



# Seawater Desalination

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A large red triangle pointing downwards, positioned on the left side of the slide, partially overlapping the text.

**Desalination  
mainly by MSF  
&/or RO**

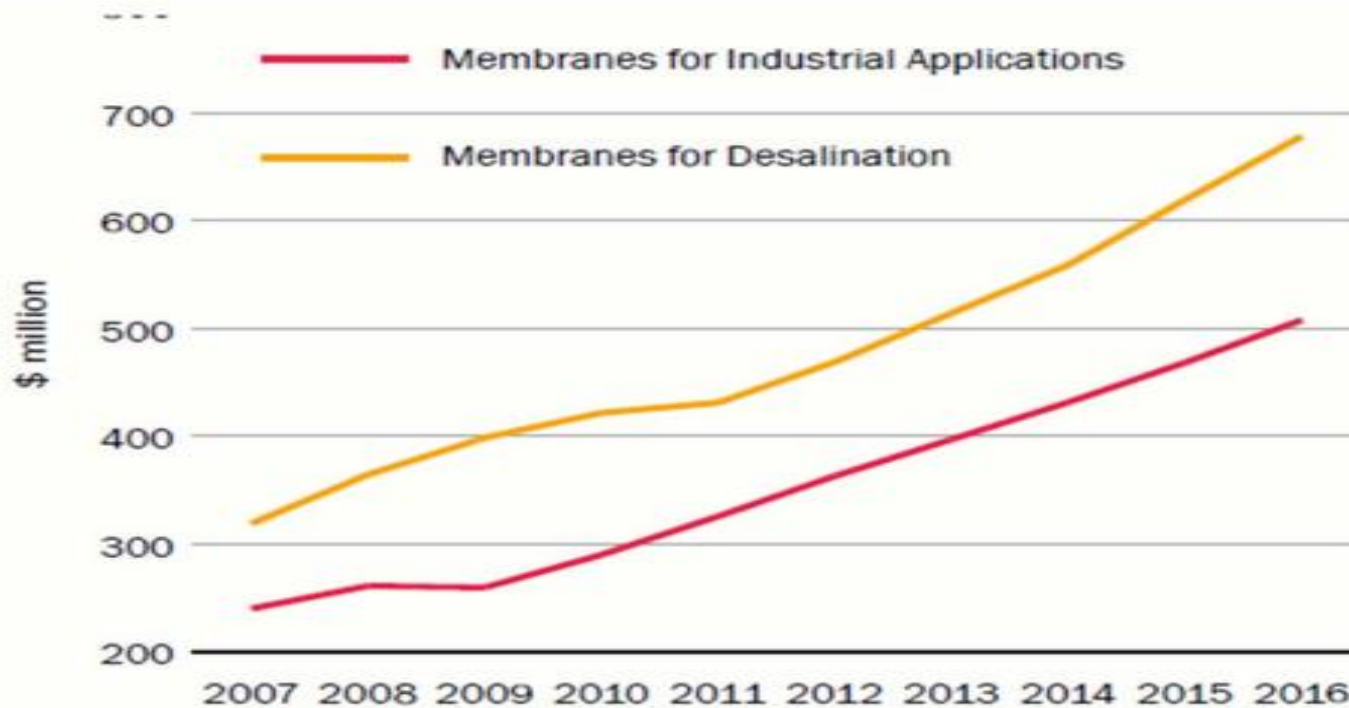
The world's water consumption rate is doubling every 20 years.

It is projected that by the year 2025 water demand will exceed supply by 56%

Supply  
demand

The supply of fresh water is on the decrease. Water demand for food, industry and people is on the rise.

Global RO/NF membrane market forecast to 2016



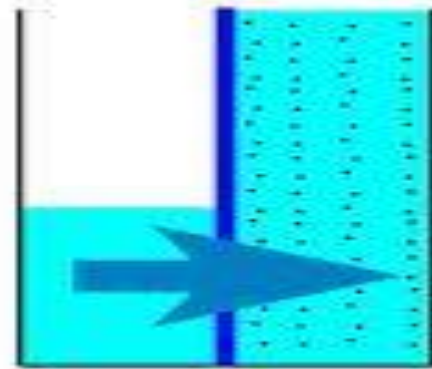
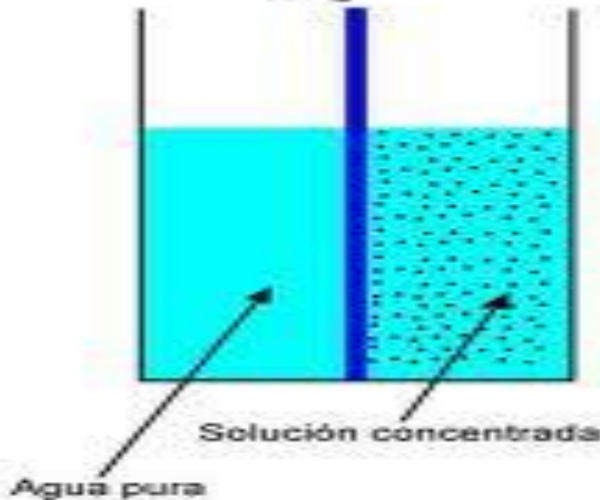
# market

With higher population and growing industries, there is a high demand for water treatment, specially in salty water desalination.

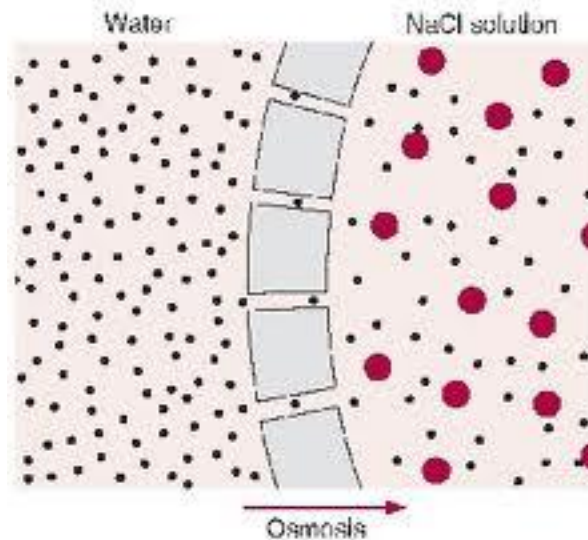
- What is osmosis?

- What is osmotic pressure?  $\pi = mRT$

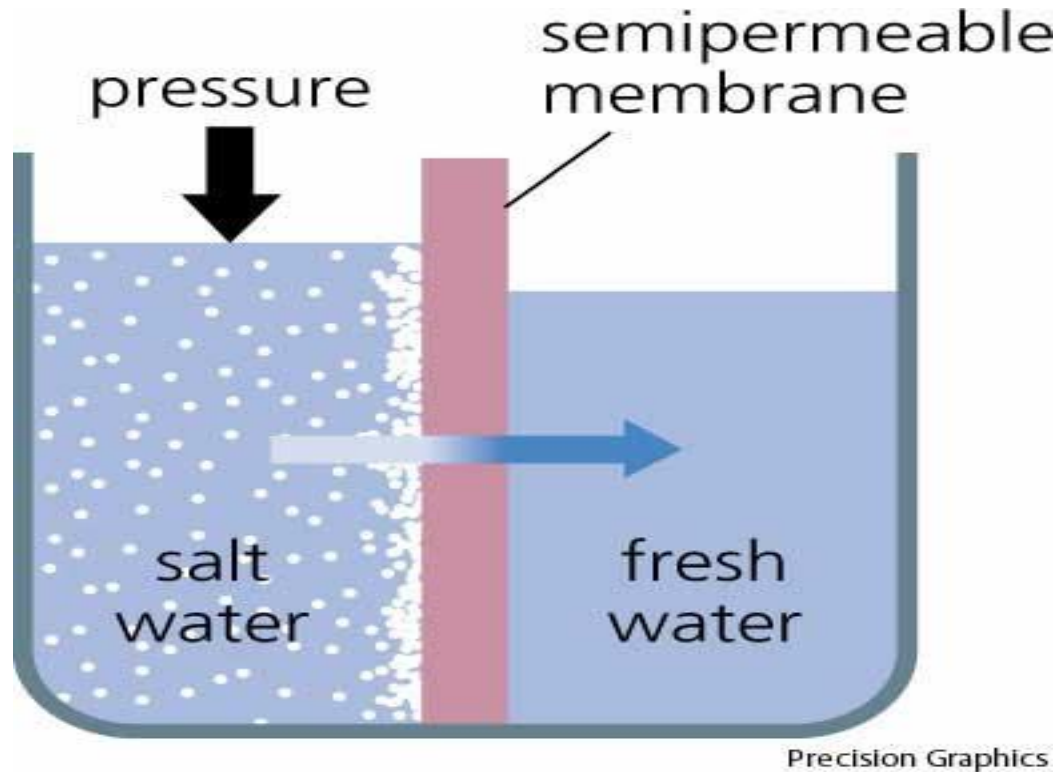
Membrana semipermeable



El agua se difunde a través de la membrana hasta que la presión de la solución impide el movimiento.

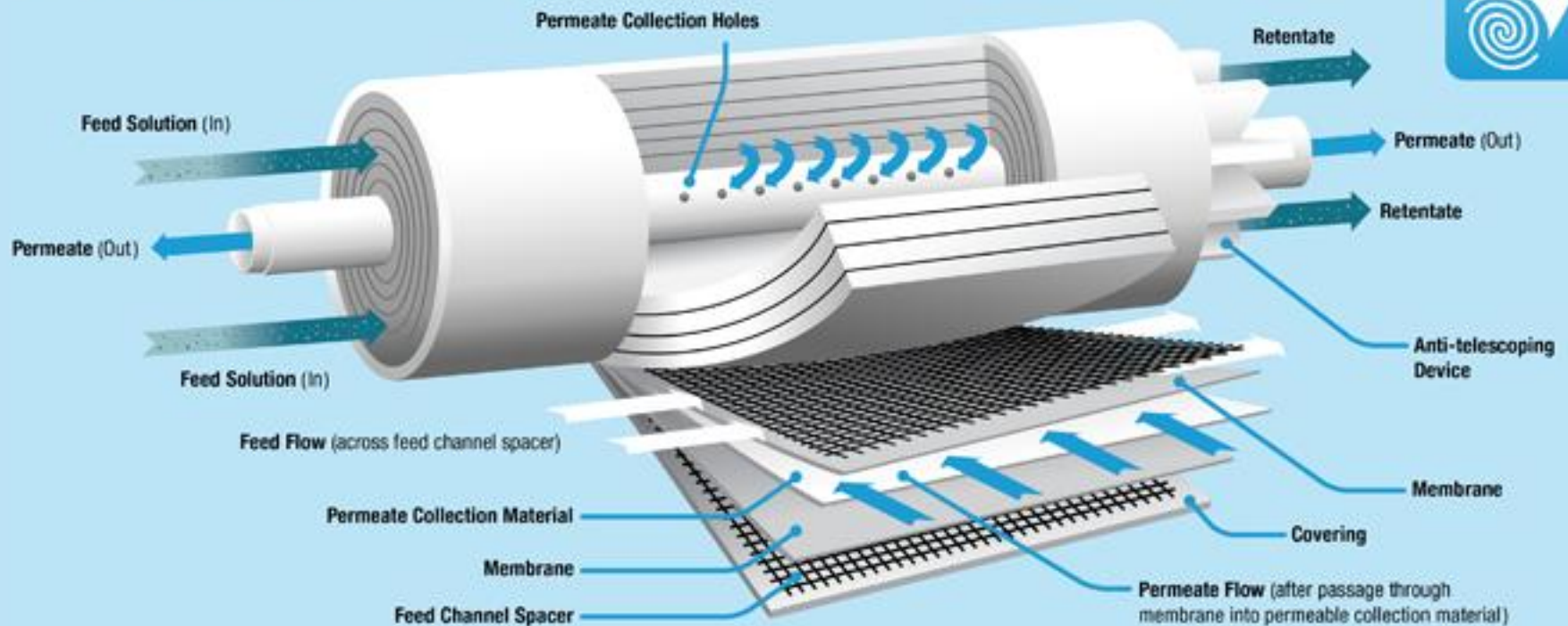


- What is Reverse Osmosis?
- Pressure needed for seawater.





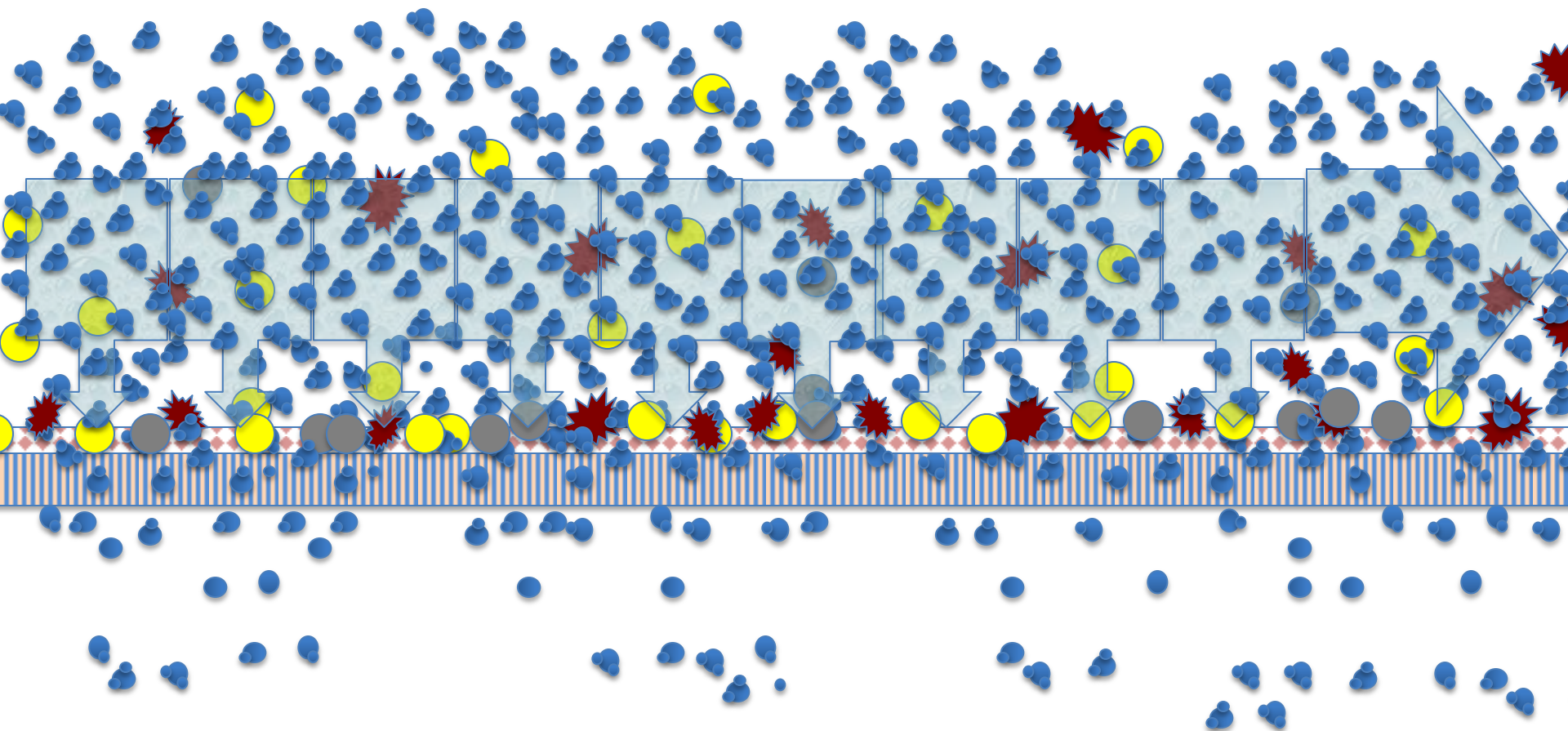
## Spiral Membrane Configuration

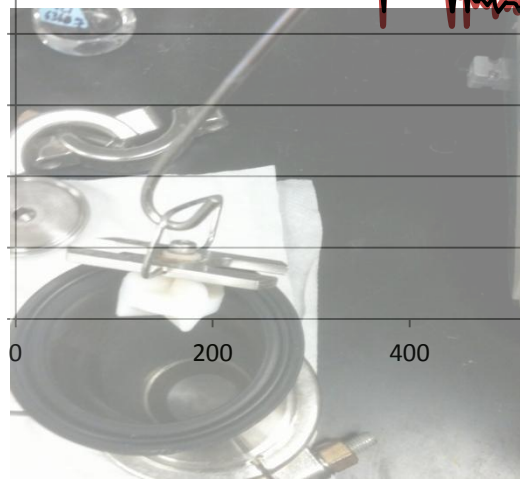
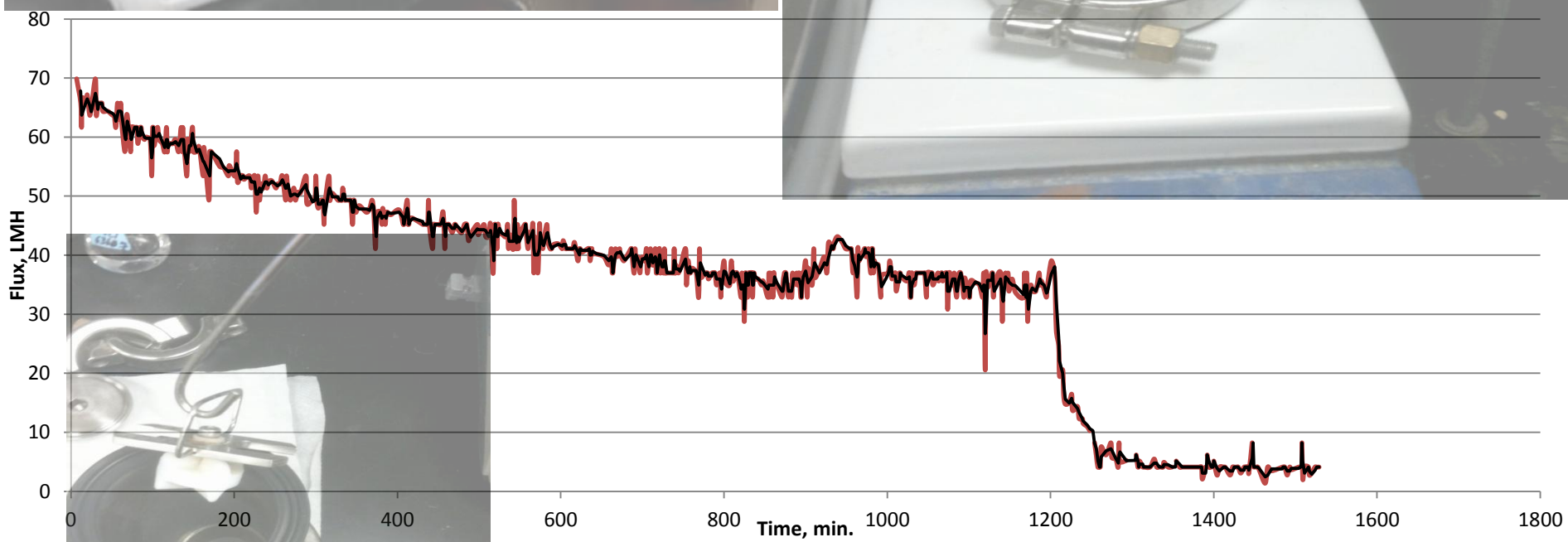


# challenges

- 1. Cost**
- 2. Chemical use/disposal**
- 3. Membrane deterioration**
- 4. Environmental impacts**







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Shukran

