

A photograph showing three children swimming in a body of water that is completely covered with a thick, vibrant green layer of algae. The children are in the foreground and background, looking towards the camera. The water is dark, and the algae is a bright, almost neon green.

# Green Water Solution

## Innovation in Phosphorus recapture



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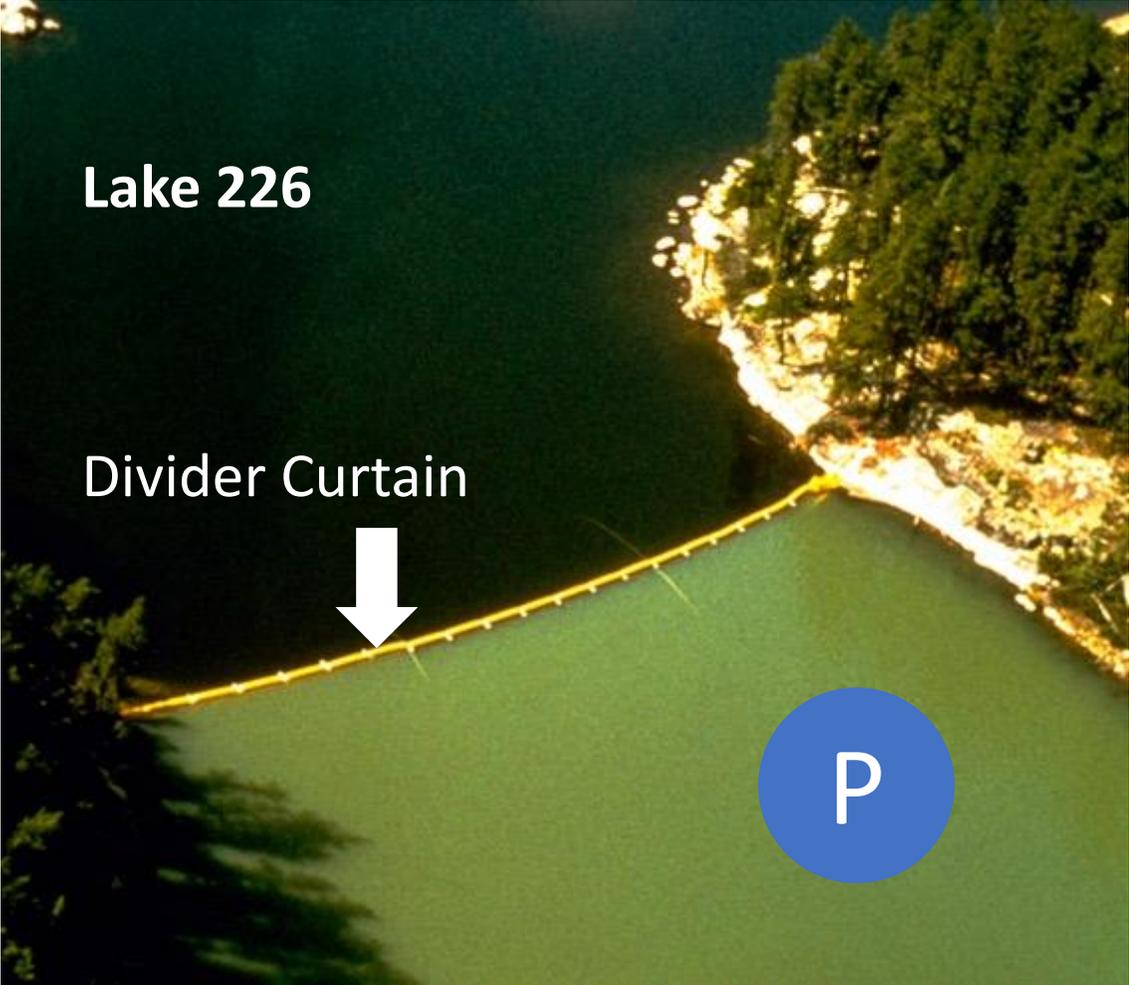


**World wide problem >3.000.000.000 €/year**



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# Phosphorus: essential for life



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Cheaper and 100x smaller

Required area current processes

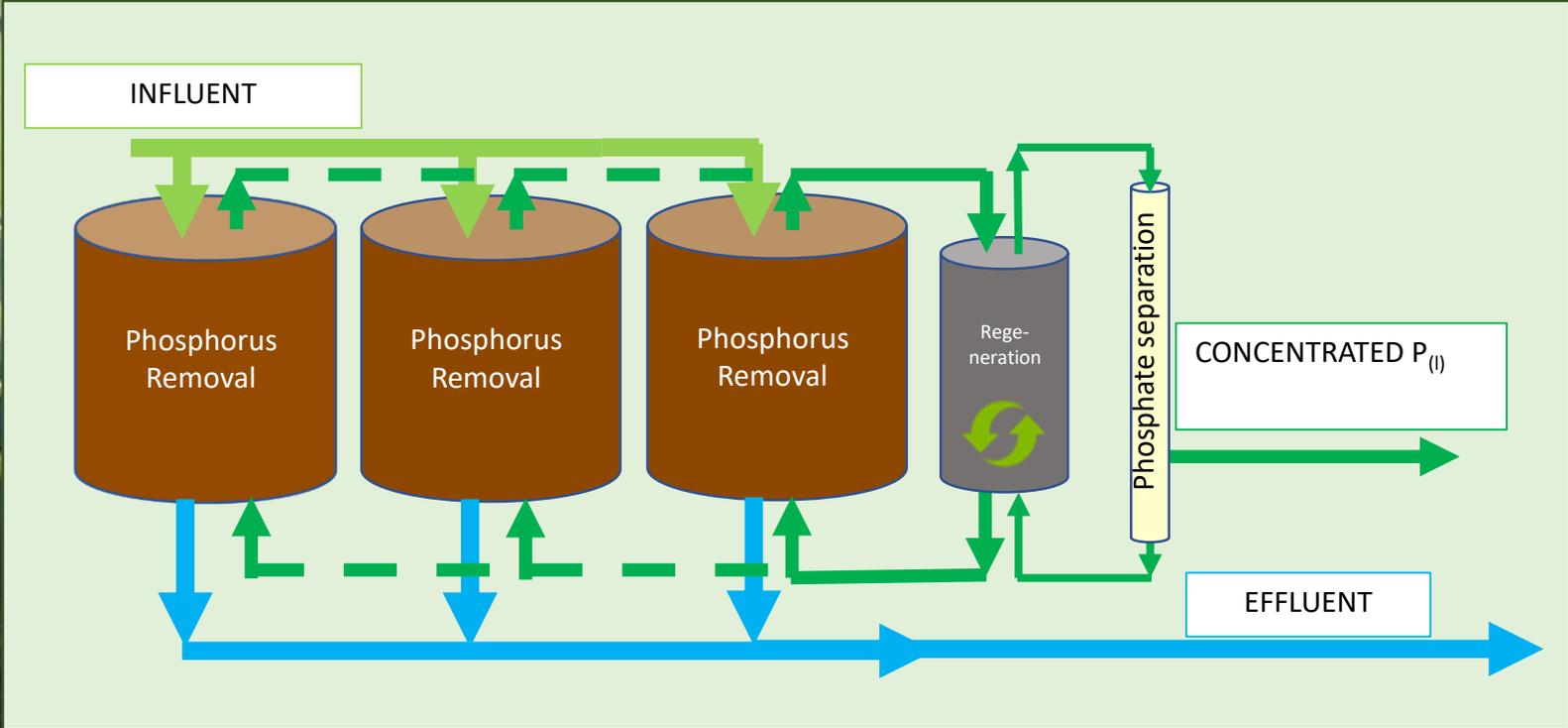
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# Removal and Recovery



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# Where are we?

## SO FAR

- Proven Technology to extreme low P-level (<3ppb)
- Patent Pending
- Technical Readiness Level 7
- Successful re-usable regeneration fluid



## CHALLENGES

- Entering new markets
- Commercial feasibility recovered phosphorus
  - Phosphate Ore runs @ 0,80 \$/kg P
  - Best recovery price is around 46,- \$/kg P

## NEXT STEPS

- More pilot studies at potential projects
- Proof benefits of recovered phosphorus
- Effect on micro-pollutants?

## ADVANTAGES

- Simple
  - Scalable from small domestic to large lakes or rivers
  - Flexible and easy to design
- Eco Friendly
  - Small footprint on carbon, space and Environment
  - Durable operations
- Recovery of phosphorus to sellable product



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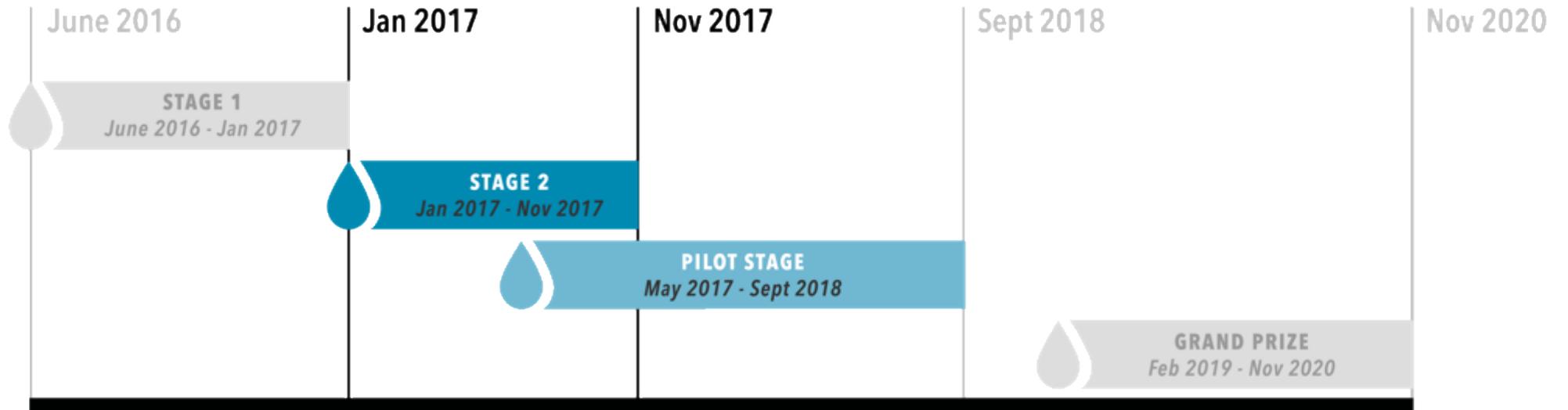
*Innovation in Phosphorus Recapture*



# THE GEORGE BARLEY WATER PRIZE

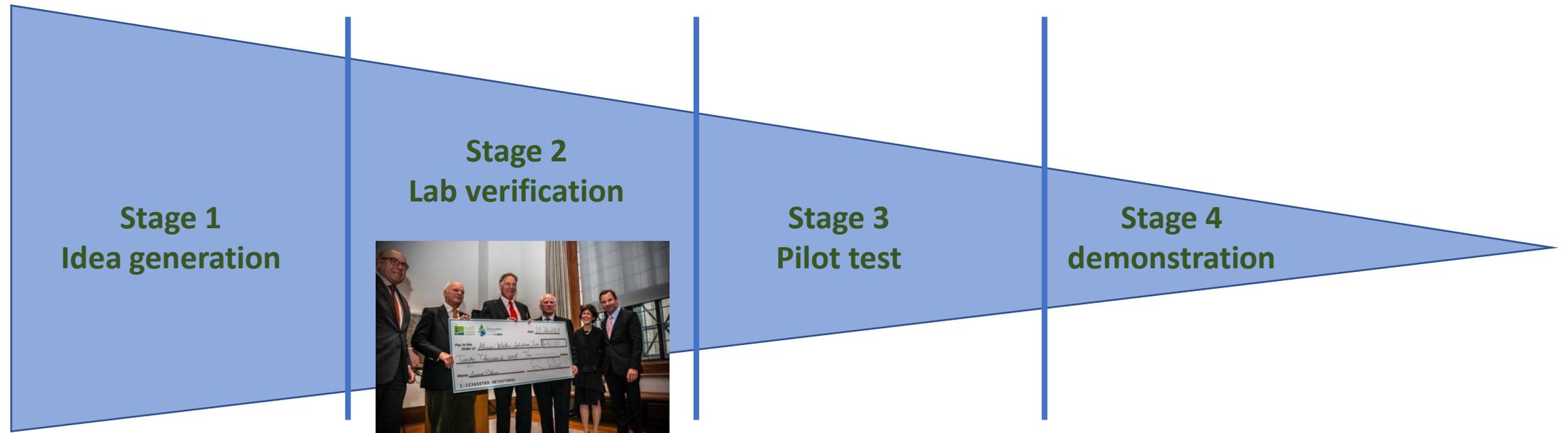
## OBJECTIVES:

- Radical cheaper: <math><120\\$/\text{kg P}</math> removed
- Down to ultra low P levels (10 ppb P)
- Very small footprint



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# Innovation Funnel



**Stage 1**  
**Idea generation**

> 200 participants  
Paper submission

Prize: 25 k\$

**Stage 2**  
**Lab verification**



Ca 80 participants  
0,6 m<sup>3</sup>/day  
2 weeks

Prize: 50 k\$

**Stage 3**  
**Pilot test**

10 participants  
31 m<sup>3</sup>/day  
3 months

Prize: 200 k\$ (4x)

**Stage 4**  
**demonstration**

4 participants  
15.000 m<sup>3</sup>/day  
1 year

Prize: 10 million \$



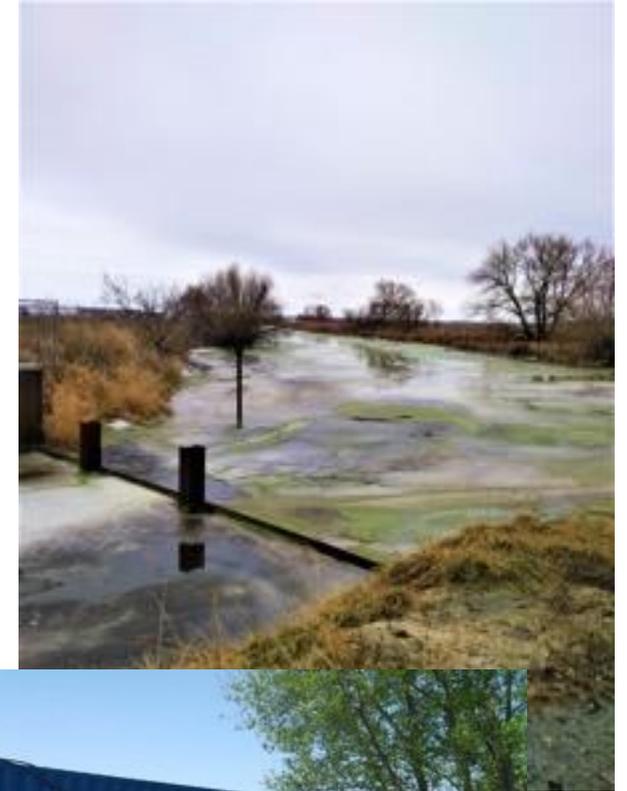
THE  
**GEORGE BARLEY**  
WATER PRIZE



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# Pilot stage impressions

## Holland Marsh, Canada



# Lessons learned:

- Very good exposure
- Stimulates innovation
- Prize design should allow for modifications
- Prize organization needs technical expertise
- Pre-financing can be an issue



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