(DON'T!)
WASTE WATER

The 4 Main Riddles to Answer to Determine the Best Suited Lithium Extraction Technology

with Teague Egan
- CEO & Founder of EnergyX

1) Lithium Content

What is the concentration of Lithium that's dissolved in the brine?

Direct Lithium Extraction opens new fields far below the 700 ppm you'd find in South America's evaporation ponds. But still, there's a bottom to what's economical:

We start looking at it at around 150-200 ppm

(DON'T!)
WASTE WATER

(DON'T!)
WASTE WATER

2) The Impurity Profile

Lithium is never dissolved alone in water. You'll find a bunch of sodium, magnesium, sulfates, boron, calcium...

There are probably 10 to 15 different elements that can also be dissolved into the brine. That plays a factor in which technology is the most efficient!

The "worst" other element you'll find next in a lithium-rich brine is magnesium, as it's problematic for many extraction technologies.

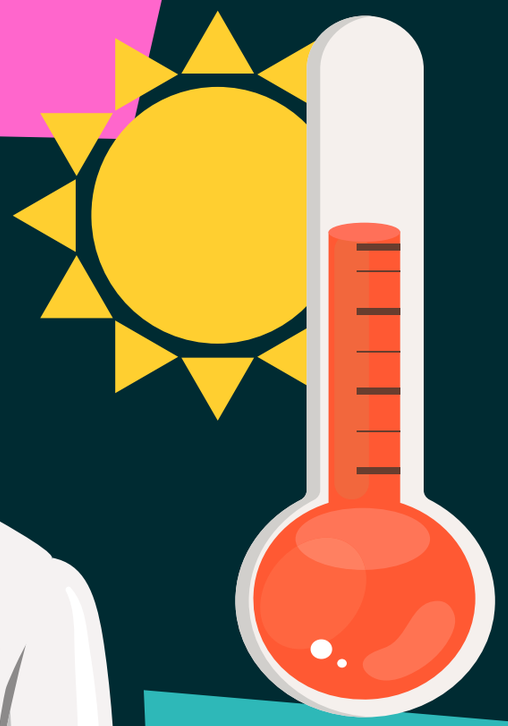
That Magnesium content leads to huge geographical discrepancies:

In Chile, they typically see one Lithium for every 4-6 magnesium. In Bolivia, they have 25 magnesium to every one Lithium! That's why they had zero success in producing Lithium.

... yet, EnergyX's technology still hit 94% recovery rate, even in this challenging environment.

3) Brine Temperature

(DON'T!)
WASTE WATER



In most of South America, you're just dealing with ambient temperature brine. You pump it up, and it's relatively near the surface!

In other geographies, though, Lithium is found in geothermal brines. Some are not that deep (e.g., Vulcan in Germany), but some others are much more challenging:

In California, in the Salton Sea, their lithium-rich brine is a few thousand meters deep and comes out at over 300°C. Your system needs to be able to deal with that!

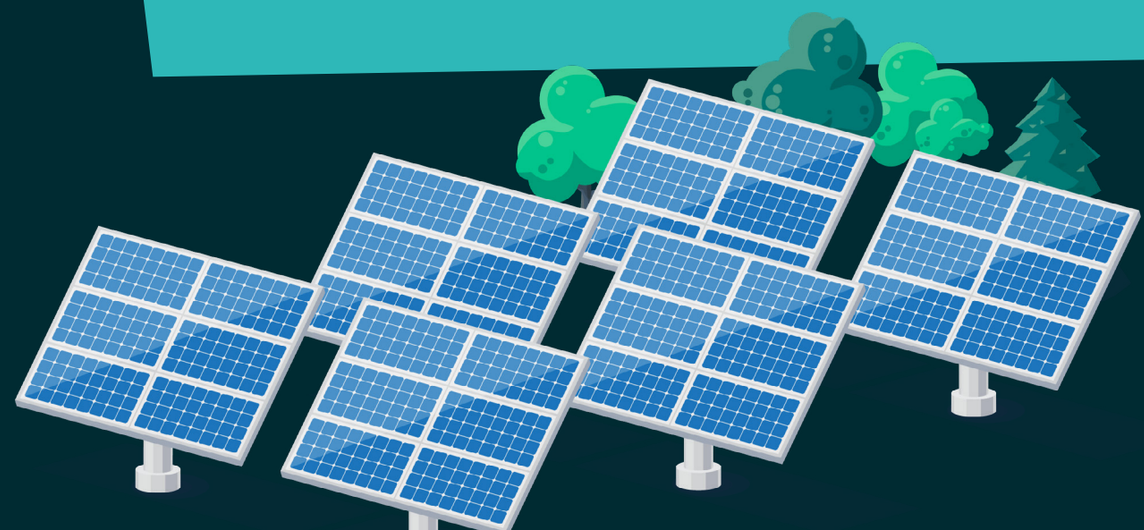
4) Regional Characteristics

(DON'T!)
WASTE WATER

Many additional parameters play a role in the technological choice: what's the local infrastructure? Where can you get your energy and/or your reagents from?

Yet, there's one key parameter that trumps all others:

The availability of freshwater is key. It's decent in California or Arkansas, but it's very limited in the Lithium Triangle in South America. That's why it's one of our biggest competitive advantages that both our membrane and solvent extraction technologies don't need fresh water as an input!



Wanna get more of the “Lithium King’s” secrets? More insights from the game-changing company with 60 patents that’s disrupting the battery industry?

Embark on a deep dive with Teague Egan, this week on the (DON'T!) WASTE WATER Podcast!