



# The Clear Water Revolution

Presenting: OriginClear, Inc.  
3<sup>rd</sup> Quarter 2017

A horizontal graphic of a water splash with bubbles, spanning the width of the slide.

*A leading provider of water treatment solutions.*

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# Who Is OriginClear?



- A public company (OCLN) with a loyal investor base.
- Developed a breakthrough technology for high-speed water treatment.
- Commercial model:
  - Licensing,
  - Joint Ventures,
  - Services, manufacturing and consumables for licensees.
- Now acquiring profitable water treatment companies.

# The Technology

- Electro Water Separation™ technology (EWS) developed entirely in-house.
- 43 patents and patent applications worldwide, supporting 11 key inventions.
- Advanced Oxidation breakthrough completed March 2016.
- Final suite of technologies now known as EWS:AOx™.

# The World's Water Problem...



- By 2030, world demand for water will outstrip supply by 40 percent.
- Close to half of the world's population will be living in water-stressed areas.

Source: ["A Blue Revolution – Global Water"](#)

# ...Drives Growth of an Industry



- Global water services industry on pace to double its annual revenues to \$1 trillion by 2020.
- Growth trend driven by scarcity issues and growing demand for water treatment.

Source: ["A Blue Revolution – Global Water"](#)

# Two Key Problem Areas

1. Extremely fouled, oily organic effluents, such as:
  - Oil and Gas produced and frac flowback water.
  - Landfill runoff (“black water”).
  - Agricultural lagoons and runoff.
  - Cooling tower water.
2. Toxins in drinking water supply:
  - Volatile Organic Compounds (VOCs) – solvents etc.
  - Endocrine Disrupting Chemicals (EDCs) – hormones etc.
  - Pharmaceuticals – valium etc.

# Solution #1: Fouled, Oily Waters

- Conventional technology...
  - Demands continuous chemicals.
  - Settling ponds and tanks required.
  - If done poorly, can shorten membrane and filter life.
- **Electro Water Separation™** solution:
  - Chemical-free.
  - Scalable continuous process.
  - Promotes long life in membranes and filters.



# Solution #2: Toxins in Water

- Current technology won't scale, therefore:
  - Drinking water not treated for micro-toxins.
  - Aquifers tainted (e.g. dioxane in SoCal wells).
  - “Toilet-To-Tap” can contain hormones, drugs.
- **Advanced Oxidation (AOx)** eliminates:
  - Ammonia, Bacteria.
  - Volatile Organic Compounds (VOCs).
  - Endocrine Disrupting Chemicals (EDCs).
  - Pharmaceuticals.



# Evolution of a Technology

- 2007-2008: early research in algae production.
- 2009-2011: EWS extracts algae from water for biofuels.
- But the fracking boom sidelines the algae biofuel market...

## ...THE PIVOT TO WATER TREATMENT:

- 2011: EWS effectively clarifies oil & gas production water.
- 2015: EWS first commercial industrial water customers.
- 2015: EWS effectively sweetens sour wells without chemicals.
- 2016: AOx reacts micro-contaminants in water.

# Commercialization Strategy

- Wide PR visibility to attract early adopters.
- Industry engagement to develop awareness.
- Commercial Channels:
  - Master licensee for China (100% owned HK sub)
  - Strategic joint ventures
  - Licensees who are system integrators
  - Our own manufacturing and supply chain for licensees.

# Commercial Network



- Master licensee for China:  
OC Technologies (HK)
- Joint Ventures:
  - Malaysia
  - Thailand
  - Cobalt Aqua Control (Texas)
  - Unannounced (US Petro)
  - Ennesys (Middle East)
- OEM Licensees:
  - North Africa: UltraEpur
  - Europe: Depuporc
  - China: SDTH (for Sinopec)
- First Certified Manufacturer:
  - Progressive Water Treatment (Texas)

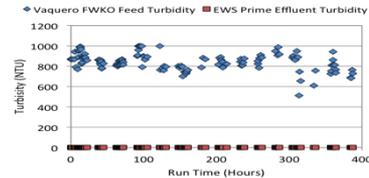
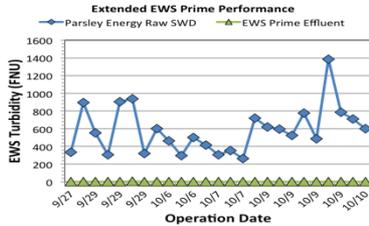
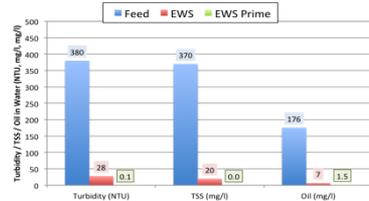
# Proving The Technology

- [TriSep and OriginClear Release Technical Paper Results Confirming Treatment For Produced Water Reuse](#)
  - Paper presented at International Water Conference (IWC) 2015
- [Demonstration system proved in pilot program in Kern County](#)
  - Extensive third-party testing demonstrated 2016 pilot program a technical success.
- Earlier validations:
  - Colorado Western Slope
  - Texas Permian Basin.

# Wide Range of Asia Test Cases

<i>Description</i>	Initial COD mg/l	Initial NH <sub>3</sub> mg/l	Final COD mg/l	Final NH <sub>3</sub> mg/l	% COD removal	% NH <sub>3</sub> removal
<b><i>MK (China)</i></b>	13,000	7,100	840	2,200	94%	69%
<b><i>HK (China)</i></b>	2,895	3,210*	656	11*	77%	97%*
<b><i>WW (M'sia)**</i></b>	830	13	335	0	60%	100%
<b><i>LG (China)</i></b>	2,975	3,500	1,000	610	66%	83%
<b><i>NY (China)</i></b>	2,058	23	204	0.5	90%	98%
<b><i>YY (China)</i></b>	67,584	10,460	16,477	402	76%	96%
<b><i>Average</i></b>					<b>77%</b>	<b>90%</b>

# Extensive Field Experience



Actual samples of water cleanup stages as part of total system

# Oil Industry Validates EWS

- 2016: Kern County's Valley Water Management authority commissioned 60-day test.
- Results met VWM test plan.
- Public acknowledgment by VWM representative.
- Additional pilots are in planning stage.

*Case Study: OriginClear technology decontaminates Produced water rapidly and economically in Kern County*



*A demonstration system based on OriginClear™ technology effectively decontaminated Produced water in a pilot program at a storage and disposal site in the USA's most productive oil county.*

*Extensive third-party testing demonstrated that the pilot program was a technical success.*

[\*Read more \(PDF\)\*](#)

# Breakthrough at Oil Supermajor



- Sinopec is world's second largest oil company.
- Q2: launched [pilot program](#).
  - Sinopec shale gas site in China's Shandong province.
  - Supported by provincial government.



Sinopec success is a key domino for adoption in China and beyond.

# First Commercial Scale Site

- Malaysia: landfill retrofit:
  - ~\$400K in 2 phases
    - Consumables (~30%)
    - Royalty (undisclosed)
    - Share of joint venture
- 300 landfills in Malaysia that all need retrofits!
- Key case study for landfill projects in China, USA...



# ...into academic program.

- In Q1, entered Master Research Agreement w/Florida Atlantic University (FAU) in Boca Raton, FL.
- Focus on landfill water treatment in USA, using Asia experience.
- FAU now testing East US landfill runoff samples, will correlate with Asia results.
- **USA awareness of landfill issues growing, timing excellent for us.**

# Major Opportunity in Permian



- Permian Basin = “America’s Saudi Arabia”
- Massive growth creating water challenges.
  - 2017 estimated water use: 14 MMb/d
  - 2022 forecasted water use: 23 MMb/d – nearly double!
- *“...the largest single cost of operating a well — sometimes more than half of total operating cost — is produced-water disposal.”*
- Produced water disposal is a major opportunity for OriginClear.

**Wipe Out! - How Will Permian E&Ps Dispose Of All That Produced Water?**

RBN Energy Daily Blog <https://goo.gl/uuZQe7>

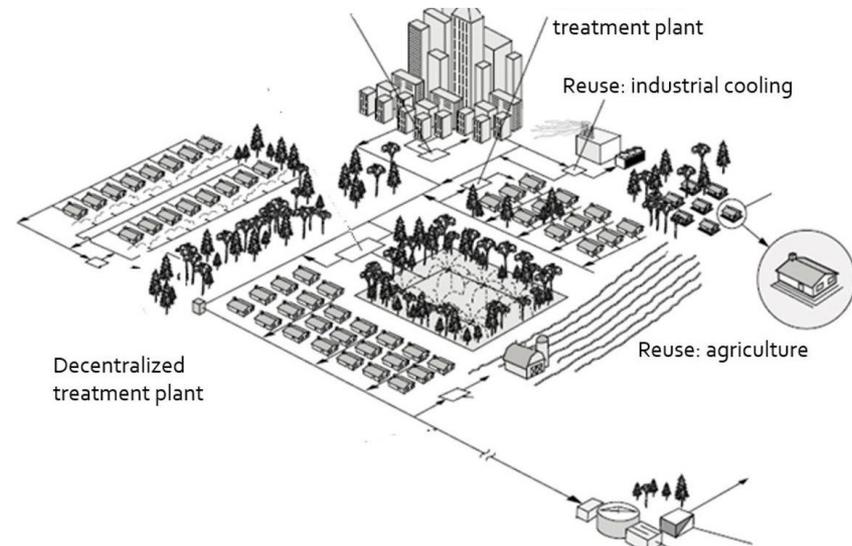
# Advanced Oxidation Potential



- Replacing biocide used to kill Sulfur-Reducing Bacteria (SRB) that leads to sour crude.
  - Initial tests have shown effectiveness, potential 50% cost reduction over conventional biocides.
- Consumer opportunity to develop “faucet device” that eliminates drinking water micro-toxins.
  - Status: R&D

# Meanwhile, Decentralization...

- America's water treatment infrastructure is broken.
- Quarter trillion dollars required to fix it – not going to happen!
- Alternative: end users process water on site.
- This is the distributed water revolution.



Source: [Lux Research](#): The Future of Decentralized Water

# ...Drives Acquisition Strategy

- Harness the fast-growing “distributed water” trend by...
- ...Acquiring profitable water treatment companies....
- ...also creating captive distribution assets for our technology.



2015: first company acquired — PWT

# PWT Wins Contracts Nationwide



- Q2: PWT ships mobile reverse osmosis (RO) treatment facility to Santa Clara Valley Water District.
- \$250K+ competitive bid award, won by a Texas company in California!



# The Revenue Picture

Revenue and Gross Profit  
take off from 2015 to 2016.

(in round numbers)	2015	2016	Change
REVENUE	1 M	5 M	+ 400 %
GROSS PROFIT	100 K	1.5 M	+ 1,400 %

# Revenue and Profit Factors

What caused the big jump from 2015 to 2016?

- ✓ First acquisition, PWT, closed 1 October 2015, ...adding \$4M+ in revenues  
...and a big boost in gross profits (about 30% of revenues).

(in round numbers)	2015	2016	Change
REVENUE	1 M	5 M	+ 400 %
GROSS PROFIT	100 K	1.5 M	+ 1,400 %

Additional Factors:

- ✓ Technology revenue increased by 50% to about \$300K.
- ✓ Operating Losses cut in half — with continuing reductions in corporate overhead and operating costs.

# Outlook for 2017

After slow start in Q1, PWT sales on strong uptrend:

- ✓ 30M+ in quotes out
- ✓ Healthy Q2 sales rate.
- ✓ May invoices + orders exceeded \$1M!

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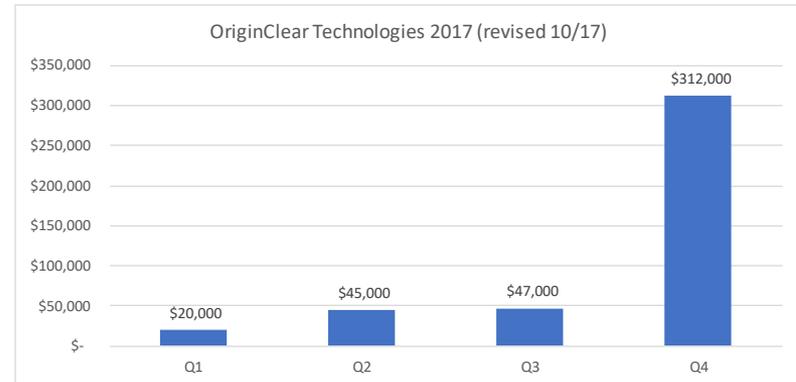
- ✓ Technology div:
  - ...Sharp uptick in demo sales.
  - ...Royalties start this year.
  - ...Planning 50% growth in 2017.

# Technology Momentum 2017

	EMEA		ASIA				AMERICAS	
2017	Algeria	Spain	Malaysia	India	Thailand	China	Brazil	Totals
Q1	<b>10,000</b>	<b>10,000</b>						20,000
Q2		<b>25,000</b>		<b>10,000</b>	<b>10,000</b>			45,000
Q3					<b>11,000</b>	<b>25,000</b>	<b>11,000</b>	47,000
Q4	20,000	65,000	82,000	95,000		50,000		312,000
<b>Total</b>	<b>\$ 30,000</b>	<b>\$ 100,000</b>	<b>\$ 82,000</b>	<b>\$ 105,000</b>	<b>\$ 21,000</b>	<b>\$ 75,000</b>	<b>\$ 11,000</b>	<b>\$ 424,000</b>

revised October 2017 - Bold Font = Actual

- ✓ Initial revenues: first licensee services, demo purchases, building into royalty stream.
- ✓ First royalties start December.
- ✓ \$2 million+ already on 2018 horizon.



# Profitability Outlook

In addition to organic growth:

- ✓ Continued cost management,
- ✓ Profitable acquisitions, ...Intended to supplement organic growth.

(in round numbers)	2015	2016	Change
REVENUE	1 M	5 M	+ 400 %
GROSS PROFIT	100 K	1.5 M	+ 1,400 %

- ✓ Cost reductions already made at corporate...
- ✓ ...Negotiating one or more acquisitions to accelerate to profitability.

# Management Team



Riggs Eckelberry

Founding Chairman  
and CEO

Multiple dotcom exits including Yellowpages.com in 2004. Prepped CyberDefender for NASDAQ IPO mid 2000s.

Jean-Louis Kindler

President, OriginClear  
Technologies

Co-founder of OC joint venture Ennesys. CEO MHS Equipment (42 M€, 360 employees in 2008)

Bill Charneski

President, OriginClear  
Group

15 years Dow Chemical in management, sales; acquisition and innovation track record.

Marc Stevens

President, Progressive  
Water Treatment

Over 15 years, built PWT into solid water player with outstanding reputation.