



San Diego County
Water Authority

Seawater Desalination

FACT SHEET



The Water Authority is a public agency serving the San Diego region as a wholesale supplier of water. The Water Authority works through its 23 member agencies to provide a safe, reliable water supply to support the region's \$142 billion economy and the quality of life of more than 3 million residents.

The San Diego region must identify additional sources of water for the future. The region's \$142 billion annual economy, job base and quality of life for more than 3 million residents depend on having a safe, affordable and reliable water supply today and in the future. Existing water sources, such as the Colorado River and Northern California, are in demand by other users and are subject to drought and shortages.

Desalination Will Diversify Supplies

The Water Authority's long-term plan for water supply reliability calls for diversifying the region's water sources, so it is not too dependent on any one source. To diversify, the region needs to develop local supplies. Desalination is the best way to provide new local water to reduce dependence on imported sources.

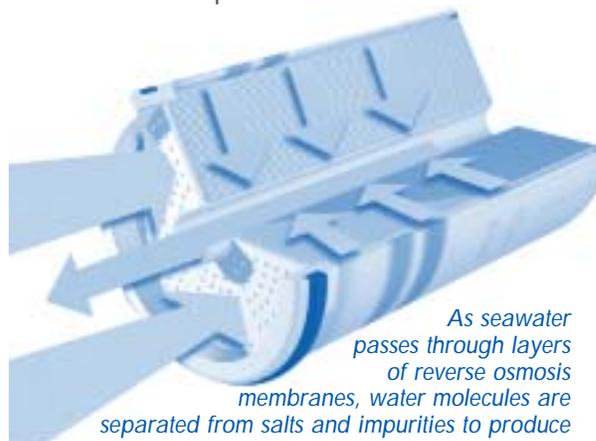
Seawater desalination is a high-quality, locally controlled and drought-proof water source for the San Diego region. Recent advances in technology have dramatically reduced costs while increasing the productivity of the seawater desalination process. Building seawater desalination facilities next to coastal power plants reduces the cost of construction and operations. By 2020, seawater desalination could provide up to 15 percent of the region's water supply.

How Desalination Works

Seawater is pumped at very high pressure into tightly wrapped membranes contained in

cylindrical tubes. Under pressure, the water molecules pass through the membranes, while salts, viruses, bacteria and other impurities cannot. Concentrated seawater carrying the rejected salt and impurities is collected and returned to the ocean. This byproduct of the reverse osmosis process is sometimes called "brine" or "concentrate."

At some desalination plants, the concentrate can be blended with circulating seawater from a power plant or another approved discharge to reduce its salinity before it is returned to the ocean. Another option is to discharge the concentrate into the ocean through a specially designed pipe equipped with diffusers so that it is gradually dispersed over a large area. The Water Authority's desalination projects will use one or more of these dilution and diffusion processes to minimize impacts of concentrate on the marine environment.



As seawater passes through layers of reverse osmosis membranes, water molecules are separated from salts and impurities to produce high-quality water.

The Water Authority's Role

The Water Authority provides up to 90 percent of all water used to support San Diego County's \$142 billion economy and the quality of life for 3 million residents. As the region's water wholesaler, the Water Authority is responsible for ensuring

a safe, affordable and reliable water supply to meet water demands today and for generations to come. This includes securing new sources of water and providing the infrastructure to move that water around the county.

In 1991, the Water Authority began exploring the feasibility of a seawater desalination project

next to the Encina Power Station in the city of Carlsbad. Today, the Water Authority is also exploring projects at additional locations, including sites adjacent to the San Onofre Nuclear Generating Station in north San Diego County and sites in south San Diego County and Baja California.

Public Oversight

For more than 60 years, the Water Authority has been the San Diego region's water provider. The Water Authority's approach to developing seawater desalination embraces key principles to protect the public's

interest. These include an open, public process for making decisions, high-quality facilities, long-term cost effectiveness and value for all ratepayers. The Water Authority's approach also assures long-term public ownership and public oversight of the facilities that provide the region's water supply.

More Information

Please call the toll-free project information line at (877) 682-9283, Ext. 7006. A Water Authority staff member will return your call within one business day.



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