



City Council Memorandum

City of Arts & Innovation

TO: CITY COUNCIL MEMBERS

DATE: AUGUST 18, 2020

FROM: PUBLIC WORKS DEPARTMENT

WARDS: ALL

SUBJECT: PUBLIC WORKS RENEWABLE RESOURCE MANAGEMENT PLAN

ISSUE:

Approve the Public Works Department Renewable Resource Management Plan in support of a Sustainable and Self-Reliant Riverside.

RECOMMENDATION:

That City Council approve the Public Works Renewable Resource Management Plan.

BOARD RECOMMENDATION

On April 8, 2019 the Board of Public Utilities received an informational presentation on the Public Works Department Renewable Resource Management Plan in support of a Sustainable and Self-Reliant Riverside with seven members present and two members absent.

BACKGROUND:

In 2007, the City Council through adoption of a “*Sustainable and Resilient Riverside*” policy and 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 beginning April 1, 2016. This law also requires that beginning 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 biomethane as a fuel to produce approximately 50% 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 four resource areas - 1) Recycled Water Production, 2) Organics Receiving and Treatment, 3) Energy Production and Independence, and 4) Waste Management and Reuse. Public Works is proposing a three-phase approach in addressing the Renewable Resource Management Plan goals and four resources areas.

Phase 1 is focused on energy production and operating the plant with 100% renewable energy. The existing fuel cell implemented in 2016 through a public/private partnership produces approximately 50% of the facility electrical demand using biomethane. The RWQCP staff is actively working with Riverside Public Utilities to develop a Microturbine renewable energy project that will utilize their expertise in power generation along with the RWQCP expertise in creating renewable biomethane. The proposed project is moving forward and was presented to the RPU Board and most recently to the City Council at the May 5, 2020 meeting.

In addition, Public Works is working with the UCR Center for Environmental Research & Technology (CE-CERT) on an agreement to continue our partnership on environmental research & technology opportunities. Currently, RWQCP staff is in the process of approving the installation of a UCI lead demonstration project at the wastewater treatment plant to boost biomethane gas production.

Phase 2 will assist Public Works with AB 1826 organic waste reduction compliance and divert food waste from landfills to either compost or treat by anaerobic digestion. RWQCP staff are experts in anaerobic digestion and are in the planning stages to partner with one of the City's contract waste haulers Burrtec Inc., on the installation of a Food Waste Separator at the Agua Mansa Transfer Material Recovery Facility. This project would also include treatment improvements at the RWQCP to accept the food waste. Food waste then can be diverted from landfill disposal and transported to the RWQCP for high-rate anaerobic digestion that will produce additional biomethane.

As part of Phase 2, the additional biomethane produced from the treatment of the food waste

can be cleaned and converted to Electrical Energy, Renewable Natural Gas (RNG), and/or Compressed Natural Gas (CNG) that can be used for the City's CNG fuel stations or marketed offsite through injection into the Southern California Gas distribution network. RWQCP staff is in the process of working with the SoCal Gas Company on the design of an RNG biomethane treatment system and connection to the SoCal Gas natural gas pressure pipeline on Jurupa Avenue.

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

FISCAL IMPACT:

There is no fiscal impact resulting from this report. This is a planning document and costs will be presented to City Council 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 Minutes – April 8, 2019
3. Presentation