

Seawater Desalination: New Solution or New Problem?

Ocean desalination – a process that converts seawater into drinking water – is being hailed as the solution to water supply problems. Proponents of desalination claim that this technology will create a reliable, long-term water supply, while decreasing pressure on other over-drawn water sources. But desalination facilities have the potential to create more problems than they solve.

Here are some reasons why communities need to think twice before embracing ocean water desalination:

1. Alternatives abound.

Smart water agencies are making great strides in adopting efficient water management practices such as conservation, reuse, and recycling. The Pacific Institute report “Waste Not, Want Not; The Potential for Urban Water Conservation in California” found that California can meet its water needs for the next 30 years by implementing off-the-shelf, cost-effective urban water conservation. Draft guidelines released by the state of Massachusetts found that “Prior to seeking desalinated water, proponents and communities needing additional water should first achieve savings through efficient use and conservation of existing water.” Desalination is an expensive and speculative option that could drain resources away from more practical solutions.



2. It's expensive.

Ocean desalinated water is among the most expensive ways to supply water. Producing water through ocean desalination costs three or more times what it costs to produce water from traditional supplies. It requires multiple subsidies of both water and electricity to break even, and it entails pricey upfront construction and long-term operation and maintenance costs. California American Water Company, has demanded an upfront rate increase to provide for construction of its proposed plant in Monterey, California, before it has even produced a drop of water.

3. It Could Exacerbate Global Warming.

Enormous amounts of energy are needed to force ocean water through tiny membrane filters at a high pressure. Ocean water desalination can be greater than ten times more energy intensive than other supply sources. Ocean desalination proponents, such as private corporations Poseidon Resources and American Water, plan to locate plants alongside existing coastal power plants, thus potentially spurring their emission of global warming pollution. Facilities also have the potential to induce urban sprawl, which could mean increased air pollution from car commuters.

4. It Creates the Potential for Corporate Control and Abuse.

Ocean desalination provides a new opportunity for private corporations to own and sell water. Currently, there is little regulation of these facilities, creating the possibility that private corporations would rate-gouge thirsty populations – similar to what happened in the Enron energy scheme.

A recent Food & Water Watch analysis compared average water rates charged by publicly and privately owned utilities in four states – California, Illinois, Wisconsin, and New York – and found that privately owned water utilities charge customers significantly higher water rates than their publicly owned counterparts: anywhere from 13 percent to almost 50 percent more.

Worse, corporate controlled desalination facilities have performed miserably. Poseidon Resources, whose largest investor is the private equity firm Warburg Pincus, botched a large facility in Tampa Bay, Florida. The facility, at a final price of \$158 million, was completed years behind schedule and did not function until the Tampa Bay Water Authority took it over from Poseidon. Poseidon now plans to build several facilities in California, some of which are much larger including a facility in Carlsbad. Companies like Poseidon view the ocean not as a public resource but as a vast, untapped source of profit, with unlimited potential to supply water to the highest bidder.

5. Fisheries and Marine Environments Will Be Threatened.

Many proposed ocean desalination plants are now planning to rely on “once-through” intake structures – an outdated technology that sucks in ocean water to cool the power plant. These intakes kill fish and other organisms that cannot free themselves from the intakes or that get sucked into the plants.

According to the U.S. Environmental Protection Agency, these intake structures kill at least 3.4 billion fish and other marine organisms annually. This amounts to a \$212.5 million loss to anglers and commercial fishermen. California’s power plant intake structures, alone, are responsible for the loss of at least 312.9 million organisms each year, resulting in a \$13.6 million loss to fishermen.

As power plants begin to shift away from once-through cooling, a real danger exists that some desalination plants will use these intakes, and marine life destruction will continue.

Further, the brine, or super salty wastewater created from the desalination process, also has the potential to upset our delicate coastal ecosystems.



Desalination plants use enormous amounts of energy and could exacerbate global warming.

6. It Could Pose a Risk to Human Health.

A number of public health experts have expressed concern about using ocean water as drinking water and the effect that new contaminants have on water quality. Some of these new contaminants include boron, algal toxins (for example, red tide) and endocrine disrupters, all of which are concentrated through the desalination process. Another concern is that ocean desalination draws water from coastal areas with sewage and storm water runoff.

7. It Promotes Environmental and Social Injustice.

Costs may be disproportionately borne by existing low-income communities, both those living near the plant who will not receive the water and those inland whose rates will increase to support the desalination plant, while gaining none of the benefits. In California, most proposed desalination plants would serve affluent communities in Marin County, the Monterey area, Cambria, southern Orange County and northern San Diego County. Low-income communities located near desalination facilities could be harmed if desalination facilities increase air pollution and limit access to the ocean for subsistence fishing. A proposed desalination plant in Huntington Beach, California would extend the life of a power plant that residents have been struggling to shut down for years.

Conclusion

Desalination shouldn’t be used as a quick fix to our water shortage problems. Conservation and recycling programs are usually much less expensive and less risky alternatives to building desalination plants. To take action, go to: <http://foodandwaterwatch.org/water/Alerts/desal/>

For more information:

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