

IDA Blog

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## IDA Addresses Water Scarcity with “Unconventional” Solutions the UN Recognizes as “Essential”

*By Carlos Cosín, President IDA, CEO of Almar Water Solutions*

In June of 2020, the UN formally recognized the role that “unconventional water resources” play in solving the world’s water scarcity crisis in a [brief of the same name](#). Among the solutions the UN named as essential to water’s future were desalination and reuse of municipal wastewater – key topics of the upcoming [IDA World Congress 2022](#) in Sydney, Australia.

This critical (and long-overdue) recognition of new (and well-proven) techniques and technologies such as desalination was met with a metaphorical round of applause by the many members of the International Desalination Association (IDA).

The UN recognition brings to light all the ways desalination has advanced over the last fifty years both in technology as well as adoption by municipalities, industries and communities around the world.

### Reasons for the Shift in Perspective

The UN-Water Brief says that:

***“Water-scarce countries need a radical re-thinking of water resource planning to include the creative exploitation of unconventional water resources for sustainable development.”***

The “unconventional” techniques the UN mentions include: fog water harvesting, cloud seeding, micro-catchment rainwater harvesting, offshore deep groundwater, **municipal wastewater**, iceberg towing, ballast water and **desalinated** water.

This statement represents a dramatic shift from the way the UN viewed desalination and wastewater reuse in the past. One might ask: Is this change a result of technology improvements or due to the growing global crisis around water scarcity? The answer is probably both.

Policy makers and UN council members around the globe may not have realized the progress that the desalination sector has made since it was first introduced more than five decades ago. Not only are costs much lower (both in terms of energy use and financial outlay) but some of the ecological concerns are no longer the obstacles they once were with new solutions being introduced all the time.

A number of changes in the industry over the last two decades that have dramatically changed the way desalination is viewed (both externally and internally within the sector).

Some of the reasons the UN may have changed their perspective about using desalination as a viable option for world water scarcity may include:

1. **Lower energy use.** We have drastically reduced the energy requirements for desalination from 20 years ago when the consumption rate was about 14 kilowatt hours per cubic meter to now, where it's in the range of 3.23 kWh. And combined with advances in renewable energy, the costs to produce desalinated water is a fraction of what it once was.
2. **Brine is no longer a negative.** The brine left over from the desalination process was once considered a “waste” product or even an environmental contaminant, but that is no longer the case. Today, brine can be a resource of important minerals, precious metals and salts, or commercialized for the production of cement, glass, fertilizers or other useful products – or treated using methods that create Zero Liquid Discharge.
3. **Production of important minerals.** The extraction of important minerals from desalination brine, such as lithium for the automotive sector, from the desalination process can even make this a primary motivator for using desal – with water being a secondary byproduct.
4. **Preserve water reserves for future generations.** Protecting the environment and saving limited resources for future generations is a concern for communities around the globe. But balancing future needs against those of today often creates intense political and economic battles. Desalination offers a kind of solution because it can be used in collaboration with other methods, such as wastewater reuse, to ensure water access in a more equitable way.
5. **No other alternatives.** In the Middle East and arid countries such as Chile, Australia and Spain, water shortages or lack of access to fresh water have forced innovation and brought the desalination industry to where it is today. The key learnings from these countries can be applied in other places, at a much lower financial cost, as water needs increase along with population growth.

**Unconventional water resources are a reality**

Access to clean water is seen by many as a human right. Therefore, in areas where there are no alternatives, or where groundwater resources are limited, unconventional water resources become essential. The technology and experience needed to bring desalination into the mainstream of water supply sources is here now and continues to evolve and improve.

The UN says:

***“Unconventional water resources are essential in building a water future in dry areas where water is recognized as a precious resource and a cornerstone of the circular economy.”***

The message for people around the world today is that unconventional water treatment is a reality. It can be used as a cost-effective and complimentary solution to solve the world's water access problems.

### **Wastewater reuse creates water access**

From an economic and sustainability perspective, wastewater reuse makes sense (and not just for regions in water crisis). This is especially true for industries that use large volumes of water as part of a process in which fresh water isn't necessary.

Industries such as mining and agriculture are huge users of water. Water reuse, reclaimed water and desalination (even brackish) water are all better sustainable alternatives for these types of uses. It's not a popular position in the political world, especially around agriculture (because food is a human right). But it's one that makes more sense from an economic and sustainability perspective than using freshwater and groundwater indiscriminately.

[callout]

***One of the solutions to the world's water crisis is to limit the use of freshwater for agriculture and industry. It's not a popular position in the political world, but it's one that makes sense from an economic and sustainability perspective.***

In some places governments can step in to create tariffs or create limitations on access to fresh water (especially from groundwater sources) for industries that could use other types of water. These sorts of steps, even if not always politically popular, can help preserve the essential water resources for future generations. It's a more sustainable way of looking at water usage. These are some of the issues we debate, discuss and innovate around at the IDA World Congress.

[IDA discussed the UN Water Brief](#) and included an analysis of what it means for countries facing water shortages in an article published the Spring 2022 [IDA Global Connections](#) magazine.

**About Carlos Cosín**

Carlos Cosín Fernández (Madrid, Spain) is currently the [President of IDA](#) and CEO of Almar Water Solutions. He is responsible for strategic management of the company, whose main investor is Abdul Latif Jameel, to implement and promote its activity in the water sector.

Before that, he worked at Abengoa between 2005 and 2016, ending his career as Chairman and CEO of Abengoa Water, the water subsidiary of the group. Mr. Cosín also spent seven years (1997-2004) at Veolia Water Systems and before that he held several high-level positions, most notably the ownership of a private company that developed and designed heat exchangers. Mr. Cosín has a degree in Agricultural Engineering from Universidad Politécnica de Madrid.