.25	266.85	263.75	261.81	261.55	261.41	264.81	262.20
PA_OjedeAgua	0.00	0.00	0.00	33.36	34.03	33.60	32.78	33.55	33.54	33.79	32.86	32.57	32.08	33.31	32.30
PA_Pando	0.00	132.15	167.05	166.00	167.98	163.39	161.23	166.00	167.05	164.76	165.70	163.47	162.06	165.89	164.31
PA_PasoAncho	32.32	33.21	33.89	33.24	33.72	33.42	33.07	33.94	34.05	33.38	33.84	33.82	33.37	33.65	33.29
PA_Pedreg2	61.75	62.60	61.21	60.98	59.86	61.76	62.88	61.97	62.20	61.09	62.56	62.02	61.82	62.80	60.86
PA_Pedregal	98.53	99.87	97.49	97.13	95.34	98.36	100.16	98.70	99.07	97.30	99.65	98.77	98.47	100.02	96.93
PA_Perlas N	54.57	58.21	58.57	58.03	58.20	57.38	57.39	58.15	58.43	58.41	57.98	57.95	57.70	57.87	57.84
PA_Perlas S	56.21	59.47	59.82	59.25	59.46	58.61	58.59	59.43	59.72	59.64	59.24	59.23	58.93	59.15	59.07
PA_Planetas1	26.45	26.51	26.79	26.41	26.83	26.45	26.23	26.79	26.80	26.70	26.66	26.45	26.38	26.51	26.36
PA_Planetas2	0.00	45.25	45.51	44.66	45.42	44.80	44.57	45.74	46.02	45.32	45.29	45.21	44.76	45.17	44.71
PA_Poterill	0.00	0.00	0.00	0.00	21.96	21.79	21.67	22.06	22.23	21.69	21.92	21.91	21.84	21.95	21.73
PA_Prudencia	301.47	297.47	299.96												