Solving water scarcity with sustainable, affordable, and abundant Blue Water from OceanWell's deep sea desalination technology.

# **Ocean**Well<sup>™</sup>

Teaser Deck



### **Executive** Summary

**OceanWell** is an international water technology company developing an environmentally safe supply of **Blue Water** for stressed regions of the world.

We have **redesigned desalination**, transforming it from a crude, expensive, brute force technology used only as the water source of last resort; to a clean, elegant solution for affordable, abundant, fresh water.

**Our modular sub-sea water farm technology** uses hydrostatic ocean pressure at depths of 400m+ to naturally drive the reverse osmosis process and make freshwater. We do this at a reduced cost, with vastly improved energy efficiency, without harming marine life, without producing a strong brine, and with no onshore plant.

We have completed prototype testing at the US Navy's Deep Ocean Simulation Facility and built a comprehensive patent portfolio.

Now, **after 7 years of development**, we announced our first municipal customer in Southern California to finalise our testing program and build the first commercial Blue Water farm, producing more than 40,000m3 per day.

OceanWell is led by an engineering professor, an ex-Goldman Sachs partner, an experienced startup founder and a water industry veteran; who previously founded and sold Seven Seas Water Group.





### The Problem: No Water

Only 1% of earth's water is drinkable

5 Billion People will face water shortage by 2050

**Onshore Desalination has too many failings:** 

- High Energy Costs and Carbon Emissions
- **V** Kills 100% of Entrained Lifeforms
- Strong Brine Harms Marine Life
- **C** Toxic Sludge
- **C** Large Coastal Footprint
- **Widespread Resistance**





### The Solution:

### **Desalination 2.0**

Modular subsea water farms leverage the ocean's pressure at depth to drive vast improvements in fresh water production from the sea

Up to 40% energy reduction
No marine life mortality
No toxic brine
No onshore plant
No chemicals
No solid wastes
Extremely Cold
Boron Safe

### **Blue Water Farm**

### LifeSafe<sup>™</sup> Reverse Osmosis in the Deep Sea

#### A Modular, Nature-Based Solution

The world's best option to bolster water resilience efforts, while safeguarding marine life and protecting the coast.

#### **13** Patent Families

9 Utility Patents (34 Intl filings, 3 allowed)4 Design Patents (14 Intl filings, 4 allowed)5 Trademarks (21 Intl filings)

### 400 Meters Deep 4,000 m<sup>3</sup>/day per pod

8-m diameter

30-year life





### The Evolution of seawater reverse osmosis



Human Life | levelized cost, specific energy, solid waste, land use, ocean use, chemical use, freshwater quality Marine Life | ocean use, entrainment mortality, brine strength, intake velocity, outfall velocity

Earth | land use, specific energy, chemical use, entrainment mortality, solid waste, brine strength, intake velocity, outfall velocity Ocean | ocean use, chemical use, entrainment mortality, solid waste, brine strength, intake velocity, outfall velocity Risks | land use (i.e., coastal footprint), ocean use (i.e., offshore distance, sea floor footprint, sea surface footprint), chemical use, fouling risk, sea level rise Inputs | specific energy (i.e., energy use), land, use, ocean use, chemical use, entrainment mortality, intake velocity Outputs | specific energy (i.e., emissions), land use, ocean use, solid waste, brine strength, outfall velocity

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## Compared to traditional desalination

**OceanWell** is simple and benefits the environment.



### **OceanWell Water Farm** Field Layout Options







"High-pressure membranes, such as nanofiltration or reverse osmosis, have been extremely effective at removing PFAS." Environmental Protection Agency

But at-home reverse osmosis and nanofiltration systems are expensive.

OceanWell aims to ensure that everyone has access to drinking water free of PFAS and other contaminants.

### Ultra Clean Water



#### <sup>⊗</sup>Confidential

### Path to Production from Lab to Ocean

- TRL 4 | Complete, Lab testing of subsea reverse osmosis prototype
- **TRL 5** | Ongoing, Factory acceptance testing of membranes, pumps, crossflow, intake, outfall, etc.
- **TRL 6** | 2024-25, Reservoir testing of complete submerged water filtration package
- TRL 7 | 2025-26, Ocean testing from an offshore vessel



**GOM Testing Permit** – Approved 2023

HI Demonstration Permits – 90% Complete, Expected 2024



#### CA Testing & Demonstration Permits – In Progress, Expected 2025-26

**Scalable Production** 

CRL9

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LVMWD is one of OceanWell's fourteen member California Working Group Water Agencies.

10 of which have written public letters of support.

In August 2023 OceanWell signed an MOU with Las Virgenes Municipal Water District ("LVMWD")

- LVMWD will provide OceanWell with access to key assets to accelerate deployment of the technology.
- We will conduct a two-phase pilot testing program that maximises funding efficiency and minimises time to deployment.
- The water farm is intended as a utility scale base load solution for LVMWD's water portfolio and envisages a supply of more than 10 MGD (40,000m<sup>3</sup> per day).

Together, we are partnering to provide a safe, abundant and costeffective supply to the California market. 3

Ocean Well is a California born and bred technology, specifically designed to address **every environmental concern** raised around desalination.



### **OceanWell** is large scale

High-quality freshwater unaffected by climate change, drought, sea level rise, algal blooms, or pollutants with no drilling, no chemicals, no high salinity outfall, and no solid wastes.





OceanWell water (projected performance targets)



primary water supply methods California's Southern

> **Recycled** water GWRS. CA's largest indirect potable reuse plant Orange County = 100,000 AFY

# **OceanWell** is a Climate Solution.

Blue Economy Platform Our unique siting, LifeSafe™ intake system, and subsea infrastructure opens a universe of further possible uses.

(1) Marine Aquaculture 2 Nutrient Upwelling (3) Offshore Power Stations 4 Shared At-Sea Costs **5** Environmental Monitoring **6** Ocean Oxygenation (7) Once-Through Cooling (8) Ecosystem Restoration **9** Groundwater Recharging Drinking Water **T** Fresh Water Aquaculture (12) Chilled Agriculture (13) Onshore Controls Ocean Carbon Removal



### **Ocean Well Water** is sustainable

A safe and reliable supply of fresh drinking water for the world.

**Bring more fresh water to land,** while advancing 11 of the 17 UN Sustainable Development Goals for 2030.

Produce drought-proof water to expand water resilience efforts in some of the driest places on Earth.

**Eliminate toxic contaminants,** viruses, bacteria, microplastics PFAS, and heavy metals from the water we drink.

Decentralize local supplies, diversifying today's best tools to combat global water scarcity.

**Update aging infrastructure,** creating new jobs, sustaining agriculture, and growing the economy.

Help adapt to climate change by feeding the natural water cycle and bringing chilled water to land.





# Thank you