

# RENEWABLE RESOURCE MANAGEMENT PLAN

Public Works Department

Utilities Services/Land Use/Energy Development  
Committee

May 13, 2019

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## RENEWABLE RESOURCE MANAGEMENT

### GOALS



Lead with  
Innovation and  
Technology



Stabilize  
Operational Expenses



Achieve Energy  
Independence



Recover Resources  
for Sustainability



2

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# RENEWABLE RESOURCE MANAGEMENT

## RESOURCE AREAS



Recycled Water



Organics



Energy



Waste Recycling



Public Works is coordinating with Riverside Public Utilities on **Utility 2.0** update & evaluating **Water** and **Energy** partnership opportunities.



3



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# ONE WATER - ONE RIVERSIDE

## INTEGRATED WATER PLANNING



### Video Introduction

Riverside Public Utilities and Public Works are working as ONE to add value to our community by maintaining a reliable water supply, advancing our economy and keeping waterways healthy.

<https://www.youtube.com/watch?v=kAlrKA-fSQ4>

4



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## ORGANICS



Fats, Oils  
and Grease  
Restaurants



Food Waste



Process Waste  
Local Industry



Now Accepting  
Organic Material



5



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## ENERGY



Existing 1.4 MW  
Fuel Cell  
(Private/Public Project)

Handles **45%** of Plant  
Electrical  
Demands



Stable and Fixed  
Electrical Rate Over  
20-year Project  
Agreement Term

*"Clean Air  
Emissions"*



6

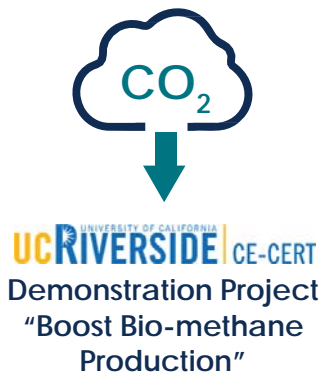


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## PHASE I - RENEWABLE RESOURCE PLAN

### ENERGY



Another Fuel Cell  
Tri-Gen Private /  
Public Partnership

Produces Enough Hydrogen for



1,700+

Cars



30+

Buses



\$3.8 million Air Board  
private/public project grant



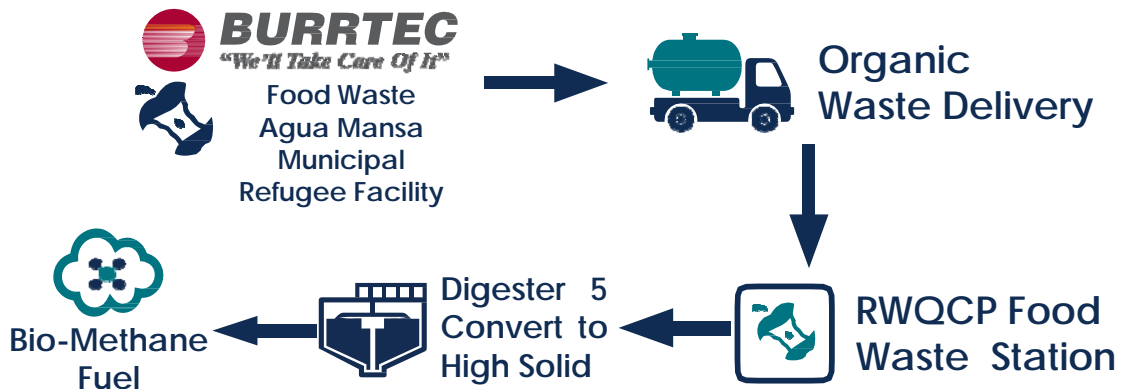
- Stable and fixed electrical rate over 20-year term
- 100% of plant electrical demand met
- Push power to grid during low demand periods
- Share in hydrogen market revenue
- Clean air emissions and limited methane flaring

9

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## PHASE II – RENEWABLE RESOURCE PLAN

### ORGANICS



Dedicated Food Waste Treatment and Bio-methane Production

10



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## PHASE II – RENEWABLE RESOURCE PLAN



Food Waste Separator at  
Burrtec Agua Mansa MRF



Dedicated Food Waste  
Receiving Station

Rehab of Digester 5  
for Food Waste



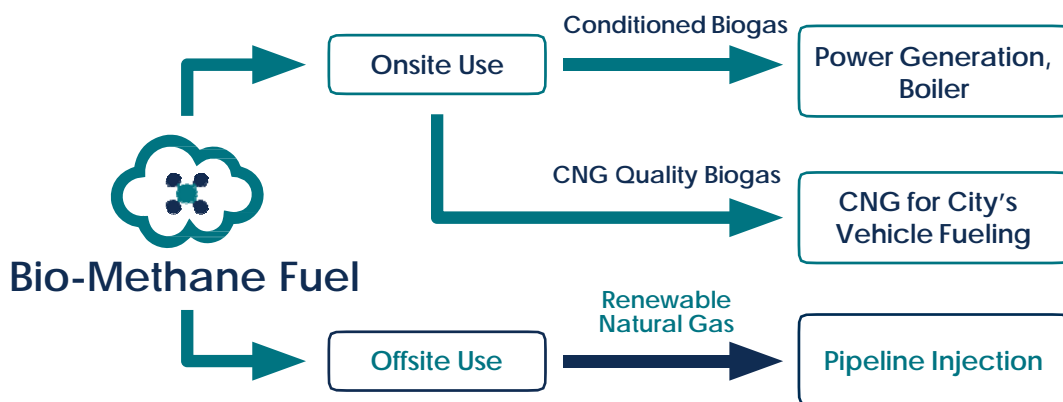
Bio-Methane fuel

11



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## PHASE II – RENEWABLE RESOURCE PLAN



Produce RNG/CNG for Open Market Sale and City Supply

12



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## PHASE III - RENEWABLE RESOURCE PLAN

### WASTE RECYCLING

Private/Public Partnership



New Technology to Produce  
Biosolids Products



Additional Digesters for  
Food & Green Waste

Produce high quality fertilizer that can be marketed and used regionally



13

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## CITYWIDE SUSTAINABLE AND RESILIENT RIVERSIDE POLICY

### ★ Sustainable & Resilient Riverside



Build on Riverside's long history of  
**sustainability policy**



Expand the **concepts of sustainability** to reflect a new  
citywide paradigm



Develop a **new City and community commitment**  
incorporating sustainability policies  
throughout everything we do



Establish **metrics and reporting** to  
ensure and demonstrate success



14

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## Riverside Public Utilities

1. On April 8, 2019 Public Works Presented the Departments Renewable Resource Management Plan to the Board of Public Utilities
2. The Board of Public Utilities received and filed the informational report on the Public Works Renewable Resource Management Plan



15

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## 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 (CE-CERT) and to pursue grant funding opportunities outlined in Phase 2.



16

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