

Supplementary

Climate Change Mitigation Strategy through Membranes Replacement and Determination Methodology of Carbon Footprint in Reverse Osmosis RO Desalination Plants for Islands and Isolated Territories

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Supplementary Material

Table 1. Existing seawater desalination plants in the Canary Islands. consumption and solution of renewable energies. (Source FCCA 2013. REE 2020 and own elaboration).

Name of the Plant	Production (m ³ /d)	Consumption (kWh/m ³)	Island	Habitants per Plant	Renewable Solution
Cercado de Don Andrés	200	3.5	Lanzarote	Irrigation	Photovoltaic
Lanzarote III 1	10000	3.5	Lanzarote	10541	Wind
Lanzarote III 2	5000	3.5	Lanzarote	5271	Wind
Lanzarote III 3	5000	3.5	Lanzarote	5271	Wind
Lanzarote IV	20000	3.5	Lanzarote	21083	Wind
Lanzarote V	18000	2.4	Lanzarote	18975	Wind
Aeropuerto	700	3.04	Lanzarote	18327	Photovoltaic
Agua Park	30	3.04	Lanzarote	500	Photovoltaic
Apartamentos Ficus	60	3.5	Lanzarote	120	Photovoltaic
Apartamentos Puerto Tahiche	150	3.5	Lanzarote	300	Photovoltaic
Apartamentos Trebol	80	3.5	Lanzarote	160	Photovoltaic
Ercros	2500	3.5	Lanzarote	11057	Wind
Ercros	2200	3.5	Lanzarote	9731	Wind
Famara	350	3.5	Lanzarote	700	Photovoltaic
Hotel Golf y Mar	90	3.5	Lanzarote	180	Photovoltaic
Hotel Gran Meliá Salinas	400	2.61	Lanzarote	800	Photovoltaic
Hotel Playa Verde	250	3.5	Lanzarote	500	Photovoltaic
Hotel Teguisse Playa	250	3.5	Lanzarote	500	Photovoltaic
La Galea	150	3.04	Lanzarote	300	Photovoltaic
Lanzarote Beach Club II	70	3.04	Lanzarote	140	Photovoltaic
Las Arenas. Costa Teguisse	80	3.04	Lanzarote	160	Photovoltaic
Playa Roca	250	3.04	Lanzarote	500	Photovoltaic
Apartamentos Don Paco Castilla	320	2.61	Lanzarote	640	Photovoltaic

Apartamentos Sol Lanzarote	350	2.61	Lanzarote	700	Photovoltaic
Cdad Apartamentos CAMP		2.61	Lanzarote	Tourism	Photovoltaic
Holiday Land S.A.	3000	3.5	Lanzarote	6000	Wind
Hotel Fariones Playa	500	3.5	Lanzarote	1000	Photovoltaic
Hotel Playa Azul	300	3.5	Lanzarote	600	Photovoltaic
Hoteles Canarios S.A.		3.5	Lanzarote	Tourism	Photovoltaic
Iberhotel		3.5	Lanzarote	Tourism	Photovoltaic
Zorilla	40	3.04	Lanzarote	80	Photovoltaic
Hotel Jameos Playa	336	2.61	Lanzarote	672	Photovoltaic
La Santa Sport I	250	3.5	Lanzarote	500	Photovoltaic
La Santa Sport II	250	3.5	Lanzarote	500	Photovoltaic
Ria La Santa	400	3.5	Lanzarote	800	Photovoltaic
Apartamentos Son Boy Family Suites	500	3.04	Lanzarote	1000	Photovoltaic
Bungalows Atlantic Gardens		3.5	Lanzarote	Tourism	Photovoltaic
Costa los Limones S.A.	350	3.5	Lanzarote	700	Photovoltaic
Hotel Corbeta		3.5	Lanzarote	Tourism	Photovoltaic
Hotel Costa Calero	324	3.04	Lanzarote	642	Photovoltaic
Marina Rubicón	300	3.04	Lanzarote	600	Photovoltaic
Hotel Paradise Island	300	3.04	Lanzarote	600	Photovoltaic
Hotel Princesa Yaiza	500	3.04	Lanzarote	1000	Photovoltaic
Hotel Rubicón Palace	450	3.04	Lanzarote	900	Photovoltaic
Inalsa Sur 1	600	3.5	Lanzarote	1859	Photovoltaic
Inalsa Sur 2	1200	3.5	Lanzarote	3718	Wind
Inalsa Sur 3	3000	3.5	Lanzarote	9294	Wind
Janubio		3.04	Lanzarote	Tourism	Photovoltaic
Lanzasur Club	200	3.04	Lanzarote	400	Photovoltaic
Playa Blanca S.A.		3.5	Lanzarote	Tourism	Photovoltaic
Club Lanzarote	4500	3.5	Lanzarote	9000	Wind
Apartamentos Moromar	250	3.5	Lanzarote	500	Photovoltaic
Gea Fonds Numero Uno Lanzarote S.A.		3.5	Lanzarote	Tourism	Photovoltaic
Grupo Rosa	1000	3.5	Lanzarote	2000	Wind
Hipotels	300	3.5	Lanzarote	600	Photovoltaic
Hotel Corona	300	3.5	Lanzarote	600	Photovoltaic
Hotel Costa Calero S.L.	300	3.04	Lanzarote	600	Photovoltaic
Hotel Sunbou	500	3.04	Lanzarote	1000	Photovoltaic
Isla Lobos	100	3.04	Lanzarote	200	Photovoltaic
Leas Hotel S.A.		3.5	Lanzarote	Tourism	Photovoltaic
Niels Prahm		3.5	Lanzarote	Tourism	Photovoltaic
Occidental Hotel Oasis	250	3.04	Lanzarote	500	Photovoltaic
Playa Flamingo	200	3.04	Lanzarote	400	Photovoltaic
Tjaereborg Timesharing. S.A.	500	3.04	Lanzarote	1000	Photovoltaic
Empresa Mixta de Aguas de Antigua. S.L.	4800	3.04	Fuerteventura	11948	Wind
Grupo Turístico Barceló. S.L.	240	3.5	Fuerteventura	480	Photovoltaic
Aguas Cristóbal Franquis. S.L.	1200	3.5	Fuerteventura	2400	Wind

Anjoca Canarias. S.A.	3000	3.5	Fuerteventura	6000	Wind
Ramiterra. S.L.	3000	3.04	Fuerteventura	6000	Wind
Inver Canary Dos. S.L.	300	3.04	Fuerteventura	600	Photovoltaic
Suministros de Agua de La Oliva. S.A.	9000	3.04	Fuerteventura	17920	Wind
Consorcio Abastecimiento de Aguas a Fuerteventura	4000	3.04	Fuerteventura	7964	Wind
Parque de Ocio y Cultura (BAKU) 1	300	3.04	Fuerteventura	600	Photovoltaic
Parque de Ocio y Cultura (BAKU) 2	90	3.04	Fuerteventura	180	Photovoltaic
RIU Palace Tres Islas	100	3.5	Fuerteventura	200	Photovoltaic
RIU Oliva Beach	400	3.5	Fuerteventura	800	Photovoltaic
Nombredo. S.L.	500	3.5	Fuerteventura	1000	Photovoltaic
Consorcio Abastecimiento de Aguas a Fuerteventura	4400	3.5	Fuerteventura	20539	Wind
Puertito de la Cruz	60	3.5	Fuerteventura	120	Photovoltaic
Vinamar. S.A.	3600	3.5	Fuerteventura	7200	Wind
Fuercan. S.L. Cañada del Rio I	2000	3.5	Fuerteventura	4000	Wind
Fuercan. S.L. Cañada del Rio II	1000	3.04	Fuerteventura	2000	Wind
Fuercan. S.L. Cañada del Rio III	2000	3.04	Fuerteventura	4000	Wind
Club Aldiana	200	3.5	Fuerteventura	400	Photovoltaic
Erwin Sick	30	3.5	Fuerteventura	60	Photovoltaic
Esquinzo Urbanización II	1200	3.5	Fuerteventura	2400	Wind
Esquinzo Urbanización III	1200	3.5	Fuerteventura	2400	Wind
Hotel Sol Élite Los Gorriones 1	400	3.5	Fuerteventura	800	Photovoltaic
Hotel Sol Élite Los Gorriones 2	400	3.5	Fuerteventura	800	Photovoltaic
Stella Canaris I	300	3.5	Fuerteventura	600	Photovoltaic
Stella Canaris II	300	3.5	Fuerteventura	600	Photovoltaic
Stella Canaris III	250	3.5	Fuerteventura	500	Photovoltaic
Hotel H 10 Playa Esmeralda.	250	3.5	Fuerteventura	500	Photovoltaic

Hotel "Club Paraíso Playa"	300	3.5	Fuerteventura	600	Photovoltaic
Urbanización Costa Calma.	110	3.5	Fuerteventura	220	Photovoltaic
Urbanización Tierra Dorada.	120	3.5	Fuerteventura	240	Photovoltaic
Zoo-Parque La Lajita.	1300	3.5	Fuerteventura	500	Wind
Apartamentos Esmeralda Maris	120	3.5	Fuerteventura	240	Photovoltaic
Hotel H10 Tindaya	280	3.5	Fuerteventura	560	Photovoltaic
Aparthotels Morasol	80	3.5	Fuerteventura	160	Photovoltaic
Consorcio Abastecimiento de Aguas a Fuerteventura	36500	3.5	Fuerteventura	39382	Wind
Aeropuerto	500	3.5	Fuerteventura	15439	Photovoltaic
GranTarajal	4000	3.5	Fuerteventura	14791	Wind
Sotavento. S.A.	2925	3.5	Fuerteventura	5850	Wind
Arucas-Moya I	10000	3.5	Gran Canaria	45419	Wind
Granja experimental	500	3.5	Gran Canaria	Irrigation	Photovoltaic
Granja experimental	500	3.5	Gran Canaria	Irrigation	Photovoltaic
Comunidad Fuentes de Quintanilla	800	3.04	Gran Canaria	Irrigation	Photovoltaic
Granja experimental	500	3.5	Gran Canaria	Irrigation	Photovoltaic
Gáldar-Agaete I	3000	3.5	Gran Canaria	16199	Wind
Gáldar II	7000	3.04	Gran Canaria	37799	Wind
Agragua	15000	3.5	Gran Canaria	Irrigation	Wind
Guía I	5000	3.5	Gran Canaria	6962	Wind
Guía II	5000	2.61	Gran Canaria	6962	Wind
Félix Santiago Melián	5000	2.61	Gran Canaria	Irrigation	Wind
Las Palmas III	65000	3.5	Gran Canaria	307545	Wind
Las Palmas IV	15000	2.61	Gran Canaria	70972	Wind
BAXTER S.A.	100	3.5	Gran Canaria	200	Photovoltaic
El Corte Inglés. S.A.	300	3.5	Gran Canaria	3000	Photovoltaic

Anfi del Mar I	250	3.5	Gran Canaria	500	Photovoltaic
Anfi del Mar II	250	3.5	Gran Canaria	500	Photovoltaic
AQUALING	2000	3.04	Gran Canaria	4000	Wind
Puerto Rico	4000	3.04	Gran Canaria	8000	Wind
Puerto Rico I	4000	3.04	Gran Canaria	8000	Wind
Hotel Taurito	400	3.04	Gran Canaria	800	Photovoltaic
Hotel Costa Meloneras	300	3.04	Gran Canaria	600	Photovoltaic
Hotel Villa del Conde	500	3.04	Gran Canaria	1000	Photovoltaic
Bahia Feliz	600	3.5	Gran Canaria	1200	Photovoltaic
Bonny	8000	3.5	Gran Canaria	Irrigation	Wind
Maspalomas I Mar	14500	3.5	Gran Canaria	19572	Wind
Maspalomas II	25200	3.04	Gran Canaria	34016	Wind
UNELCO II	600	3.5	Gran Canaria	Industria I	Photovoltaic
Ayto. San Nicolas	5000	3.04	Gran Canaria	7608	Wind
Asociación de agricultores de la Aldea	5400	3.04	Gran Canaria	Irrigation	Wind
Sureste III	8000	3.5	Gran Canaria	133846	Wind
Aeropuerto I	1000	3.5	Gran Canaria	24791	Wind
Salinetas	16000	3.5	Gran Canaria	102424	Wind
Aeropuerto II	500	3.5	Gran Canaria	12396	Photovoltaic
Hoya León	1500	3.5	Gran Canaria	Irrigation	Wind
Bco. García Ruiz	1000	3.5	Gran Canaria	Irrigation	Wind
Mando Aéreo de Canarias	1000	3.5	Gran Canaria	3000	Wind
UNELCO I	1000	3.5	Gran Canaria	Industria I	Wind
Anfi del Mar	1500	3.04	Gran Canaria	3000	Wind
Norcrost. S.A.	170	3.04	Gran Canaria	340	Photovoltaic
Adeje Arona	30000	3.04	Tenerife	126728	Wind
Gran Hotel Anthelia Park		3.04	Tenerife	Tourism	Photovoltaic
La Caleta (Ayto. Adeje)	10000	3.04	Tenerife	20000	Wind

UTE Tenerife Oeste	14000	2.16	Tenerife	40000	Wind
Hotel Sheraton La Caleta		3.04	Tenerife	Tourism	Photovoltaic
Hotel Gran Tacande		3.04	Tenerife	Tourism	Photovoltaic
Hotel Rocas de Nivaria. Playa Paraíso		3.04	Tenerife	Tourism	Photovoltaic
Hotel Bahía del Duque. Costa Adeje		3.04	Tenerife	Tourism	Photovoltaic
Siam Park		3.04	Tenerife	Tourism	Photovoltaic
Tenerife-Sol S. A.		3.04	Tenerife	Tourism	Photovoltaic
Hotel Conquistador. P. de Las Américas		3.04	Tenerife	Tourism	Photovoltaic
Arona Gran Hotel. Los Cristianos		3.04	Tenerife	Tourism	Photovoltaic
Bonny S.A.. Finca El Fraile.		3.04	Tenerife	Tourism	Photovoltaic
El Toscal. La Estrella (C. Regantes Las Galletas)		3.04	Tenerife	Tourism	Photovoltaic
Complejo Mare Nostrum. P. Las Américas		3.04	Tenerife	Tourism	Photovoltaic
Hotel Villa Cortés		3.04	Tenerife	Tourism	Photovoltaic
Buena Vista Golf S.A.		3.04	Tenerife	Tourism	Photovoltaic
Rural Teno		3.04	Tenerife	Agrícola	Photovoltaic
Ropa Rent. S.A. (P.I. Güímar)		3.04	Tenerife	Industria 1	Photovoltaic
Unelco	600	3.5	Tenerife	Industria 1	Photovoltaic
I.T.E.R. Cabildo de Tenerife	14	3.5	Tenerife	Industria 1	Photovoltaic
C.T. en P.I. de Granadilla		3.5	Tenerife	Industria 1	Photovoltaic
Bonny S.A.. Finca El Confital.		3.5	Tenerife	Irrigation	Photovoltaic
Polígono Industrial de Granadilla (portátil)		3.5	Tenerife	Industria 1	Photovoltaic
UTE Desalinizadora de Granadilla	14000	3.04	Tenerife	50146	Wind
Guía de ISORA Hoya de la leña		3.5	Tenerife	Tourism	Photovoltaic
Club Campo Guía de Isora. Abama		3.5	Tenerife	Tourism	Photovoltaic
Hotel Meliá Palacio de Isora. Alcalá. Loro Parque		3.5	Tenerife	Tourism	Photovoltaic
Santa Cruz I	20000	3.04	Tenerife	204856	Wind
Recinto Portuario Santa Cruz (portátil)		3.04	Tenerife	Industria 1	Photovoltaic
CEPSA	1000	3.04	Tenerife	Industria 1	Wind
Hotel Playa la Arena		3.04	Tenerife	Tourism	Photovoltaic
Hotel Jardín Tecina	2000	3.04	La Gomera	4000	Wind
La Restinga	500	3.5	El Hierro	297	Photovoltaic
La Restinga	1200	3.04	El Hierro	712	Wind
El Cangrejo	1200	3.04	El Hierro	2478	Wind
El Cangrejo	1200	3.04	El Hierro	2478	Wind
El Golfo	1350	3.04	El Hierro	4093	Wind

Table 2. Carbon footprint according to the technological structure of the generation park that uses oil products in the Canary Islands and broken down by islands. Year 2017. [20].

CO ₂ Footprint per non-renewable technology in Canaries (tCO ₂)							
Technology	Gran Canaria	Tenerife	Lanzarote	Fuerteventura	La Palma	La Gomera	El Hierro
Vapor Turbine	1362662	1246147	-	-	-	-	-
Gas Turbine	68801	156680	15619	117063	712	-	-
Motor Diesel	171514	194975	569353	376548	163000	49882	16038
Combined Cycle	909959	947529	-	-	-	-	-

Table S3. CO₂ footprint of each non-renewable technology per MWh in the Canary Islands (tCO₂/MWh). Year 2017. [20].

CO ₂ Footprint of each non-renewable technology per MWh in Canarias (tCO ₂ /MWh)							
Technology	Gran Canaria	Tenerife	Lanzarote	Fuerteventura	La Palma	La Gomera	El Hierro
Diesel Motor	0.901	0.901	-	-	-	-	-
Gas Turbine	1.117	1.114	1.111	1.111	1.111	-	-
Vapor Turbine	0.653	0.651	0.650	0.650	0.652	0.651	0.652
Combinated Cycle	0.600	0.596	-	-	-	-	-

Table S4. Existing seawater desalination plants in the Canary Islands. (Source FCCA 2013 and REE 2020).

Name of the plant	Production (m ³ /d)	Consume (kWh/m ³)	Economic Cost (€/m ³)	Carbon Footprint (tCO ₂ /m ³)	Ecological Footprint (ha/year/tCO ₂ /m ³)
Cercado de Don Andrés	200	3.5	0.040448289	0.0021	0.00105
Lanzarote III 1	10000	3.5	0.040448289	0.0021	0.00105
Lanzarote III 2	5000	3.5	0.040448289	0.0021	0.00105
Lanzarote III 3	5000	3.5	0.040448289	0.0021	0.00105
Lanzarote IV	20000	3.5	0.040448289	0.0021	0.00105
Lanzarote V	18000	2.61	0.02773597	0.001566	0.00072
Aeropuerto	700	3.04	0.035132228	0.001824	0.000912
Agua Park	30	3.04	0.035132228	0.001824	0.000912
Apartamentos Ficus	60	3.5	0.040448289	0.0021	0.00105
Apartamentos Puerto Tahiche	150	3.5	0.040448289	0.0021	0.00105
Apartamentos Trebol	80	3.5	0.040448289	0.0021	0.00105
Ercros	2500	3.5	0.040448289	0.0021	0.00105
Ercros	2200	3.5	0.040448289	0.0021	0.00105
Famara	350	3.5	0.040448289	0.0021	0.00105
Hotel Golf y Mar	90	3.5	0.040448289	0.0021	0.00105
Hotel Gran Meliá Salinas	400	2.61	0.030162867	0.001566	0.000783
Hotel Playa Verde	250	3.5	0.040448289	0.0021	0.00105
Hotel Teguisse Playa	250	3.5	0.040448289	0.0021	0.00105
La Galea	150	3.04	0.035132228	0.001824	0.000912
Lanzarote Beach Club II	70	3.04	0.035132228	0.001824	0.000912
Las Arenas. Costa Teguisse	80	3.04	0.035132228	0.001824	0.000912
Playa Roca	250	3.04	0.035132228	0.001824	0.000912
Apartamentos Don Paco Castilla	320	2.61	0.030162867	0.001566	0.000783
Apartamentos Sol Lanzarote	350	2.61	0.030162867	0.001566	0.000783
Cdad Apartamentos CAMP		2.61	0.030162867	0.001566	0.000783
Holiday Land S.A.	3000	3.5	0.040448289	0.0021	0.00105

Hotel Fariones Playa	500	3.5	0.040448289	0.0021	0.00105
Hotel Playa Azul	300	3.5	0.040448289	0.0021	0.00105
Hoteles Canarios S.A.		3.5	0.040448289	0.0021	0.00105
Iberhotel		3.5	0.040448289	0.0021	0.00105
Zorilla	40	3.04	0.035132228	0.001824	0.000912
Hotel Jameos Playa	336	2.61	0.030162867	0.001566	0.000783
La Santa Sport I	250	3.5	0.040448289	0.0021	0.00105
La Santa Sport II	250	3.5	0.040448289	0.0021	0.00105
Ria La Santa	400	3.5	0.040448289	0.0021	0.00105
Apartamentos Son Boy Family Suites	500	3.04	0.035132228	0.001824	0.000912
Bungalows Atlantic Gardens		3.5	0.040448289	0.0021	0.00105
Costa los Limones S.A.	350	3.5	0.040448289	0.0021	0.00105
Hotel Corbeta		3.5	0.040448289	0.0021	0.00105
Hotel Costa Calero	324	3.04	0.035132228	0.001824	0.000912
Marina Rubicón	300	3.04	0.035132228	0.001824	0.000912
Hotel Paradise Island	300	3.04	0.035132228	0.001824	0.000912
Hotel Princesa Yaiza	500	3.04	0.035132228	0.001824	0.000912
Hotel Rubicón Palace	450	3.04	0.035132228	0.001824	0.000912
Inalsa Sur 1	600	3.5	0.040448289	0.0021	0.00105
Inalsa Sur 2	1200	3.5	0.040448289	0.0021	0.00105
Inalsa Sur 3	3000	3.5	0.040448289	0.0021	0.00105
Janubio		3.04	0.035132228	0.001824	0.000912
Lanzasur Club	200	3.04	0.035132228	0.001824	0.000912
Playa Blanca S.A.		3.5	0.040448289	0.0021	0.00105
Club Lanzarote	4500	3.5	0.040448289	0.0021	0.00105
Apartamentos Moromar	250	3.5	0.040448289	0.0021	0.00105
Gea Fonds Numero Uno Lanzarote S.A.		3.5	0.040448289	0.001623494	0.0021
Grupo Rosa	1000	3.5	0.040448289	0.0021	0.00105
Hipotels	300	3.5	0.040448289	0.0021	0.00105
Hotel Corona	300	3.5	0.040448289	0.0021	0.00105
Hotel Costa Calero S.L.	300	3.04	0.035132228	0.001824	0.000912
Hotel Sunbou	500	3.04	0.035132228	0.001824	0.000912
Isla Lobos	100	3.04	0.035132228	0.001824	0.000912
Leas Hotel S.A.		3.5	0.040448289	0.0021	0.00105
Niels Prahm		3.5	0.040448289	0.0021	0.00105
Occidental Hotel Oasis	250	3.04	0.035132228	0.001824	0.000912
Playa Flamingo	200	3.04	0.035132228	0.001824	0.000912
Tjaereborg Timesharing. S.A.	500	3.04	0.035132228	0.001824	0.000912
Empresa Mixta de Aguas de Antigua. S.L.	4800	3.04	0.035132228	0.001824	0.000912
Grupo Turístico Barceló. S.L.	240	3.5	0.040448289	0.0021	0.00105
Aguas Cristóbal Franquis. S.L.	1200	3.5	0.040448289	0.0021	0.00105
Anjoca Canarias. S.A.	3000	3.5	0.040448289	0.0021	0.00105
Ramiterra. S.L.	3000	3.04	0.035132228	0.001824	0.000912
Inver Canary Dos. S.L.	300	3.04	0.035132228	0.001824	0.000912
Suministros de Agua de La Oliva. S.A.	9000	3.04	0.035132228	0.001824	0.000912
Consorcio Abastecimiento de Aguas a Fuerteventura	4000	3.04	0.035132228	0.001824	0.000912
Parque de Ocio y Cultura BAKU 1	300	3.04	0.035132228	0.001824	0.000912
Parque de Ocio y Cultura BAKU 2	90	3.04	0.035132228	0.001824	0.000912
RIU Palace Tres Islas	100	3.5	0.040448289	0.0021	0.00105
RIU Oliva Beach	400	3.5	0.040448289	0.0021	0.00105
Nombredo. S.L.	500	3.5	0.040448289	0.0021	0.00105

Consortio Abastecimiento de Aguas a					
Fuerteventura	4400	3.5	0.040448289	0.0021	0.00105
Puertito de la Cruz	60	3.5	0.040448289	0.0021	0.00105
Vinamar. S.A.	3600	3.5	0.040448289	0.0021	0.00105
Fuercan. S.L. Cañada del Rio I	2000	3.5	0.040448289	0.0021	0.00105
Fuercan. S.L. Cañada del Rio II	1000	3.04	0.035132228	0.001824	0.000912
Fuercan. S.L. Cañada del Rio III	2000	3.04	0.035132228	0.001824	0.000912
Club Aldiana	200	3.5	0.040448289	0.0021	0.00105
Erwin Sick	30	3.5	0.040448289	0.0021	0.00105
Esquinzo Urbanización II	1200	3.5	0.040448289	0.0021	0.00105
Esquinzo Urbanización III	1200	3.5	0.040448289	0.0021	0.00105
Hotel Sol Élite Los Gorrones 1	400	3.5	0.040448289	0.0021	0.00105
Hotel Sol Élite Los Gorrones 2	400	3.5	0.040448289	0.0021	0.00105
Stella Canaris I	300	3.5	0.040448289	0.0021	0.00105
Stella Canaris II	300	3.5	0.040448289	0.0021	0.00105
Stella Canaris III	250	3.5	0.040448289	0.0021	0.00105
Hotel H 10 Playa Esmeralda.	250	3.5	0.040448289	0.0021	0.00105
Hotel "Club Paraíso Playa"	300	3.5	0.040448289	0.0021	0.00105
Urbanización Costa Calma.	110	3.5	0.040448289	0.0021	0.00105
Urbanización Tierra Dorada.	120	3.5	0.040448289	0.0021	0.00105
Zoo-Parque La Lajita.	1300	3.5	0.040448289	0.0021	0.00105
Apartamentos Esmeralda Maris	120	3.5	0.040448289	0.0021	0.00105
Hotel H10 Tindaya	280	3.5	0.040448289	0.0021	0.00105
Aparthotels Morasol	80	3.5	0.040448289	0.0021	0.00105
Consortio Abastecimiento de Aguas a					
Fuerteventura	36500	3.5	0.040448289	0.0021	0.00105
Aeropuerto	500	3.5	0.040448289	0.0021	0.00105
GranTarajal	4000	3.5	0.040448289	0.0021	0.00105
Sotavento. S.A.	2925	3.5	0.040448289	0.0021	0.00105
Arucas-Moya I	10000	3.5	0.040448289	0.0021	0.00105
Granja experimental	500	3.5	0.040448289	0.0021	0.00105
Granja experimental	500	3.5	0.040448289	0.0021	0.00105
Comunidad Fuentes de Quintanilla	800	3.04	0.035132228	0.001824	0.000912
Granja experimental	500	3.5	0.040448289	0.0021	0.00105
Gáldar-Agaete I	3000	3.5	0.040448289	0.0021	0.00105
Gáldar II	7000	3.04	0.035132228	0.001824	0.000912
Aragua	15000	3.5	0.040448289	0.0021	0.00105
Guía I	5000	3.5	0.040448289	0.0021	0.00105
Guía II	5000	2.61	0.030162867	0.001566	0.000783
Félix Santiago Melián	5000	2.61	0.030162867	0.001566	0.000783
Las Palmas III	65000	3.5	0.040448289	0.0021	0.00105
Las Palmas IV	15000	2.61	0.030162867	0.001566	0.000783
BAXTER S.A.	100	3.5	0.040448289	0.0021	0.00105
El Corte Inglés. S.A.	300	3.5	0.040448289	0.0021	0.00105
Anfi del Mar I	250	3.5	0.040448289	0.0021	0.00105
Anfi del Mar II	250	3.5	0.040448289	0.0021	0.00105
AQUALING	2000	3.04	0.035132228	0.001824	0.000912
Puerto Rico I	4000	3.04	0.035132228	0.001824	0.000912
Puerto Rico II	4000	3.04	0.035132228	0.001824	0.000912
Hotel Taurito	400	3.04	0.035132228	0.001824	0.000912
Hotel Costa Meloneras	300	3.04	0.035132228	0.001824	0.000912
Hotel Villa del Conde	500	3.04	0.035132228	0.001824	0.000912
Bahia Feliz	600	3.5	0.040448289	0.0021	0.00105

Bonny	8000	3.5	0.040448289	0.0021	0.00105
Maspalomas I Mar	14500	3.5	0.040448289	0.0021	0.00105
Maspalomas II	25200	3.04	0.035132228	0.001824	0.000912
UNELCO II	600	3.5	0.040448289	0.0021	0.00105
Ayto. San Nicolas	5000	3.04	0.035132228	0.001824	0.000912
Asociación de agricultores de la Aldea	5400	3.04	0.035132228	0.001824	0.000912
Sureste III	8000	3.5	0.040448289	0.0021	0.00105
Aeropuerto I	1000	3.5	0.040448289	0.0021	0.00105
Salinetas	16000	3.5	0.040448289	0.0021	0.00105
Aeropuerto II	500	3.5	0.040448289	0.0021	0.00105
Hoya León	1500	3.5	0.040448289	0.0021	0.00105
Bco. García Ruiz	1000	3.5	0.040448289	0.0021	0.00105
Mando Aéreo de Canarias	1000	3.5	0.040448289	0.0021	0.00105
UNELCO I	1000	3.5	0.040448289	0.0021	0.00105
Anfi del Mar	1500	3.04	0.035132228	0.001824	0.000912
Norcrost. S.A.	170	3.04	0.035132228	0.001824	0.000912
Adeje Arona	30000	3.04	0.035132228	0.001824	0.000912
Gran Hotel Anthelia Park		3.04	0.035132228	0.001824	0.000912
La Caleta (Ayto. Adeje)		3.04	0.035132228	0.001824	0.000912
Hotel Sheraton La Caleta		3.04	0.035132228	0.001824	0.000912
Hotel Gran Tacande		3.04	0.035132228	0.001824	0.000912
Hotel Rocas de Nivaria. Playa Paraíso		3.04	0.035132228	0.00141012	0.001824
Hotel Bahía del Duque. Costa Adeje		3.04	0.035132228	0.00141012	0.001824
Siam Park		3.04	0.035132228	0.001824	0.000912
Tenerife-Sol S. A.		3.04	0.035132228	0.001824	0.000912
Hotel Conquistador. P. de Las Américas		3.04	0.035132228	0.00141012	0.001824
Arona Gran Hotel. Los Cristianos		3.04	0.035132228	0.001824	0.000912
Bonny S.A.. Finca El Fraile.		3.04	0.035132228	0.001824	0.000912
El Toscal. La Estrella (C. Regantes Las Galletas)		3.04	0.035132228	0.00141012	0.001824
Complejo Mare Nostrum. P. Las Américas		3.04	0.035132228	0.00141012	0.001824
Hotel Villa Cortés		3.04	0.035132228	0.001824	0.000912
Buenavista Golf S.A.		3.04	0.035132228	0.001824	0.000912
Rural Teno		3.04	0.035132228	0.001824	0.000912
Ropa Rent. S.A. (P.I. Güímar)		3.04	0.035132228	0.001824	0.000912
Unelco	600	3.5	0.040448289	0.0021	0.00105
I.T.E.R. Cabildo de Tenerife	14	3.5	0.040448289	0.0021	0.00105
C.T. en P.I. de Granadilla		3.5	0.040448289	0.0021	0.00105
Bonny S.A.. Finca El Confital.		3.5	0.040448289	0.0021	0.00105
Polígono Industrial de Granadilla (portatil)		3.5	0.040448289	0.001623494	0.0021
Guia de ISORA Hoya de la leña		3.5	0.040448289	0.0021	0.00105
Club Campo Guía de Isora. Abama		3.5	0.040448289	0.001623494	0.0021
Hotel Meliá Palacio de Isora. Alcalá.		3.5	0.040448289	0.001623494	0.0021
Loro Parque		3.5	0.040448289	0.0021	0.00105
Santa Cruz I	20000	3.04	0.035132228	0.001824	0.000912
Recinto Portuario Santa Cruz (portátil)		3.04	0.035132228	0.00141012	0.001824
CEPSA	1000	3.04	0.035132228	0.001824	0.000912
Hotel Playa la Arena		3.04	0.035132228	0.001824	0.000912
Hotel Jardín Tecina	2000	3.04	0.035132228	0.001824	0.000912
La Restinga	500	3.5	0.040448289	0.0021	0.00105
La Restinga	1200	3.04	0.035132228	0.001824	0.000912
El Cangrejo	1200	3.04	0.035132228	0.001824	0.000912
El Cangrejo	1200	3.04	0.035132228	0.001824	0.000912
El Golfo	1350	3.04	0.035132228	0.001824	0.000912

Table S5. Percentages of water consumption by islands and sectors (%). Year 2017. [20].

Water consume in Canarias per sectors (%).							
Consume	Lanzarote	Fuerteventura	Gran Canaria	Tenerife	La Gomera	El Hierro	La Palma
Urban	26%	29%	32%	27%	9%	23%	8%
Touristic	40%	48%	11%	10%	9%	3%	2%
Industrial	3%	4%	4%	5%	0%	1%	0%
Irrigation	23%	11%	43%	49%	69%	63%	77%
Losses	7%	9%	9%	9%	13%	9%	13%
Total	100%	100%	100%	100%	100%	100%	100%

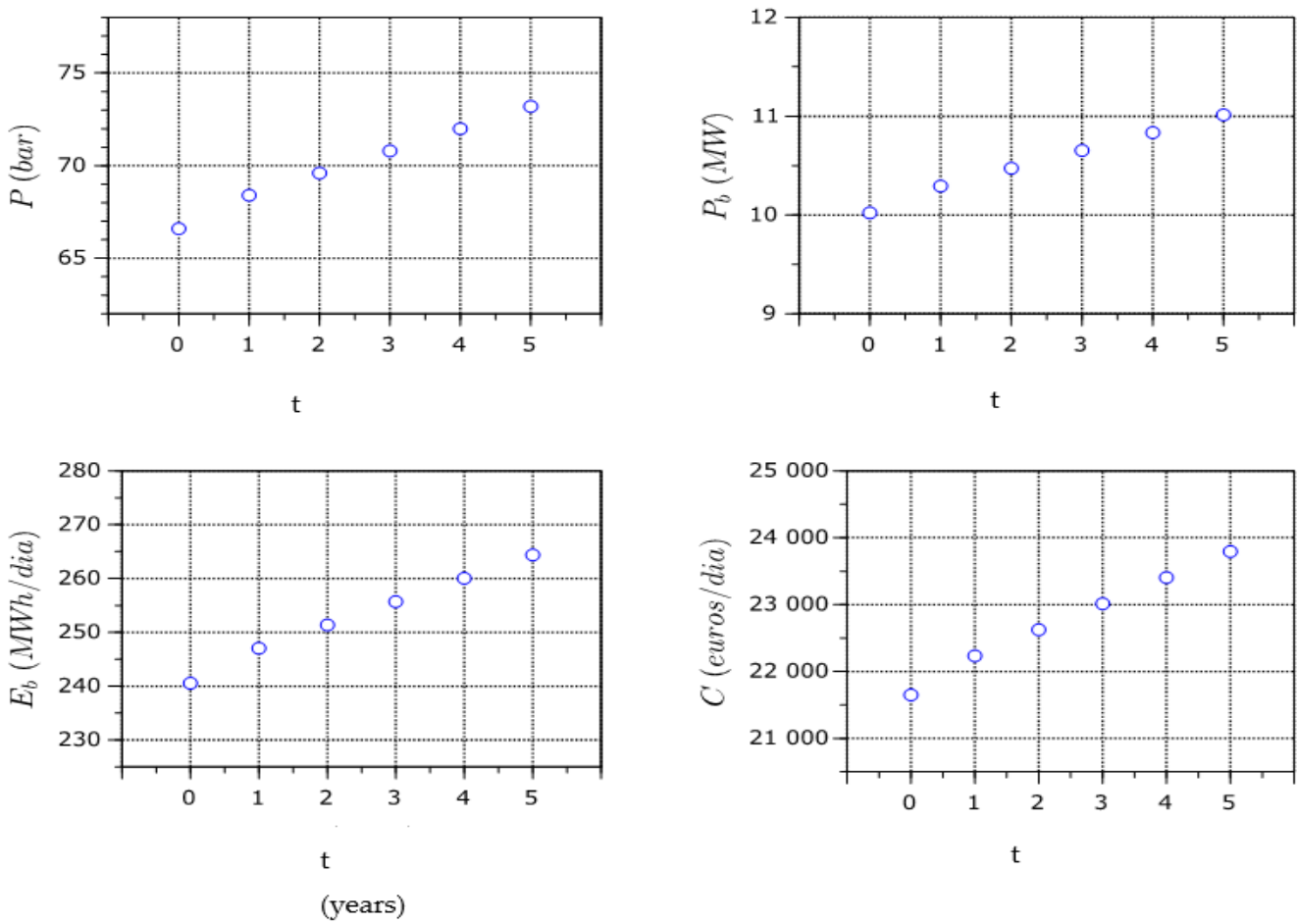


Figure S1. Pressure, Power, Energy and Cost vs.