

CWEA & OriginOil

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Sent: Monday, March 29, 2010 12:58 PM
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Cc: Alec Mackie
Attachments: OriginOil_Company_Presenta-1.ppt (3 MB)

Gentlemen,

I wanted to follow up on last week's meeting with a few thoughts. First of all, thank you for hosting Scott and me last week. We really enjoyed the opportunity to speak to you and the rest of the CWEA group. Thanks to Alec, I have uploaded the presentation materials to the CWEA site (sorry for the delay). I believe that he is going to try match the audio with the slides so that others can access the material.

During our conversation I had mentioned an upcoming grant opportunity through the ARPA-E program at DOE. This could be a great opportunity for collaboration between CWEA members and OriginOil. The following presentations from a January workshop should provide some useful background:

- http://arpa-e.energy.gov/LinkClick.aspx?fileticket=kDg14_F0WAY%3d&tabid=117
- <http://arpa-e.energy.gov/LinkClick.aspx?fileticket=bJHzleGSmMo%3d&tabid=117>
- <http://arpa-e.energy.gov/LinkClick.aspx?fileticket=jTq3MpkXE64%3d&tabid=117>
- <http://arpa-e.energy.gov/LinkClick.aspx?fileticket=A0HUD4YCdnl%3d&tabid=117>
- <http://arpa-e.energy.gov/LinkClick.aspx?fileticket=jZiR6BRoK6E%3d&tabid=117>

To summarize, ARPA-E is looking for projects that achieve one of two goals: a) Net Energy from Wastewater, and b) Net Energy and Clean Water from Wastewater. We believe that OriginOil's technology is a potential fit for both program objectives. Three 18 month phases are envisioned:

- Phase I: Component demonstration for systems that will be applicable for flows of less than 1 liter/second (23,000 gal/day) and flows that equal or greatly exceed 1 m³/second (23 MGD).
 - 5-10 component investigations at ~\$0.5-2.5M (total budget = \$10M)
- Phase II: System integration for the different flow targets with full cycle analysis.
 - 3-5 technology platforms at ~\$5-7M (total budget = \$20M)
- Phase III: Pilot plant demonstration of full system with real water. Multiple approaches expected for targeted size of system.
 - 2-3 industrial pilots at ~\$6-10 M (ARPA-E share) (total budget = \$15M)

We are anticipating a solicitation from DOE regarding this program within the next few weeks. DOE generally issues solicitations 2 months in advance of the application deadline. We are currently in the process of creating a team to apply for funding. The team will likely consist of OriginOil, along with a University Partner, a DOE national lab, an engineering company and a wastewater agency.

I'm hoping that we will be able to identify a suitable partner from the CWEA group. We've also been informed that involvement from a water industry association is a must. I wanted to see what would be involved in getting CWEA to support this initiative in a formal capacity. At this stage it would only require a letter of support. We should have more information once the solicitation is released. I wanted to get the ball rolling now, so that we have plenty of time to work through any red tape.

In closing, I want to make it perfectly clear that we are not looking for any cost-sharing. We are simply looking for a collaborator to provide operational data and site access. That way our team has some real-world information to work with. My assessment is that not much would be required on the part of a wastewater agency until Phase II.

I'm very interested to hear your thoughts on this. Thank you in advance for your consideration.

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