

**WORK SESSION OF THE
BRIGHAM CITY COUNCIL
TO DISCUSS THE
RENEWABLE ENERGY FEASIBILITY STUDY
OCTOBER 6, 2011, 6:00 PM**

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| PRESENT: | Dennis Fife | Mayor |
| | Bruce Christensen | Councilmember |
| | Scott Ericson | Councilmember |
| | Ruth Jensen | Councilmember |
| | Bob Marabella | Councilmember |
| | Tyler Vincent | Councilmember |
| ALSO PRESENT: | Dave Burnett | Public Power Director |
| | Mary Kate Christensen | City Recorder |
| | Bruce Leonard | City Administrator |

John Sevey from Sunrise Engineering introduced his colleagues: Randy Knapp, Project Electrical Engineer; Alden Robinson, President and CEO; Derek Anderson, Head of Environmental Energy; Dow Yang, Geotechnical Engineer.

Mr. Sevey stated that solar projects, as a general rule, using standard analysis do not compete with other sources of generation. However, there are a lot being built, mainly to establish the concept and prove that it can be done technically. It is hoped that with regulations and subsidizing, costs will come down.

Mr. Anderson explained that the areas they looked at for hydro sites were the upper hydro location, the Mayor's Pond, and the three injection well sites. Based on the return on investment they did, the best option is to upgrade the upper hydro site, followed by the recharged wells and the other upper hydro site, then the Mayor's Pond.

They looked at two options for the upper hydro location. The first alternative took into account that there are wells and springs near Mantua that come down the hillside and that there have been significant increases in flows due to usage by Procter and Gamble.

The second option they looked at was the maximum flow that can come down the mountain through the upper hydro is 28 cfs, or 18 million gallons per day. They estimated the upgrade to the current facility to a 125 kW facility would cost \$1,635,340 and \$1,855,430 for a 915 kW facility. For \$200,000 more, the production would increase over 100%. The main reason is because of the flows.

Mayor Fife asked if a generator could be put in after the storage tanks. Mr. Anderson said they didn't look at that, but they could. They would have to look into the pressure flow.

Mr. Anderson then discussed the three injection wells. These would be a similar turbine that would be in the Mayor's Pond. It would be a propeller turbine in a pipe. As the water recharges, the water would come in pressurized. The piping in the well house could be modified to run through the propeller, then back to the main pipeline and into the well. This type of unit is simple, with few moving parts. However, if the flow fluctuates a lot, they do not run very efficiently.

Mr. Knapp reported that he worked on the solar PV portion of this project. They looked at various locations, including the library, the airport, Public Work buildings, fire station and ground close to the treatment plant. They chose the fire station location, mainly for its visibility and orientation, and an area across from the Water Treatment site to show a conceptual layout for a ground mounted system.

The fire station rooftop project puts out about 75% less in AC power. The estimated cost per watt installed is \$4.59.

Mayor Fife thanked Sunset Engineering for their information. The Council will review the City's grant and decide what to do.

The meeting adjourned at 7:00 PM.