



Utility Services/Land Use/ Energy Development Committee

City of Arts & Innovation

TO: **UTILITY SERVICES/LAND USE/ENERGY
DEVELOPMENT COMMITTEE MEMBERS** **DATE: MAY 13, 2019**

FROM: **PUBLIC WORKS DEPARTMENT** **WARDS: ALL**

SUBJECT: **PUBLIC WORKS RENEWABLE RESOURCE MANAGEMENT PLAN - DIRECT
SUBMITTAL**

ISSUE:

That the Utility Services/Land Use/Energy Development Committee receive a report on the Public Works Department Renewable Resource Management Plan in support of a Sustainable and Self-Reliant Riverside.

RECOMMENDATIONS:

That the Utility Services/Land Use/Energy Development Committee:

1. Receive and provide input on the Public Works Renewable Resource Management Plan; and
2. Recommend City Council consideration and approval of the Public Works Renewable Resource Management Plan with implementation of Phase 1 to pursue a power purchase agreement with Fuel Cell Energy, Inc., a UCR Center for Environmental Research & Technology and to pursue grant funding opportunities outlined in Phase 2.

BOARD RECOMMENDATION

On April 8, 2019, the Riverside Board of Public Utilities met and received a report from the Public Works Department, in coordination with Public Utilities Department, outlining the Public Works Renewable Resource Management Plan. Following discussion, the Board voted unanimously, with members Walcker and Russo-Pereyra absent, to receive and file the informational presentation in support of a Sustainable and Self-Reliant Riverside.

BACKGROUND:

In 2007, the City Council, through adoption of a *“Sustainable and Resilient Riverside”* policy, initiated its vision to provide a framework for sustainability and green practices. From this work,

the City's Green Action Plan was developed as a strategy to go green in the areas of Energy, Greenhouse Gas Emissions, Waste, Urban Design, Urban Nature, Transportation and Water.

In October 2014, Governor Brown signed [AB 1826](#) requiring businesses to recycle their organic waste on and after April 1, 2016. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste.

In 2016, the City's Regional Water Quality Control Plant (RWQCP) installed a 1.4 mega-watt fuel cell system as part of a private/public partnership with Fuel Cell Energy, LLC. Fuel Cell Energy owns and operates the system and there was no capital cost to the City under the project agreement. The system utilizes wastewater treatment bio-methane as a fuel to produce approximately 40% of the facility's electrical demand. Electrical costs are fixed over the 20-year project agreement.

In 2017, the City's RWQCP Phase 1 Rehabilitation and Expansion Project was completed. The project modernized aged treatment facilities, installed new equipment and technology improvements, and modified processes to comply with regulatory requirements and increase liquid and solids treatment capacity. The completion of this \$192 million-dollar construction project ensures safe and reliable treatment of the wastewater received from the City, the community of Highgrove, as well as from the Edgemont, Rubidoux and Jurupa Community Services Districts.

DISCUSSION:

In response to evolving regulatory demands and on-going efforts toward operational efficiencies, the Public Works Department has developed a Renewable Resource Management Plan to support a "Sustainable and Self-Reliant Riverside" (Attachment 1).

The Plan has eight goals that are based on the following four resource areas: 1) Recycled Water Production; 2) Organics Receiving and Treatment; 3) Energy Production and Independence; and 4) Waste Management and Refuse. Public Works is proposing a three-phase approach in addressing the Renewable Resource Management Plan goals and four resource areas.

Phase 1 is focused on energy production and becoming energy independent. The RWQCP staff is currently negotiating a power purchase agreement for an additional 2.4 mega-watt fuel cell with Fuel Cell Energy, LLC. When complete, this project will close the current in-house energy production gap, meeting 100% of the plant's electrical demand and produce transportation fuel grade hydrogen for export. In addition, Public Works is working with the UCR Center for Environmental Research & Technology (CE-CERT) on an agreement to continue our partnership on research, technology and grant funding opportunities. Currently, UCR is pursuing a demonstration project at the wastewater treatment plant to boost bio-methane gas production.

Phase 2 will assist Public Works with AB 1826 organic waste compliance to divert food waste

from landfills to either compost or treat by anaerobic digestion. The RWQCP staff are experts in anaerobic digestion and are in the planning stages to partner with Burrtec Waste Industries, Inc., one of the City's contract waste haulers, on grant opportunities for the installation of a Food Waste Separator at Agua Mansa MRF. This grant would also include treatment improvements at the RWQCP to accept the food waste. Food waste then can be diverted and transported to the RWQCP waste receiving station for high-rate anaerobic digestion.

Under Phase 2 the additional bio-methane produced from the treatment of the food waste will be cleaned and converted to Renewable Natural Gas (RNG) and/or Compressed Natural Gas (CNG) that can be used onsite for the CNG fuel station or marketed offsite through injection into the Southern California Gas distribution network.

Phase 3 of the Renewable Resource Management plan will address new technology to produce a biosolids fertilizer product that can be used locally and in Southern California. This phase will also explore additional digester capacity for possible expansion to include other types of food and green waste generated in Riverside.

Sustainable and Self-Reliant Riverside

With the adoption of the City's first Sustainability Policy Statement in 2007, Riverside became a leader in sustainability and has implemented many green projects for a more sustainable community. The City Manager's Office is working with multiple City departments to propose a unified restatement of existing and development of new policies that reconfirms the 2007 policy and reinforces the City's commitment to a "Sustainable and Self-Reliant Riverside" now and for the future.

FISCAL IMPACT:

There is no fiscal impact resulting from this informational report. The Renewable Resource Management Plan is a planning document and costs to implement the plan goals will be presented to City Council in a separate report and funded either by Public Private Partnerships and/or by the Sewer or Refuse Enterprise Funds, as applicable.

Prepared by: Kris Martinez, Public Works Director

Certified as to

availability of funds: Edward Enriquez, Chief Financial Officer/City Treasurer

Approved by: Rafael Guzman, Assistant City Manager

Approved as to form: Gary G. Geuss, City Attorney

Attachments:

1. Public Works Department Renewable Resource Management Plan
2. RPU Board Meeting Minutes – April 8, 2019
3. Presentation