



Throw Forward Thursday: The End of Water (and three possible solution)

Come with me to 2050, where we've solved the world's water problems. My name is Graeme Codrington, this is Throw Forward Thursday, where we jump into the future and see what's going on there. We're in the middle of a series called the end of, and one of the biggest problems that we face on the planet at the moment is the end of drinking water, the end of usable water.

There's a lot of water in the oceans, maybe not quite as much as you think. Have a look at this, for those of you who are watching the video, that is a picture, of the small circle of water about the size of New York State. So that's a big lot of water, but that's all of the drinking water, all of the freshwater available on the planet.

The other bigger bubble of water, about the size of the continental United States, is all the other water. That's the saltwater in the oceans. Maybe not quite as much water as you thought there was on this planet, and certainly one of the biggest problems we've got in most places in the world is that when it rains, it rains too hard and we get flooded, and then that water rushes away and we're getting a lot more droughts. So, water is a big problem.

But by 2050, there's the possibility that we will have solved this problem, and there are three ways in which that might happen. The first is we can make water, probably it's the only chemical symbol you remember from your high school science, H₂O, right? This means two hydrogens and one oxygen molecule smushed together (I think that's the technical scientific word), but you put those three molecules together, and hey, presto, you've got a molecule of water. And of course, hydrogen and oxygen are everywhere in the air that we breathe all around us.

So why don't we make water? Because it is too expensive, the cost of the energy to smooch those three atoms together is just not worth it at the moment. However, we've talked about this in previous Throw Forward Thursday videos, we are developing ways to generate cheaper and cleaner energy, whether that be from Tacoma reactors or from solar or other forms of energy, and if we get cheaper energy, well, then we could use some of that energy to make water. Excellent, that would solve the problem.

The second way in which we could make water slightly controversially is cloud seeding. Now, this is when you do something that can either be done by laser or you can throw something in the air that silver iodine, potassium iodine, or even salt can do it, and where there's lots of water vapour, clouds form, and so you create clouds, and when the clouds are big enough, it rains. China did this for the Beijing Olympics, where they seeded clouds away from Beijing to make sure that it didn't rain during the Olympics. It works, obviously, there are potential unexpected and unintended consequences for the natural cycles. We're not quite sure exactly what this will do, but if we understand those natural systems, we should be able to seed clouds and get rain to form where we want it to form and when we want it to form. Cloud seeding.

The third thing that we could do is desalination, and of course, this is already happening in various places around the world. The consequence of that is that you create a lot of chemical waste, and we're still not quite sure exactly what to do with all of that. But again, that takes a lot of energy, and we're going to need an energy solution before we get a desalination water solution. My guess is that sometime before 2050, combining all of these approaches will mean that we have a slightly better, slightly improved access to drinking and usable water for agriculture and other purposes. There are a whole lot of other things that we can do, like changing our plumbing so that we're not bathing and showering and drinking water and so on. So there's a lot more that can be done, and it is going to have to be done regardless of the cost. Because if we reach the end of water, well, then we've reached the end of life, and in some parts of the world that's closer than we can imagine.

The end of water, we will have to make a plan, we will make a plan. Whatever it takes. We need water on this planet.

Thank you, as always, for joining me in the Throw Forward Thursday studio. I'll see you next week when we jump into the future again. Bye.

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