DATE: December 16, 2013

FROM: Water and Light Advisory Board

TO: Mayor and City Council

RE: ***IRP, PV***

Dear Mayor and Council;

The Water and Light Advisory Board has reviewed the Integrated Resource Plan and city staff's response. In constructing their response, city staff has been very accepting of our suggestions, and we feel that the intent of our recommendation to further promote renewables and energy efficiency has been given due consideration.

At this time, nothing is more critical to our energy future than photovoltaics. With technical and financial hurdles cleared, the remaining impediments to photovoltaics are political, and we recommend that Council strongly support solar energy, not only with regard to Water and Light, but throughout all city operations. For instance, plans should be developed for all city-owned buildings and appropriate properties to be outfitted with photovoltaic systems.

Photovoltaics provide myriad benefits to those communities with the foresight and ability to incorporate them successfully. Right now, we have everything we need to enable us to be one of those communities, but time is of the essence, as federal tax credits will expire after 2016. Federal tax credits represent a realistic potential of $65 million of free money towards securing our energy future.

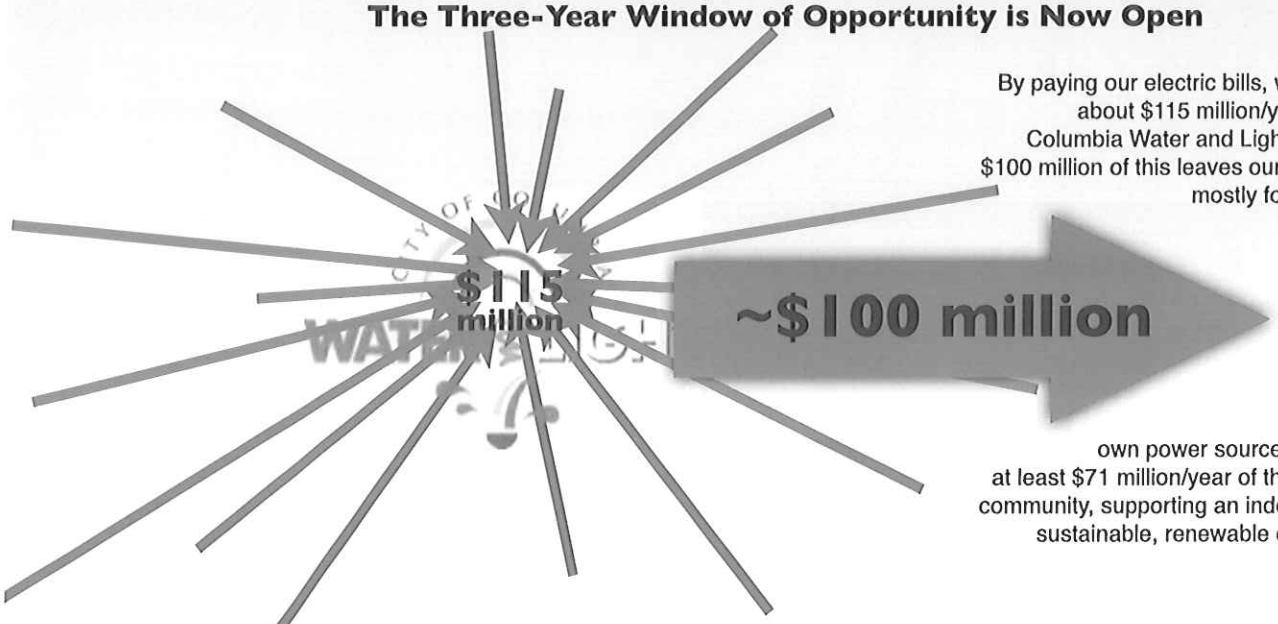
If we take proper advantage of the situation, our next "power plant" will be built locally by our own families, businesses, schools, and churches. Columbia Water and Light will contribute rebates of $500/kW, and the federal government will cover 30% of the remaining total cost of photovoltaic installations. Those with the interest but not the sunshine or means to directly invest in solar will be able to participate through our new Community Solar programs. The attached "Local Energy and Economic Development" illustrates our migration to a profitable, sustainable energy future.

It must be noted that photovoltaics result in less revenue for utilities, and this has caused some pushback against solar energy, particularly from privately-owned utilities. Fortunately, we own our own public utility, and Columbia Water and Light is in an excellent position to capitalize on this opportunity. However, we need to ensure that our utility continues to pull in sufficient revenue. Part of this will entail the incorporation of electric vehicles, which will not only provide electrical storage and load balancing, but will also redirect money from gasoline expenditures to our local utility. (Like photovoltaics, there is currently a generous federal tax credit associated with electric vehicles, which further enhances our ability to build our energy future on the fed's nickel.)

Another aspect of ensuring sufficient revenue is our rate structure. Along these lines, staff is recommending that base charges be increased, but that rate philosophy discourages conservation. Neither this nor any other modification of rates should be adopted piecemeal. Instead, rate structures that encourage conservation and photovoltaics—while dependably and fairly recovering the ongoing costs of utility operations—should be carefully designed and implemented. In September, 2012, we sent council a memo regarding the need for modification of our utility rate structure, which is even more important today.

Any other political, psychological, or social impediments to photovoltaics should be identified and addressed. As a utility and a community, we are in great shape as we approach this amazing opportunity. The tools are in our hands, and we simply have to use them.

Local Energy and Economic Development:
Technical and Financial Barriers Have Fallen, The Three-Year Window of Opportunity is Now Open

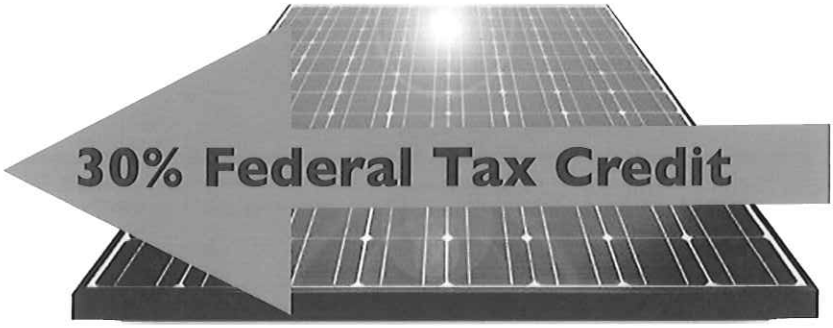


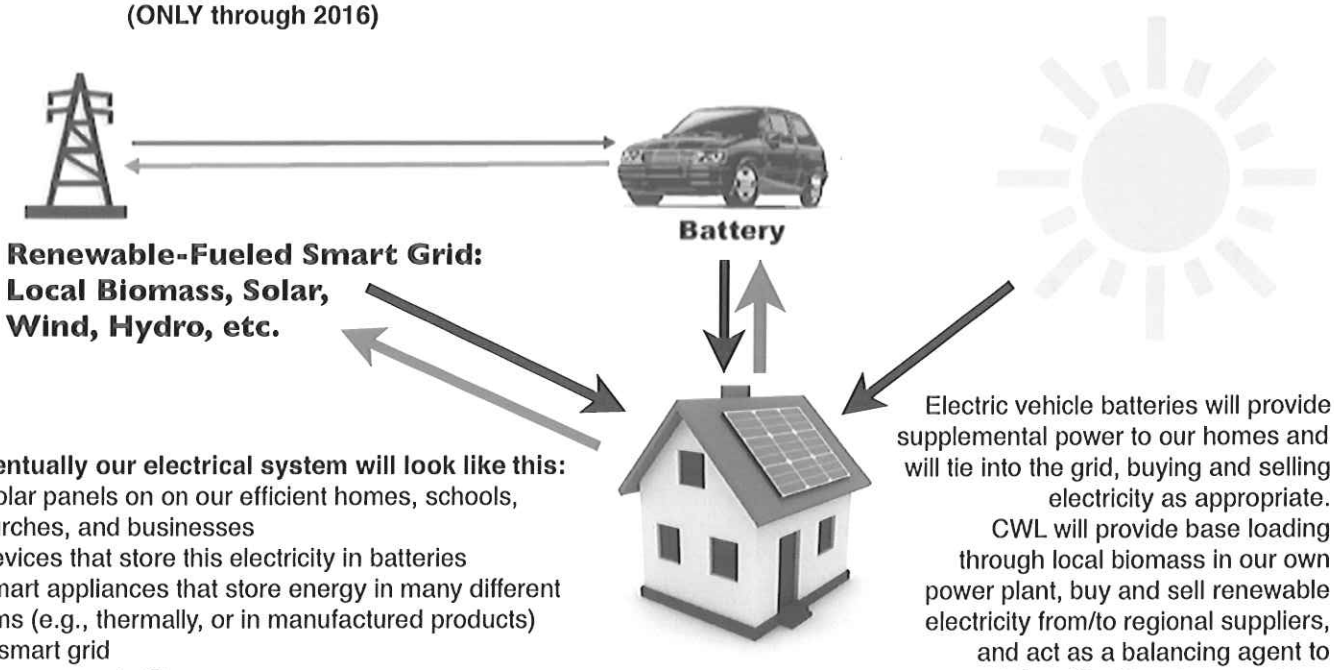
By paying our electric bills, we all contribute about $115 million/year to our utility, Columbia Water and Light (CWL). About $100 million of this leaves our local economy, mostly for coal, gas, and purchased fossil fuel energy.

As we develop our own power sources, we can keep at least $71 million/year of this money in our community, supporting an independent, local, sustainable, renewable energy industry.

Photovoltaics

- local, distributed, renewable
- creates good jobs
- spurs outside investment
- peaks at the right time
- affordable, bankable
- funded mostly by local residents and businesses (who earn ~7% AROI)
- keeps money in our local economy
- pulls federal $ into local economy (ONLY through 2016)





Eventually our electrical system will look like this:

- Solar panels on on our efficient homes, schools, churches, and businesses
- devices that store this electricity in batteries
- smart appliances that store energy in many different forms (e.g., thermally, or in manufactured products)
- a smart grid
- energy-smart citizens

Electric vehicle batteries will provide supplemental power to our homes and will tie into the grid, buying and selling electricity as appropriate. CWL will provide base loading through local biomass in our own power plant, buy and sell renewable electricity from/to regional suppliers, and act as a balancing agent to manage intermittent local renewables.

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