

We generate new resources

With a global capacity to produce 2.2 million m³/day of drinking water and to treat more than 1.5 million m³/day of wastewater, Abengoa has wide experience in water treatment, both in drinking water and urban water treatment and reuse, including sludge digestion and recovery.

Abengoa has more than 35 years of experience in industrial water treatment, with more than 650,000 m³/day of treated water for different industrial sectors, such as power generation, steel production, paper industry, leachate, oil and gas, petrochemical, pharmaceutical, mining and food, among others. Abengoa brings a high level of specialization, with the latest technological solutions to solve the current challenges in process water, reuse, wastewater, zero liquid discharge (ZLD), for industrial, private and municipal clients.

Water Treatment Better Life Quality

- Permanganate pre-oxidation.
- Pre-ozonation and chemical dosing.
- Adsorption using activated carbon powder.
- Lamella settling, sludge beds and pulsating beds.
- Single-layer and multi-layer filtration.
- Adsorption on activated carbon beds.
- Treatments with MF, UF, OI and EDR membranes.
- UV disinfection, chlorination and fluoridation.
- Intermediate ozonation.
- Water recovery line.

Wastewater treatment Care of the Environment

Wastewater

Physical and chemical pre-treatments and treatments

- DAF settling and flotation.
- Activated sludge.
- Elimination of N and P: Bardenpho, UCT and Phoredox processes.
- Anaerobic processes and UASB.
- MBR biological processes.
- Chemical and biological deodorization and adsorption.

Sludge treatment

- Gravity and flotation thickening.
- Sludge hydrolysis.
- Mesophilic and thermophilic digestion.
- Dehydration.
- Low-temperature drying.
- High-temperature drying.
- Supercritical oxidation.

Reuse Saving Water

- Forced settling.
- Microfilters.
- Bed filtration.
- Microfiltration and ultrafiltration.
- Membrane bioreactors (MBR).
- Elimination of salts using OI and EDR.
- Specific refining treatments.
- Ozone, UV and chlorination.

2.2 million of cubic meters of drinking water per day

More than 60 urban wastewater treatment plants

More than 650,000 m³/day of industrial water

Industrial Water Water and Productivity

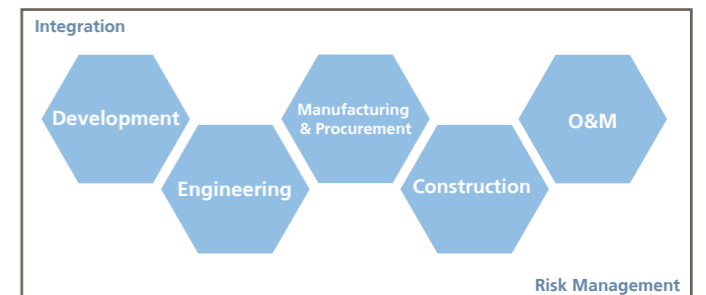
Service and Process Water Treatment. Industrial Wastewater Treatment.

- Physical-chemical treatments.
- Conventional multimedia filtration.
- Membrane filtration (microfiltration and ultrafiltration).
- Settling.
- Conventional and nanofiltration softening.
- Reverse osmosis demineralization (RO).
- Ion exchange demineralization (IX).
- Electrodeionization (EDI).
- Advanced oxidation (ozonation and UV).
- Zero Liquid Discharge (ZLD).

Abengoa 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, EPC**) for third parties in four fundamental areas: energy, water, services and transmission and infrastructure.

Abengoa provides sustainable solutions to the integral water cycle, both to the shortage of water resources, through **large desalination and water treatment plants**, and hydraulic infrastructures, as well as to the protection of the environment with the construction of **wastewater treatment plants urban and industrial**.

It also works as a **global technological operator** in the water sector and integrates development, engineering, technology and project execution activities for public institutions, private and industrial clients.



Water treatment

Conventional and advanced processes of drinking water treatment.



Urban water: physical-chemical processes, biological treatment, membrane bioreactors, advanced tertiary treatment, advanced oxidation processes, anaerobic digestion, sludge management.



Industrial water: wastewater and process water treatment, advanced oxidation processes, Zero Liquid Discharge, in power, oil and gas, chemical, mining, steel, pharmaceutical, food and beverage, electronic and pulp & paper sectors.

www.abengoa.com/water



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Industrial Water

South America

Punta Pereira. (Uruguay) (several).	376,000 m ³ /d
Cerro Dominador. (Chile) (ZLD).	300 m ³ /d
La Sierra. (Colombia).	240 m ³ /d

Spain

ENCE. Pontevedra.	46,800 m ³ /d
Zicuñaga. Guipúzcoa.	40,800 m ³ /d
ArcelorMittal. Gijón (several).	20,260 m ³ /d
Aboño. Asturias.	20,160 m ³ /d
ENCE. Huelva.	19,200 m ³ /d
ArcelorMittal. Avilés (several).	13,700 m ³ /d
Son Reus. Mallorca.	3,120 m ³ /d
Solúcar. Sevilla.	2,600 m ³ /d
Ineos Sulphur Chemic. Bilbao.	720 m ³ /d
Bioetanol Cartagena.	400 m ³ /d
Babilafuente Salamanca.	375 m ³ /d
Bioetanol Galicia.	300 m ³ /d
Befesa. Cartagena (ZLD).	250 m ³ /d

United States

Solana.	14,100 m ³ /d
Hugoton.	6,650 m ³ /d
Carty.	490 m ³ /d

Mexico

Norte III (ZLD).	1,700 m ³ /d
Hermosillo.	1,400 m ³ /d
Durango (CCD).	1,000 m ³ /d
El Saúz.	750 m ³ /d
A3T.	300 m ³ /d

Netherlands

Rotterdam.	39,120 m ³ /d
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Africa

Hassi R'Mel. (Algeria).	3,100 m ³ /d
Ain Beni Mathar. (Morocco).	2,900 m ³ /d

Middle East

Dubal. (United Arab Emirates).	47,750 m ³ /d
Masdar. (United Arab Emirates).	1,000 m ³ /d

Water Treatment

Central America

San Juan del Sur. (Nicaragua).	16,850 m ³ /d
Boaco. (Nicaragua).	9,700 m ³ /d

South America

Aguas Corrientes. (Uruguay).	660,000 m ³ /d
Arequipa. (Peru).	130,000 m ³ /d
Loja. (Ecuador).	43,200 m ³ /d

Spain

El Carambolo.	432,000 m ³ /d
Olivares.	95,000 m ³ /d
El Conquero.	90,000 m ³ /d
Huesna.	90,000 m ³ /d
Pinyana.	60,500 m ³ /d
Reus.	30,000 m ³ /d
Oja-Tirón.	28,000 m ³ /d
Ames y Brión.	15,000 m ³ /d
Sallent, Avinyó y otros.	13,000 m ³ /d

Asia

Ratnapura. (Sri Lanka).	13,000 m ³ /d
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Africa

Cunene. (Angola).	24,500 m ³ /d
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Wastewater treatment and reuse

Central America

Boaco. (Nicaragua).	10,000 m ³ /d
San Juan del Sur. (Nicaragua).	6,500 m ³ /d
Ciudad Sandino. (Nicaragua).	5,000 m ³ /d

South America

Pariachi. (Peru).	37,800 m ³ /d
Melo. (Uruguay).	19,500 m ³ /d
Tacuarembó. (Uruguay).	9,240 m ³ /d
Buin Oriente. (Chile).	7,250 m ³ /d

Spain

Copero (Ext.).	255,000 m ³ /d
Ranilla.	90,000 m ³ /d
Baix Llobregat.	57,000 m ³ /d
Motril-Salobreña.	34,100 m ³ /d
Barranco Seco II.	24,300 m ³ /d
El Vendrell.	21,000 m ³ /d
Lluchmayor.	15,900 m ³ /d
Rincón de la Victoria.	15,000 m ³ /d
Meco.	14,000 m ³ /d
Arroyo La Víbora.	10,800 m ³ /d

Asia

Maheshwar. (India).	5,000 m ³ /d
Nasrullaganj. (India).	4,200 m ³ /d



ABENGOA Water

