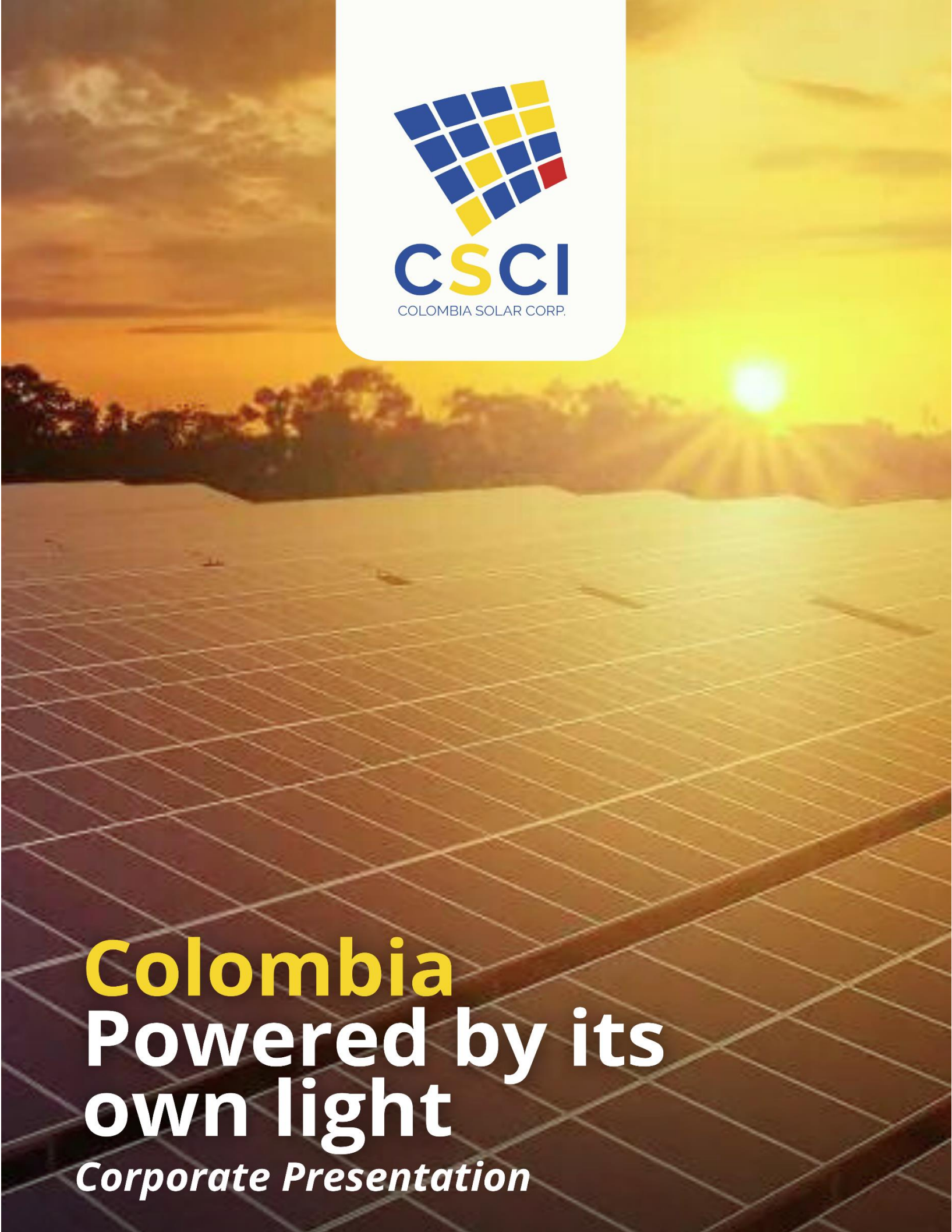


Colombia
Powered by its own light

Corporate Presentation

Colombia Solar Corporación Internacional S.A.S. is a Colombian company comprised of highly experienced professionals in both the Electric Power and Renewable Energy sectors. The company's primary objective is to contribute to the country's energy needs, with a strong focus on Renewable Energy, particularly Solar Photovoltaic Energy, and in compliance with Law 1715 of 2014, which regulates the development of non-conventional renewable energy sources.

Colombia Solar's core areas of expertise, developed through years of experience, include photovoltaic solar installations connected to the Distribution Grid (such as solar farms and rooftop installations), self-consumption or self-generation systems, off-grid installations (powered by either renewable energy alone or hybrid solar-wind-diesel systems), solar-powered water purification systems, and solar-based pumping and irrigation solutions.

In addition, Colombia Solar brings extensive experience in electrical installations throughout the country, offering strong capabilities in logistics, civil and electrical engineering, and significant expertise in low and medium voltage systems (including overhead and underground distribution lines, substations, transformers, and internal installations). The company has the infrastructure and resources necessary to deliver projects efficiently and successfully across Colombia.

The company's renewable energy expertise is further enhanced through its Spanish partners. Atersol (www.atersol.es), a company formed by seasoned professionals, has been active in the sector since 2007. Through the Immodo Renta Sol company (part of the Immodo Group), Atersol has developed a significant number of renewable energy installations in Spain, as well as in Japan and several countries in Sub-Saharan Africa. Their involvement in the photovoltaic sector spans across project development, engineering, construction, commissioning, and maintenance.

COMPLETED PROJECTS

The portfolio presents a selection of photographs showcasing the key projects carried out by the professionals at ATERSOL across three main areas of activity:

1. Grid-Connected Solar Photovoltaic Farms
2. Rooftop Solar Photovoltaic Installations
3. Self-Generation and Solar Pumping Systems

1-Grid-Connected Photovoltaic Solar Gardens

CODE	DESCRIPTION	LOCATION	POWER	TOTAL PROJECT PRICE (€)
H1	IMMODO SOLAR-HUERTO SOLAR DE LAS TIESAS, ESPAÑA (2000Kw)	LAS TIESAS (AB)	2.558,65 kWp	19.189.875
H2	IMMODO SOLAR-HUERTO SOLAR EL CARRASCAL, ESPAÑA (550 KW)	CALZADILLA (CA)	660kWp	4.950.000
H3	IMMODO SOLAR-HUERTO SOLAR AREVALO, ESPAÑA (1.920 KW)	ALDEA SECA (AV)	2.369,97 kWp	16.777.478
H4	IMMODO SOLAR-HUERTO SOLAR EN OLMEDA DE LA CUESTA, ESPAÑA (6.000KW)	OLMEDA DE LA CUESTA (CU)	6.874,56 KWp	48.510.000
H5	IMMODO SOLAR-HUERTO SOLAR DE TORREMOCHA (550KW)	TORREMOCHA (CA)	604,74 kWp	2.285.550
H6	IMMODO SOLAR-HUERTO SOLAR EN CAMPOLLANO, ESPAÑA (5.000KW)	ALBACETE (AL)	6.031,55 KWp	45.236.625
H7	CUESTA BLANCA, ESPAÑA (3MW)	CUESTA BLANCA (MU)	3.648,15 kWp	16.416.675
H8	ECE-HUERTO SOLAR DE TSUKUBA MIRAI, JAPON (2.000 KW)	TSUKUBA	2.200 kWp	7.700.000

PHOTO REPORT
(For more photos, please visit our website)

HUERTA SOLAR TSUKUBA MIRAI, JAPON, 2,2 MWn

HUERTA SOLAR LAS TIESAS, ESPAÑA, 2 MWn

HUERTA SOLAR OLMEDA DE LA CUESTA, ESPAÑA, 6 MWn

HUERTA SOLAR CAMPOLLANO, ESPAÑA, 5 MWn

2- PHOTOVOLTAIC INSTALLATIONS ON ROOFS

CODE	DESCRIPTION	LOCATION	POWER	TOTAL PROJECT PRICE (€)
C1	MARTIJA S.L. (15KW)	SISANTE (CU)	18,23kWp	109.380
C2	ENERGÍA SOLAR LOSADA Y DEL OLMO S.L. (40 KW)	HELLIN (AB)	47,52kWp	285.120
C2	ENERGÍA SOLAR LOSADA Y DEL OLMO S.L. (24 KW)	HELLIN (AB)	29,04kWp	174.240
C3	INASAN AGRO S.L. (15KW)	SISANTE (CU)	17,82kWp	106.920
C4	TINFOCER XXI S.L. (5KW)	SISANTE (CU)	5,28kWp	31.680
C5	CONSTRUCCIONES METALICAS MOREDEZ S.L. (20KW)	ALBATANA (AB)	24,20kWp	145.200
C6	JUAN LASERNA ROMERO (5kW)	SISANTE (CU)	4,84kWp	29.040
C7	JUAN MIGUEL LASERNA ROMERO (10KW)	SISANTE (CU)	12,49kWp	74.940
C8	MELQUIADES SANCHEZ SANCHEZ (90 KW)	CHINCHILL (AB)	101,64kWp	609.840
C9	ARRENDAMIENTOS NAVARRO Y LOPEZ C.B. (15KW)	ALBACETE	17,82kWp	106.920
C10	TEXTILES SAR S.L. (96KW)	HELLIN (AB)	121,0 kWp	726.000
C11	IMMODO RENTA SOL S.L (99KW)	LA RODA (AB)	101,65kWp	609.900
C12	INSOLAR LA RODA S.L. (99KW)	LA RODA (AB)	101,65kWp	609.900
C16	AGUSTIN GARCIA GARCIA (96KW)	SONSECA (TO)	120,05kWp	720.300
C18	MULLISOL 1 S.L. (19,95KW)	LIETOR (AB)	25,08 kWp	150.480
C18	MULLISOL 2 S.L. (19,95KW)	LIETOR (AB)	25,08 kWp	150.480
C19	INSOLAR LA RODA S.L. (40,5KW)	HELLIN (AB)	39,16 kWp	234.960
C20	MATILDE PINAR MORATALLA (9,9KW)	SISANTE (CU)	11,88kWp	71.280
C21	AGUSTIN GARCIA PECES (96KW)	SONSECA (TO)	120,05kWp	720.300

C23	RENOVABLES GARRIGOS GONZALEZ C.B. (25KW)	BALAZOTE (AB)	27,27kWp	163.620
C24	RENOVABLES GARRIGOS CUESTA C.B. (25KW)	BALAZOTE (AB)	27,27kWp	163.620
C25	RENOVABLES GARRIGOS NUÑEZ C.B. (25KW)	BALAZOTE (AB)	27,27kWp	163.620
C26	RENOVABLES GARRIGOS PADILLA C.B. (25KW)	BALAZOTE (AB)	27,27kWp	163.620
C27	JOAQUIN BAUTISTA SIMARRO (20KW)	LA RODA (AB)	24,08kWp	144.480
C28	S.A.T. HERMANOS PEÑARANDA (45KW)	INIESTA (CU)	47,30 kWp	283.800
C29	IMMODO RENTASOL S.L. (99KW)	ISSO-HELLIN (AB)	124 kWp	744.000
C30	TRANSVIMA HERRERA S.L. (45KW)	LA HERRERA (AB)	54,18 kWp	325.080
C31	IM3DIA COMUNICACIÓN S.L. (30KW)	ALBACETE	36,12 kWp	216.720
C32	FELIXCAN S.L. (45KW)	ALBACETE	52,46 kWp	314.760
C33	I3SOLUTION LEARNING S.L. (15KW)	ALBACETE	18,06 kWp	108.360
C38	JOSE ALEMAN ALEMAN (80KW)	BLANCA (MU)	80,21 kWp	481.260
C40	S.A.T. HERMANOS LOPEZ VALERO (25KW)	HOYA GONZALO(AB)	30,10 kWp	180.600
C41	PARKING MONACO (15KW)	BLANCA (MU)	18,48 kWp	110.880
C42	PLASOMAN S.L. (20KW)	ALBACETE	23,65 kWp	141.900
C43	SEDA ARQUITECTURA (48KW)	ALBACETE	55,76 kWp	334.560
C44	ASPRONA (90KW)	ALBACETE	95,93 kWp	575.580
C45	S.A.T. HERMANOS PAJUELO (100KW)	ALMOHARIN (CA)	111,80 kWp	670.800
C46	MIGUEL CALDERÓN LOZANO (20KW)	ALBACETE	24,08 kWp	144.480
N34	NUEVO ESPACIO INDUSTRIAL S.L. (100KW)	LA GINETA (AB)	114,40 kWp	541.800
CN35	HUERTA SOLAR URBANA 12 (65KW)	MORALEJA (CA)	71,72 kWp	322.740

CN36	HUERTA SOLAR URBANA 13 (45KW)	MORALEJA (CA)	51,48 kWp	231.660
CN37	HUERTA SOLAR URBANA 11 (70KW)	MINAYA (AB)	78,59 kWp	353.655
CN39	INSTALACIONES SOLARES DE TARAZONA CB (90KW)	TARAZONA DE LA MANCHA (AB)	98,44 kWp	442.980
C50	HSC CASASIMARRO_1 (80KW)	CASASIMARRO(CU)	93,28 kWp	419.760
C51	HSC PEDRO MUÑOZ (95KW)	PEDRO MUñOZ(CR)	109,20 kWp	491.400
C54	IMMODO PEDRO MUÑOZ_1 (60KW)	PEDRO MUñOZ(CR)	69,75 kWp	313.875
C54	IMMODO PEDRO MUÑOZ_1 (40KW)	PEDRO MUñOZ(CR)	39,60 kWp	178.200
C55	IMMODO VILLARROBLEDO_1 (70KW)	VILLARROBLEDO(AB)	81,13 kWp	365.085
C56	CORIA TOURS S.L. (20KW)	CORIA (CA)	22,95 kWp	103.275
C57	EURO STAR BUS S.L. (15KW)	CORIA (CA)	18,23 kWp	82.035
C60	HSC HELLIN_1 (45KW)	HELLIN (AB)	50,48kWp	227.160
C61	HSC HELLIN_2 (70KW)	HELLIN (AB)	79,08kWp	355.860
C62	PEDRO MORENO HERNANDEZ (5KW)	ARCHENA (MU)	5,94kWp	26.730
C63	INVERSIONES JOSE Y CARLA S.L. (5KW)	ARCHENA (MU)	5,94kWp	26.730
C64-1	IMMODO CHINCHILLA 1.1 (100KW)	CHINCHILLA (AB)	121,50 kWp	546.750
C64-2	IMMODO CHINCHILLA 1.2 (80KW)	CHINCHILLA MONTEARAGON(AB)	79,56 kWp	358.020
C64-3	IMMODO CHINCHILLA 1.3 (70KW)	CHINCHILLA MONTEARAGON(AB)	85,05 kWp	382.725
C64-4	IMMODO CHINCHILLA 1.4 (50KW)	CHINCHILLA MONTEARAGON(AB)	60,75 kWp	273.375
C65-1	IMMODO HELLIN 1.1 (100KW)	HELLIN (AB)	121,50kWp	546.750
C65-2	IMMODO HELLIN 1.2 (100KW)	HELLIN (AB)	110,70kWp	498.150

C65-3	IMMODO HELLIN 1.3 (60KW)	HELLIN (AB)	68,85kWp	308.925
C67	HSC CORIA_1 (10KW)	CORIA (CACERES)	11,48kWp	51.660
C68	HSC CORIA_2 (10KW)	CORIA (CACERES)	11,48kWp	51.660
C71	HSC TRUJILLO_1 (15KW)	CORIA (CACERES)	16,20kWp	72.900
C73	HSC CORIA_3 (10KW)	CORIA (CACERES)	11,48kWp	51.660
C75	HSC CAMPOLLANO ALBACETE_1 (20KW)	ALBACETE	22,86kWp	102.870
C76	HSC CAMPOLLANO ALBACETE_2 (20KW)	ALBACETE	22,95kWp	103.275
C77	HSC CAMPOLLANO ALBACETE_3 (20KW)	ALBACETE	22,95kWp	103.275
C78	ASPRONA ROMICA_1 (100KW)	ALBACETE	100,28kWp	451.260
C80	IMMODO ASPRONA ROMICA_1 (80KW)	ALBACETE	93,15 kWp	419.175
C81	IMMODO ASPRONA VILLARROBLEDO_1 (98KW)	VILLARROBLEDO (ALBACETE)	90,95 kWp	409.275
C83	IMMODO ORGAZ_ 2 (70KW)	ORGAZ(TOLEDO)	70,5 kWp	317.250
C84	HSC LA RODA_1 (20KW)	LA RODA (ALBACETE)	23,63 kWp	106.335
C86	HSC LA ALBERCA DE ZANCARA_ 1 (18KW)	LA ALBERCA DE ZANCARA(CUENCA)	19,24 kWp	86.580
C87	HSC LA ALBERCA DE ZANCARA_2 (20KW)	LA ALBERCA DE ZANCARA(CUENCA)	22,18 kWp	99.810
C88	HSC CASAS DE FERNANDO ALONSO_2 (20KW)	CASAS FERNANDOALONSO (CUENCA)	22,56 kWp	101.520
C89	CARMEN PEREZ MOLINA (20KW)	LAS PEDROÑERAS(CUENCA)	24,24 kWp	109.080
C90	LUIS GALLEGO HARO (20KW)	LAS PEDROÑERAS(CUENCA)	24,56 kWp	110.520
C91	VICTORIA HARO OLMOS (20KW)	LAS PEDROÑERAS(CUENCA)	24,56 kWp	110.520
C95	I3SOLUTION LEARNING S.L._2 (15KW)	ALBACETE	18,09 kWp	81.405
C96	HERO MAMP C.B. (10KW)	ALATOZ (ALBACETE)	10,8 kWp	48.600

C97	HSC CORIA_4 (10KW)	CORIA (CACERES)	11,66kWp	52.470
C98	HSC CORIA_5 (9KW)	CORIA (CACERES)	9,93 kWp	44.685
C99	HSC CORIA_6 (8KW)	CORIA (CACERES)	8,80 kWp	39.600
C100	HSC CORIA_7 (20KW)	CORIA (CACERES)	22,73 kWp	102.285
C101	HSC CORIA_8 (9KW)	CORIA (CACERES)	10,36 kWp	46.620
C102	HSC CORIA_9 (9KW)	CORIA (CACERES)	10,36 kWp	46.620
C103	HSC CORIA_10 (9KW)	CORIA (CACERES)	10,35 kWp	46.575
C104	HSC LA ALBERCA DE ZANCARA_4 (15KW)	LA ALBERCA DE ZANCARA(CUENCA)	16,20 kWp	72.900
C105	INASAN AGRO S.L. (12KW)	SISANTE(CUENCA)	13,40 kWp	60.300
C106	Mª FRANCISCA GUIJARRO ARELLANO (15KW)	LAS PEDROÑERAS (CU)	17,94 kWp	80.730
C70-1	HSC HELLIN 3.1 (20KW)	HELLIN(ALBACETE)	22,80 kWp	102.600
C70-2	HSC HELLIN 3.2 (20KW)	HELLIN(ALBACETE)	23,04 kWp	103.680
C70-3	HSC HELLIN 3.3 (15KW)	HELLIN(ALBACETE)	17,28 kWp	77.760
C108	HSC TRUJILLO_2 (70KW)	TRUJILLO (CÁCERES)	80,04 kWp	360.180
C109	HSC TRUJILLO_3 (65KW)	TRUJILLO (CÁCERES)	74,88 kWp	336.960
C175	JOSE LUIS JIMENEZ CALLE (10 KW)	VILLAS BUENAS DE GATA (CÁCERES)	10,56 kWp	47.520
C114	ANTONIO RUBIO FAJARDO (7KW)	BALAZOTE(ALBACETE)	7,99 kWp	35.955
C94	CARLOS ROYO GARCIA (10KW)	ALATOZ (ALBACETE)	10,56 kWp	47.520
C117	DOLSALGAS S.L. (20KW)	ALBACETE	23,97 kWp	107.865
C143	IMMODO ELCHE ALMENDRA_1 (100KW)	ELCHE DE LA SIERRA (ALBACETE)	108,00 kWp	486.000
C144	IMMODO ELCHE ALMENDRA_2 (50KW)	ELCHE DE LA SIERRA (ALBACETE)	54,00 kWp	243.000
C144	IMMODO ELCHE ALMENDRA_2 (20KW)	ELCHE DE LA SIERRA (ALBACETE)	21,60 kWp	97.200
CS-1	UNIVERSIDAD POLITECNICA DE CARTAGENA	CARTEGENA (MURCIA)	27,72 kWp	124.740 124.740

	(UPTC)(25KW)			
C121	HSC HELLIN_4 (70KW)	HELLIN (ALBACETE)	82,80 kWp	296.800
C123	HSC MUNERA_1 (20KW)	MUNERA (ALBACETE)	23,04 kWp	80.640
C173	HSC YECLA_1 (100KW)	YECLA (MURCIA)	114,92 kWp	402.220
C111	HSC CAMPOLLANO_4 (100KW)	ALBACETE	114,95 kWp	402.325
C160	MANUEL SIMON ESPARCIA (20KW)	ALBACETE	23,10 kWp	80.850
C145	TALLERES CANOREA S.L.	HORCAJO DE SANTIAGO (CUENCA)	8,64 kWp	30.240
C146	ROMERO Y JIMENEZ C.B. (20KW)	CHINCHILLA DE MONTEARAGON (AB)	23,10 kWp	80.850
C126	HSC LA ALMARCHA_1 (20 kW)	LA ALMARCHA (CUENCA)	21,6 kWp	75.600
C141	HSC GRANJA DE ROCAMORA_1 (20KW)	GRANJA DE ROCAMORA (ALICANTE)	22,95 kWp	80.325
C142	HSC GRANJA DE ROCAMORA_2 (20KW)	GRANJA DE ROCAMORA (ALICANTE)	22,95 kWp	80.325
C124	PINCHAZOS VARGAS_1 S.L. (10KW)	VILLARROBLEDO (ALBACETE)	10,8 kWp	37.800
C163	HSC LAS PEDROÑERAS_2 (20 kW)	LAS PEDROÑERAS (CUENCA)	21,60 kWp	75.600
C115	HSC CORIA_11 (9 kW)	CORIA (CACERES)	9,6 kWp	33.600
C116	HSC CORIA_12 (20 kW)	CORIA (CACERES)	22,56 kWp	78.960
C122-1	HSC HELLIN_5.1 (20 kW)	HELLIN (ALBACETE)	22,77 kWp	79.695
C122-2	HSC HELLIN_5.2 (20 kW)	HELLIN (ALBACETE)	22,77 kWp	79.695
C162	HSC LAS PEDROÑERAS_1 (20 kW)	LAS PEDROÑERAS (CUENCA)	21,6 kWp	75.600
C159	HSC HELLIN_3.4 (15 kW)	HELLIN (ALBACETE)	17,48 kWp	61.180
C113	HSC VILLARROBLEDO_2 (99 kW)	VILLARROBLEDO (ALBACETE)	107,28 kWp	375.480
C119	HSC VILLARROBLEDO_1 (43 kW)	VILLARROBLEDO (ALBACETE)	46,4 kWp	162.400

C125	PINCHAZOS VARGAS_2 S.L. (20 kW)	VILLARROBLEDO (ALBACETE)	21,6 kWp	75.600
C130	HSC VILLARROBLEDO_3 (60 kW)	VILLARROBLEDO (ALBACETE)	64,5 kWp	225.750
C133	HSC VILLARROBLEDO_4 (40 kW)	VILLARROBLEDO (ALBACETE)	43,2 kWp	151.200
C134	HSC VILLARROBLEDO_5 (50 kW)	VILLARROBLEDO (ALBACETE)	54 kWp	189.000
C129	HSC VICAR_4 (20 kW)	VICAR (ALMERIA)	22,7 kWp	79.450
C135	HSC PULPI_1 (20 kW)	PULPI (ALMERIA)	22,7 kWp	79.450
C137	HSC ADRA_4 (15 kW)	ADRA (ALMERIA)	17,2 kWp	60.200
C128	HSC VICAR_1 (35 kW)	VICAR (ALMERIA)	40,1 kWp	140.350
C129	HSC VICAR_3 (35 kW)	VICAR (ALMERIA)	40,1 kWp	140.350
C149	HSC ANTAS_1 (50 kW)	ANTAS (ALMERIA)	54 kWp	189.000
C150	HSC ANTAS_2 (50 kW)	ANTAS (ALMERIA)	54 kWp	189.000
C151	HSC ANTAS_3 (40 kW)	ANTAS (ALMERIA)	43,2 kWp	151.200
C152	HSC ANTAS_4 (40 kW)	ANTAS (ALMERIA)	43,2 kWp	151.200
C153	HSC ANTAS_5 (45 kW)	ANTAS (ALMERIA)	51,6 kWp	180.600
C120	HSC HUMANES DE MOHERNANDO_1 (470 kW)	HUMANES DE MOHERNANDO(GU)	570,6 kWp	1.997.100

3. Self-Generation and Solar Pumping Systems

3-A. Self-Generation Installations

These installations generate electricity for self-consumption. They can fully meet energy needs without relying on electrical grids (Off-Grid Installations) or supply only part of the self-consumption demand, feeding any excess energy into the grid.

Examples:

1. **Self-Generation at the Interpretation Center of the Tolmo de Minateda Archaeological Park, Hellín (Albacete, Spain)**

    - **Client:** Ministry of Education, Science, and Culture of the Regional Government of Castilla-La Mancha
    - **Budget:** €2.5 million
    - **Execution:** 2010

    This project involved the design and implementation of the Electrical Generation System for the Interpretation Center of the Tolmo de Minateda Archaeological Park. The site includes two buildings dedicated to exhibitions and offices, covering a total area of 3,181 m², along with a visitor parking area.

A photovoltaic solar plant with a capacity of 52.8 kWp has been designed to supply electricity, covering a 500 m² surface located above the parking area, along with a variable-speed LPG cogeneration system capable of supplying up to 120 kW. This system is also equipped with a battery storage system to ensure a continuous power supply, as well as a control system that manages all components. Additionally, the design includes utilizing the residual heat from the cogeneration unit as a source of heating.

2. Off-Grid Self-Generation at a Winery in Tarragona (Spain)

- **Client:** Juan Gil Family Wineries
- **Budget:** €150,000
- **Execution:** 2015

In March 2015, ATERSOL's technicians installed an Off-Grid Hybrid Solar-Diesel system for self-consumption at the Cellers Can Blau winery. The installation is fully independent of the conventional power grid and meets all the winery's energy needs. The winery is part of the renowned wine-producing group, Juan Gil Family Wineries, and is located in El Molar, Tarragona (Spain). Its wines are classified under the Montsant Denomination of Origin.

The installation includes a 47 kWp photovoltaic system and two 20 kW grid inverters. The electricity is stored in a battery bank made up of 72 cells of 2V each, with a storage capacity of 4,590 Ah. The installation also features a 120 KVA backup generator, which activates only when there are consumption peaks or when the batteries discharge below a certain level.

3. Off-Grid Self-Generation at a School and Medical Dispensary in Koumra (Chad)

- **Client:** NGO "Solidarity, Education, and Development"
- **Budget:** €45,000
- **Execution:** 2014

In 2014, ATERSOL's technicians installed off-grid hybrid PV-diesel systems for self-consumption in several buildings in Koumra (Chad), including a school, a workshop, and a health and maternity center. The installations were financed by the Spanish NGO SED (Solidarity, Education, and Development) for a center managed by the Marist Brothers in Chad.

The school and workshop installation consisted of 54 photovoltaic modules of 245 W, totaling 13,230 W, with a battery bank of 24 cells of 2V for a capacity of 2,052 Ah. The maternity center installation consisted of 14 photovoltaic modules of 245 W, with a total power of 3,430 W, and a battery bank of 24 cells of 2V for a capacity of 1,178 Ah.

4. Grid-Connected Self-Generation in a Family Home

- **Client:** Private Individual
- **Budget:** €25,000
- **Execution:** 2014

ATERSOL's technical team installed a self-generation system for a single-family home in Hellín, Albacete (Spain), with grid connection. The installation consists of 9.4 kWp of photovoltaic modules and stores energy in a battery bank of 24 cells of 2V, with a storage capacity of 2,000 Ah.

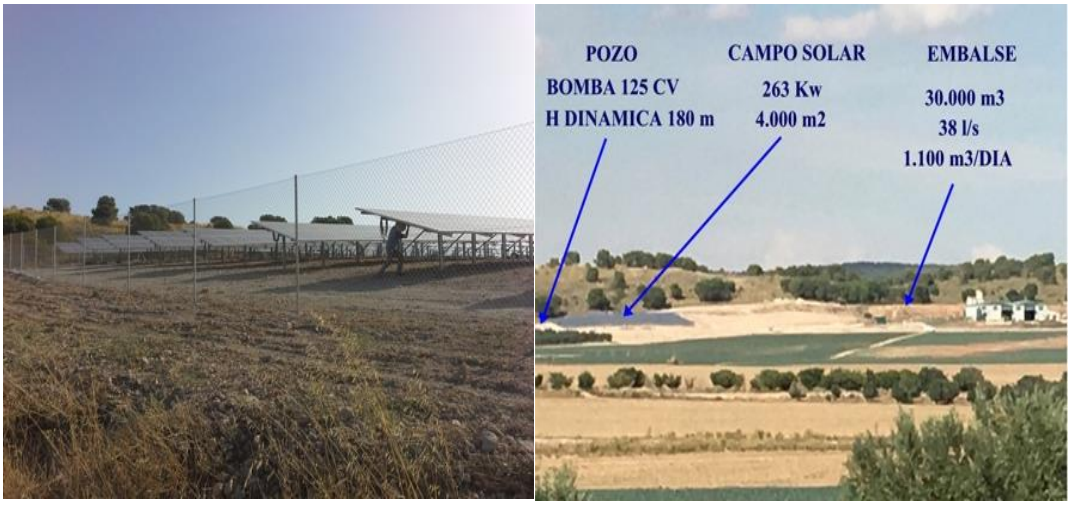
The house, which is connected to the conventional electrical grid, generates its own energy using solar power. Any additional energy needed is sourced from the grid, while any surplus energy is fed back into the grid.

3-B. Solar Pumping Installations

1. Solar Pumping on an Agricultural Farm

- **Client:** Private Individual
- **Budget:** €250,000
- **Execution:** 2016

ATERSOL commissioned a solar pumping system for extracting groundwater from a well to a reservoir in Tobarra (Albacete, Spain). The complete system includes a 125 HP submersible pump and a 263 kW solar photovoltaic installation. The system allows for water extraction from a depth of 180 meters, with a flow rate of up to 38 liters per second, providing a total daily volume of 1,300 m³, which is discharged into a 30,000 m³ reservoir.



The control and communication system, based on Programmable Logic Controller (PLC) programming and a Variable Frequency Drive (VFD), enhances the performance of this type of installation. The control algorithms continuously optimize the available solar energy, ensuring the pump operates as smoothly and efficiently as possible.

2. Solar Pumping for Human Consumption in Africa

- **Client:** NGO Asturias por África
- **Budget:** €20,000
- **Execution:** 2013

ATERSOL designed and built a photovoltaic installation and solar pumping control system in the village of D'Nungu Kebbeh, Gambia (Africa). The project was commissioned by the Spanish NGO Asociación Paz y Solidaridad-Asturias por África, which has undertaken several humanitarian projects in the area.

The installation consists of 16 photovoltaic modules of 185 Wp each, totaling 2,960 W, with the existing pump motor rated at 1.5 kW. The control system is an SEES, based on a programmed variable frequency drive. The system extracts water from a village well and pumps it into an elevated tank, from which it is distributed by gravity to various taps.

This type of installation significantly improves the quality of life for the women in the village, whose alternative is to carry water daily from sources outside the community. It is a prime example of how solar technology can be used to harness the locally available energy source that is present every day of the year: the Sun.

3. Solar Water Desalination for Human Consumption

- **Client:** Private Individual
- **Budget:** €24,000
- **Execution:** 2013

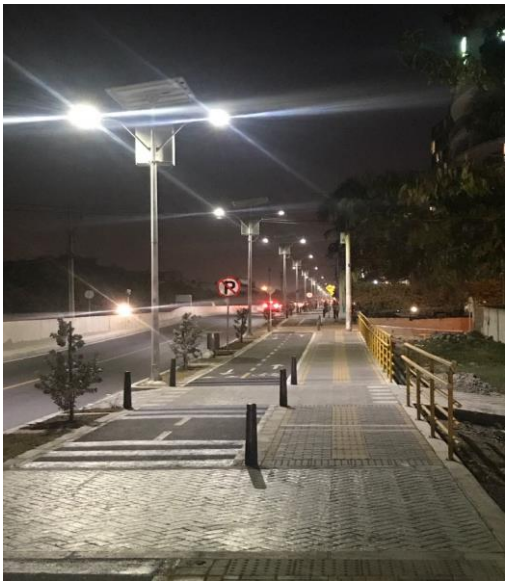
Design of a solar energy system and pump control system for a desalination plant that processes brackish water through reverse osmosis.

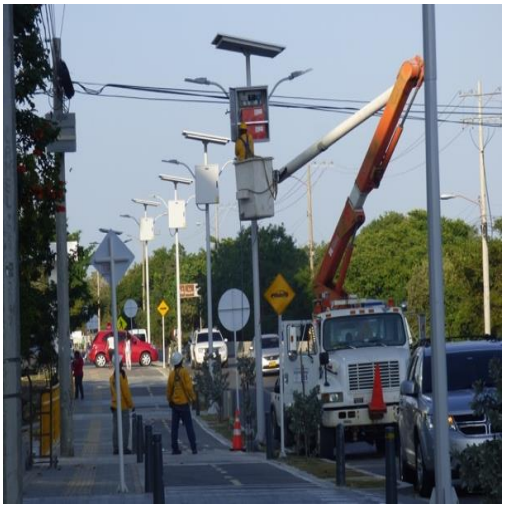
With pump power of 5.5 HP and a solar system of 8 kW, this machine can desalinate approximately 10,000 liters per hour, with an average daily output of 60 m³ and an annual total of around 22,000 m³. This capacity is sufficient to meet the needs of the residents, animals, and irrigation for a small village.

4. Solar-Powered Street Lighting Installation in Cartagena

Supply and installation of public street lighting with LED luminaires powered by photovoltaic energy in Functional Unit 1 of the "Cartagena-Barranquilla and Circunvalar de la Prosperidad" project, covering the following sections: Section 1 (K1+240m to K1+740m) 500 meters, Section 2 (K1+740m to K2+770m) 1,030 meters, and Section 3 (K0+960m to K1+250m) 290 meters.

The system features state-of-the-art LED luminaires with the best chip on the market, offering higher efficiency and performance. The battery storage is designed for two days of operation and is specially adapted for the high temperatures (40ºC during the day and 33ºC at night) and the proximity to the sea.





5. Development of Various Solar Parks Ready to Build (RTB) and Construction of the Zambrano 2 Solar Park (15.5 MW)

CSCI has successfully executed multiple developments with all necessary permits and licenses, rendering these projects Ready to Build (RTB). These projects have been sold to buyers for subsequent construction (a separate business venture).

We possess extensive experience in developing solar parks in Colombia, despite numerous changes in the country and in renewable energy regulations. We have successfully implemented four solar parks in RTB status, a feat that many other companies have avoided due to the uncertainty surrounding Colombian legislation.

In the past year, we have experienced remarkable growth. As evidence, we have submitted 28 new solar park projects to UPME for development and construction in the coming years.

CSCI is currently constructing the Zambrano 2 Solar Park, which has a capacity of 15.5 MW and is connected to the grid at 13.8 kV, located in the municipality of Zambrano (Bolívar). The park is situated within the urban area, providing an ideal site for a photovoltaic installation based on several factors: it is 800 meters from the electrical substation, benefits from excellent meteorological conditions in the area with high radiation levels, and offers strong indicators for the overall viability of the project and optimal solar energy generation.

https://csci.com.co/proyectos-solares/planta-solar-zambrano-2/ (video)

29.400	**27.362 MWh/years**	**15.000**	**4.542 Tons /year**
Panels	Energy Generated	Benefited Households	CO2 Emissions Avoided





6. Construction Contract, Lines, and Commissioning of 6 Solar Parks Across Colombia

CSCI has been contracted since November 15, 2023, with a completion date set for December 2025, for the design, construction, and commissioning of 11 solar parks throughout the Colombian territory. The solar parks are as follows:

MWn	MWp	Park
15,5	19,8	Zapatoca
9,9	12,9	Gambote
19,9	26,6	Salamina
	59,3	**SubTotals (3)**
8+1	11,65	San Onofre
9,9	12,9	Arbolito
9,9	12,9	Oicatá
	37,5	**SubTotals (3)**
	96,8	**TOTALS (6)**
2,5	4,5	San Pelayo
2,5	4,5	Cienaga De Oro
6	7,8	Camarones
1	1,25	Camarones 1mw
1	1,25	Camarones 1mw
	19,3	**SubTotals (5)**
	116,1	**TOTALS (11)**

We are currently in the piling phase and the installation of the tracker at San Onofre, having already completed the civil works. The designs for Salamina and Zapatoca have also been finalized.