

# Renewable Resource Management Plan

**Public Works Department**

Board of Public Utilities  
April 8, 2019

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## RENEWABLE RESOURCE MANAGEMENT

### GOALS



Lead with  
Innovation and  
Technology



Stabilize  
Operational Expenses



Achieve Energy  
Independence



Recover Resources  
for Sustainability



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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.



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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>



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## ORGANICS



**Fats, Oils  
and Grease**  
Restaurants



**Food Waste**  
**BURRTEC**  
"We'll Take Care Of It"



**Process Waste**  
Local Industry



**Now Accepting  
Organic Material**



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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"**



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# WASTE RECYCLING



Biosolids Hauled to  
Arizona as Soil  
Amendment for  
Non-Food Crops



Developing RFP  
for Consultant to  
Evaluate New  
Approach &  
Technology



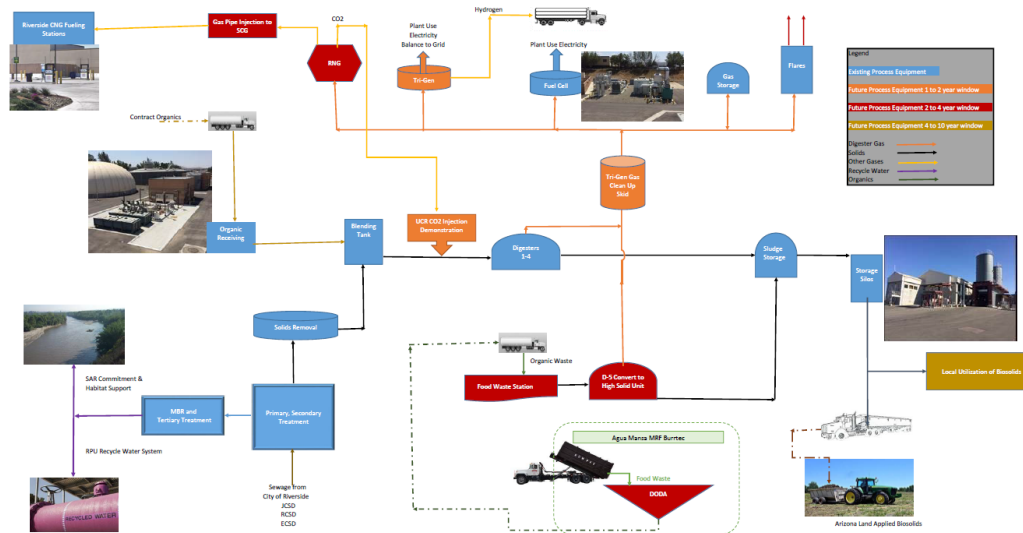
Current Partnership  
with UCR CE-CERT  
on Innovative  
Technological Research



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## RENEWABLE RESOURCE PLAN WORK FLOW

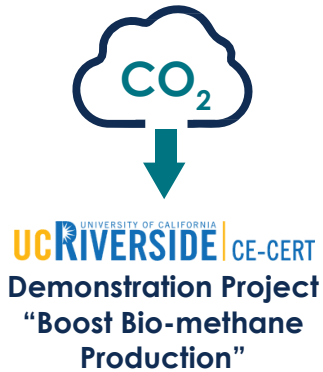


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## PHASE I - RENEWABLE RESOURCE PLAN

### ENERGY



 Another Fuel Cell  
Tri-Gen Private /  
Public Partnership

Produces Enough Hydrogen for

 **1,700+**  **30+**  
Cars Buses



\$3.8 million Air Board  
private/public project grant



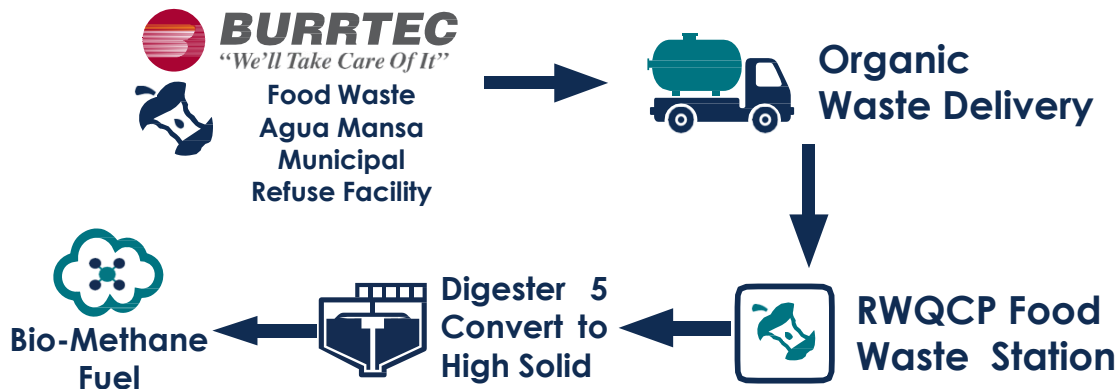
- Stable and fixed electrical rate over 20-year term
- 100% of plant electrical demand met
- Push power to grid during low demand periods
- Share in hydrogen market revenue
- Clean air emissions and limited methane flaring

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## PHASE II – RENEWABLE RESOURCE PLAN

### ORGANICS



Dedicated Food Waste Treatment and Bio-methane Production

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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



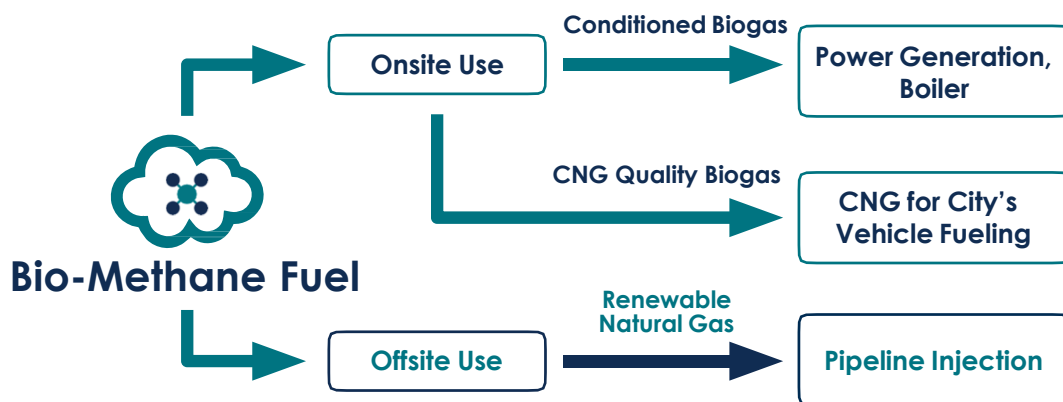
Bio-Methane fuel

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## PHASE II – RENEWABLE RESOURCE PLAN



Produce RNG/CNG for Open Market Sale and City Supply

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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



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## NEXT STEPS

### In Progress



**Finalizing Renewable Resource Management Plan, Public Works  
Presentation to Public Utilities Board & Land Use Committee**

1. Renewable Resource Management Plan, Public Works
2. Introduction of a Citywide Sustainable and Resilient Riverside policy

### Summer/Fall 2019



**Development of a Citywide Sustainable and Resilient Riverside Policy**

1. Renewable Resource Management Plan, Public Works
2. Fuel Cell Energy Tri-Gen System Agreement
3. UCR CE-CERT Research & Technology Agreement



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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



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## RECOMMENDATION

That the Board of Public Utilities receive an informational presentation by the Public Works Department on the Public Works Department Renewable Resource Management Plan in support of a Sustainable and Self-Reliant Riverside.



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