



# Water Management Value Chain

Recycling for Profits

A horizontal graphic of a water splash, showing a wave of water with droplets and bubbles, positioned above the text.

*Breakthrough water cleanup technology for oil & gas,  
algae and other water-intensive industries*

# The Challenges

- Too much contaminated water
- Disposal options are becoming less attractive
- Environmental and regulatory issues
- Recycling for beneficial use means treatment
- Chemicals are expensive and ineffective
- Balancing the cost of treatment vs. disposal
- Every installation or at least region is unique

# Water Management Costs

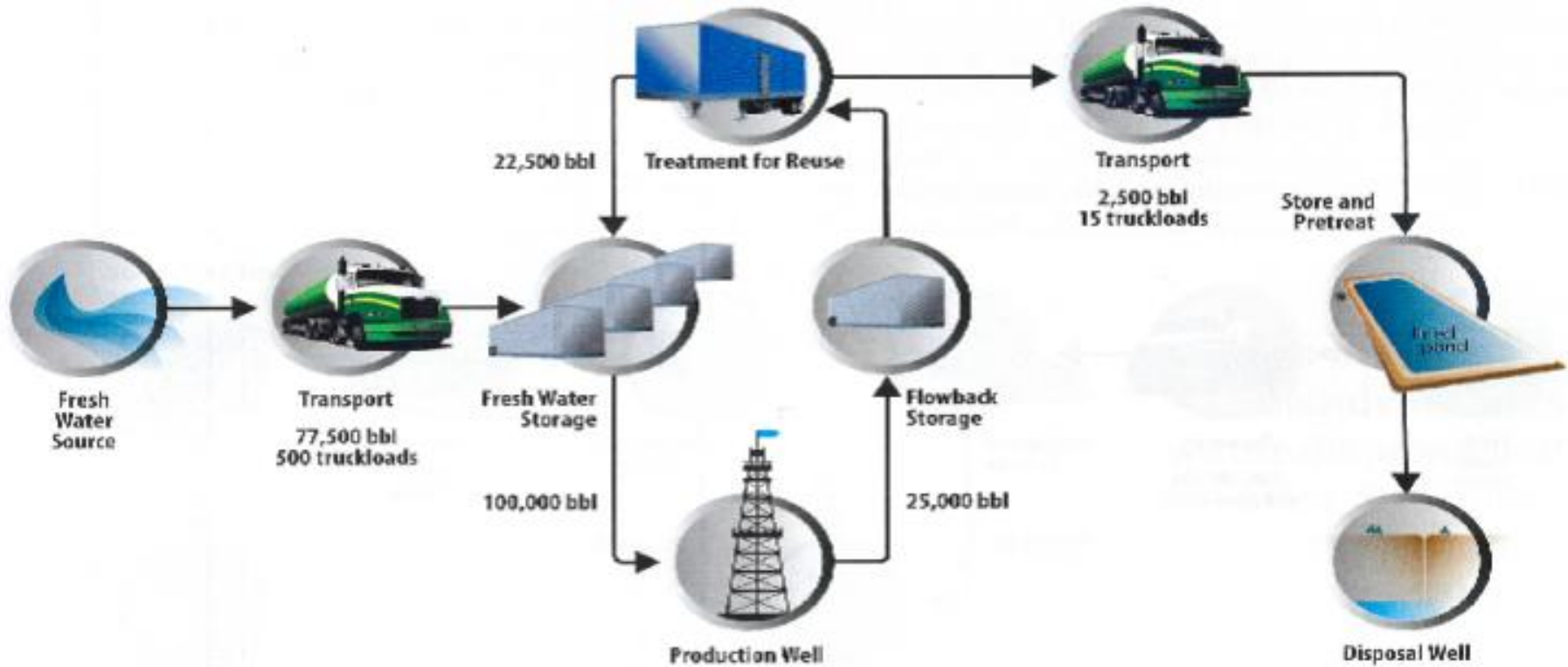
Description	Low	High
Freshwater Cost	\$0.25	\$1.75
Trucking to Wellhead	\$0.50	\$8.00
Trucking to Disposal	\$0.50	\$14.00
Disposal Well	\$0.50	\$3.00
Total Cost	\$1.75	\$26.75

Source: Jefferies, CDM Estimates

## Other Costs:

- Water Storage
- Site Preparation
- Equipment Leasing
- Other ...

# Water Management PFD



Source: Shale Play Water Management, Sept/Oct 2013, Understanding and Optimizing the Water Management Value Chain, Bob Kimball

# Cost of New Frac Water

Cost of Frac Water	Current	With EWS™ PETRO
<b>Frac Water Usage/Month</b>	50,000	50,000
<b>% Available from Recycling</b>	0%	90%
<b>Bbl Frac Water from Recycling</b>	0	45,000
<b>New Frac Water Required</b>	50,000	5,000
<b>Frac Water Cost/bbl</b>	\$0.50	\$0.50
<b>Trucking Cost/bbl</b>	\$3.50	\$3.50
<b>Total Cost of Frac Water/month</b>	\$200,000	\$20,000
<b>Total Cost of Savings in New Frac Water /Month</b>		\$180,000
Assumes one 50,000 barrel frac job per month		
Assumes produced and frac water to be recycled		

# Cost of Disposal vs. Treatment

Cost of Water Treatment/Disposal	Current	With EWS™ PETRO
<b>Produced Water/Month</b>	135,000	135,000
<b>Frac Flowback/Month</b>	12,500	12,500
<b>Treated Water/Month</b>	0	100,000
<b>% PW Disposed vs Reused w/o Treatment</b>	50%	50%
<b>Water Disposed/Month</b>	80,000	0
<b>Well Disposal Cost/bbl</b>	\$1.50	\$1.50
<b>Trucking Cost/bbl</b>	\$3.30	\$3.30
<b>Treatment Cost/bbl</b>	0	\$1.00
<b>Throughput Program Per Barrel Fee</b>	0	\$1.26
<b>Total Treatment/Disposal Cost/Month</b>	\$384,000	\$226,000
<b>Total Cost Savings in Disposal vs Treatment/Month</b>		\$158,000
Assumes 25% Flowback Water and Treatment Capacity of 100,000 barrels per month		

# Potential Revenue Sources

Revenue Resources	Current	With EWS™ PETRO
<b>Additional Bbl Recovered Oil/Month</b>	0	200
<b>Sale Price per bbl</b>	\$100.00	\$100.00
<b>Recovered Oil Revenue/Month</b>	\$0.00	\$20,000
<b>Bbl Water Recycled &amp; Sold/Month</b>	0	55,000
<b>Sale Price per bbl</b>	\$0.50	\$0.50
<b>Water Sales Revenue/Month</b>	\$0.00	\$27,500
<b>Total Revenue/Month</b>	<b>\$0.00</b>	<b>\$47,500</b>
Assumes avg production of 1500 bod and 0.5% extra recovery		
Assumes water not used on site is sold		

# Water Management Value

Total Savings and Revenue	With EWS™ PETRO
<b>Total Savings in New Frac Water/Month</b>	<b>\$180,000</b>
<b>Total Savings in Treatment vs Disposal</b>	<b>\$158,000</b>
<b>Total Revenue/Month</b>	<b>\$47,500</b>
<b>Total Savings and Revenue/Month</b>	<b>\$385,500</b>
<b>Total Savings and Revenue/Year</b>	<b>\$4,626,000</b>



# OriginOil's Throughput Program

- For oil service and water treatment companies
- Allows entry into water treatment market
- No capital cost – totally an operating expense
- Guaranteed performance
- No hurdle to enter market
- Simply “Pay Per Barrel” of water treated
- No longer an expense – NOW A PROFIT

# Simple Process: 1

- Determine site requirements: capacity & final water quality
- Determine system specifications and cost
- Develop current water management cost versus projected costs
- Negotiate per barrel charge and sign Throughput Agreement

# Simple Process: 2

- Initiate detail engineering package based on system specifications
- Detail engineering by Pacific Advance Civil Engineering or MWH Global
- Construction by Clean Water Technology

# Simple Process: 3

- Local maintenance support company jointly determined by client and OriginOil
- Local maintenance support company to assist OriginOil in startup and training
- System specification guaranteed
- Local support company to supply on-going maintenance & service

# Service Companies Can Play

- OriginOil is piloting the Throughput Program  
...wants to work itself out of a job!
- Will export the program to service companies wanting to offer “pay per barrel” to their customers.  
...financing resources included!
- Let us know if you are interested.

# Recycling for Profits

Thank you for your time and interest

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