



Clean and inexhaustible energy for a sustainable development

Abengoa has wide technical background in photovoltaic energy, with more than **30 years of experience** and **more than 500 MWp in plants built**. It is a pioneer in this sector since its first steps in research & development in the solar area and its participation in the construction of the first photovoltaic plant in Spain (Toledo PV) in 1992.

From this time, Abengoa has developed a **long list of projects around the world**, mainly as turnkey-contractor, that includes basic and detailed engineering, modules, structures/trackers and inverters supply, electrical installations (low, medium and high voltage), civil works, structures/solar trackers assembly and commissioning. Abengoa has achieved a **deep knowledge of the sector** and it has also been involved in several areas as promotion, manufacturing (High Concentration Photovoltaic -HCPV- modules, trackers, combiner boxes...), engineering, research and development, construction and operation and maintenance.

Photovoltaic is a clean and inexhaustible type of energy, highly modulable, based on the direct transformation of solar radiation into electricity through what are called photovoltaic panels. Thanks to its versatility, **photovoltaic energy is a key piece in hybrid energy systems**: integration of several types of energy generation such as electrical energy generators, battery energy storage systems (BESS) or renewable energy sources. These systems are used specially to supply electricity to remote areas, contributing to the sustainability of the planet, featuring improved operating performance, cost reduction and improved reliability.

More than 500 MWp photovoltaic plants built

30 years of experience with projects around the world

Thanks to its wide experience and know-how in this sector, Abengoa has been able to work with different photovoltaic technologies according to each project requirements, such as:

- Bifacial modules.
- High Concentrated Photovoltaic.
- Poly and monocrystalline modules.
 - Thin film modules (amorphous silicon, cadmium telluride).
 - Building Integrated Photovoltaics.
 - Dual axis trackers.
 - Single axis trackers.
- Fixed structure.
- Floating systems.

Abengoa has completed important photovoltaic projects as one of the **world's largest single-tracker photovoltaic plant at that time**: the Mount Signal Solar plant in Calexico (California), with 266 MWp of installed capacity. The project covers 801 hectares and includes more than three million photovoltaic modules that rotate on a north-south axis tracking the path of the sun. The plant generates enough solar power to supply 72,000 households in San Diego and its surrounding area, preventing the emission of 356,000 tons of CO₂/year into the atmosphere.

Another main photovoltaic project for Abengoa was developed at the Cerro Dominador solar complex (Chile). The project is owned by EIG Global Energy Partners and is comprised of more than 300,000 modules (120 MWp). It is located in the Atacama Desert, the area which receives the highest concentration of solar radiation in the world.

Abengoa is an international company that applies innovative technology solutions for sustainability in the **infrastructures, energy and water** sectors. It has over 75 years of experience in engineering and construction, being specialists in the execution of complex "turnkey" projects or **engineering**, supply and **construction** projects (**Engineering, Procurement and Construction**) for third parties in four fundamental areas: **energy, water, services and transmission and infrastructure**.

Abengoa has extensive experience in the **power generation** sector thanks to the development of **open and combined cycle and cogeneration technologies, wind farms, and solar thermal, photovoltaic, waste to energy and biomass power plants**.

This experience provides the company with a **high capacity of design and hybridization** among power generation technologies, that allows it to offer the optimal solution to its clients.



Photovoltaic Energy

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Main References

PV Project	MWp	Country	Type
Mount Signal Solar	266	USA	1-Axis
Francisco Pizarro	189	Spain	1-Axis
Cerro Dominador	120	Chile	1-Axis
Puertollano	100	Spain	Fixed Tilt
Barcience	50	Spain	Fixed Tilt
Karnataka	38	India	Fixed Tilt
Lone Valley Solar	37	USA	1-Axis
Tamil Nadu	12	India	Seasonal Tilt
Brigadel	8	France	Fixed Tilt
Las Cabezas	6.5	Spain	1-axis
Roorkee	5.5	India	Seasonal Tilt
HyderabadV	53	IndiaS	Fixed Tilt
Aligarh	3.3	India	Fixed Tilt
Casaquemada PV	2.2	Spain	2-Axis
Linares PV	2.2	Spain	2-Axis
Komono	1.3	Japan	Fixed Tilt
Sevilla	1.2	Spain	2-Axis Low Concentration PV
Copero	1	Spain	2-Axis
Toledo PV	1	Spain	Fixed Tilt and 1-axis

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