



# RENEWABLE TECHNOLOGIES IMPLEMENTATION PLAN

March 2015



# EXISTING AND PLANNED RENEWABLE TECHNOLOGIES



- ◎ Olinda Alpha
  - ◎ Operational 2012 – 37.5 MW landfill gas-to-energy (LFGTE) Combined Cycle Facility

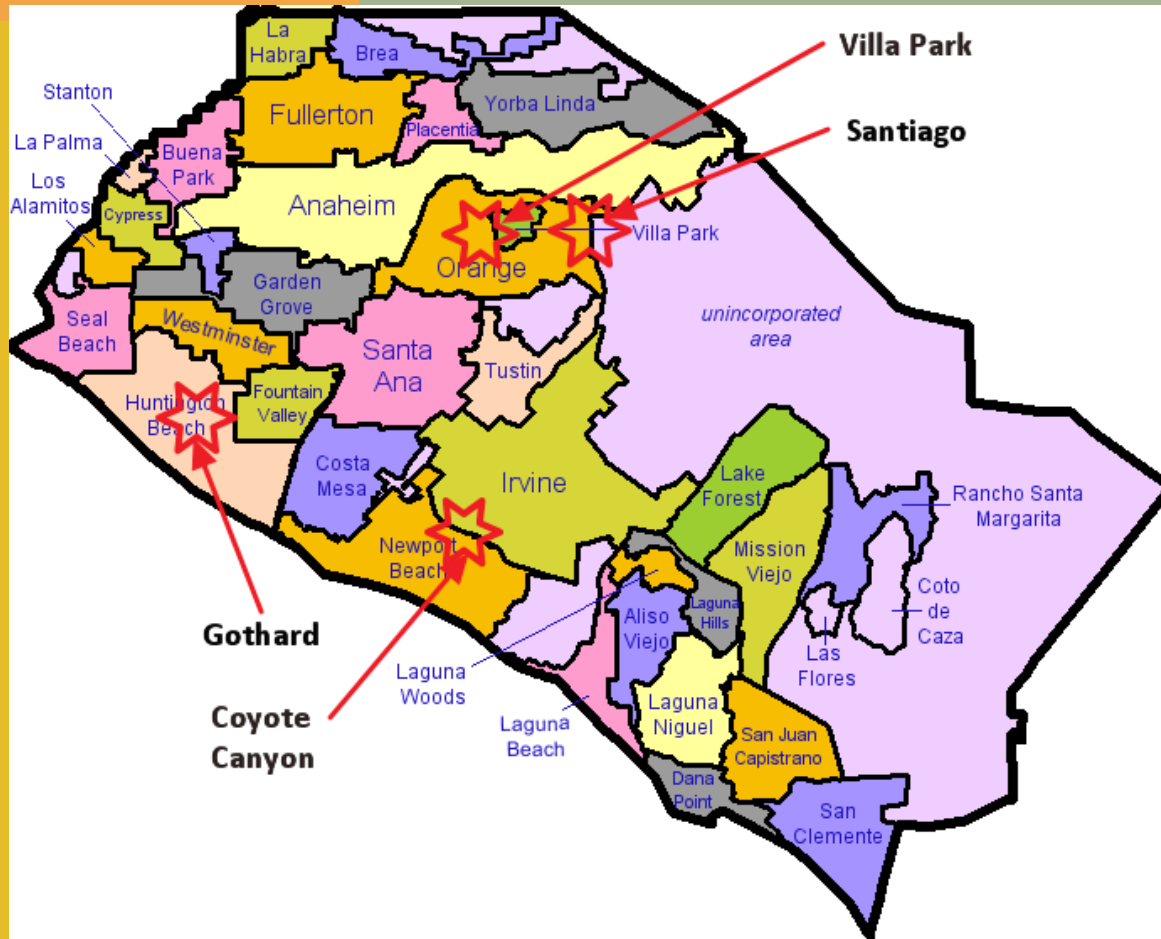


- ◎ Prima Deshecha
  - ◎ Operational 2000 – 6.7 MW LFGTE Internal Combustion Engine (ICE) Facility
- ◎ Coyote Canyon
  - ◎ Operational 1989 – 7 MW LFGTE Steam Boiler/Turbine Facility

- ◎ Frank R. Bowerman
  - ◎ Operational 2016 – 19 MW LFGTE Combined Cycle Facility Planned  
20 MW ICE Facility



# COUNTY-OWNED CLOSED LANDFILLS



## Coyote Canyon Sanitary Landfill

- Closed 1990, 395 acres, steam boiler/turbine @ 7 MW, LFG - 3,800 scfm

## Gothard Refuse Disposal Site

- Closed 1962, 11.5 acres, LFG - 150 scfm, vented

## Santiago Canyon Sanitary Landfill

- Closed 1996, 113 acres, LFG - 1000 scfm, flared, ~44% CH<sub>4</sub>, Potential 0.25 MW System

## Villa Park Landfill

- Closed 1966, 15.8 acres, 125 scfm collected, not treated





# FUTURE OF WASTE DISPOSAL

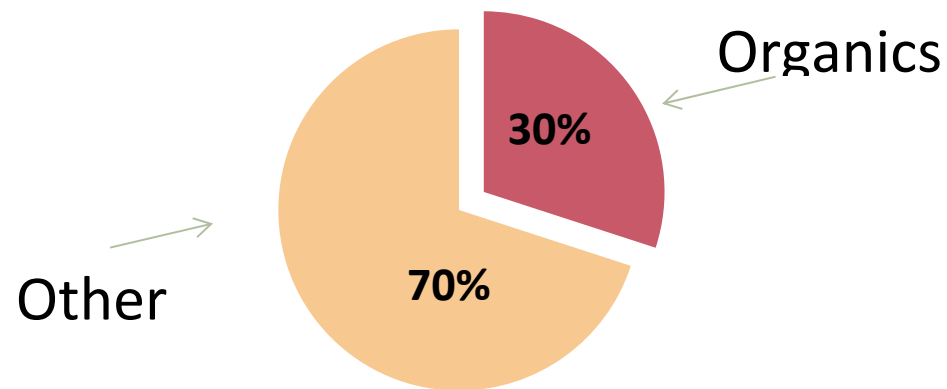


- ⊙ Sufficient existing OC capacity
- ⊙ Population increasing
- ⊙ Tonnage and revenue decreasing
- ⊙ Long term disposal capacity essential
- ⊙ Increasing environmental constraints
- ⊙ Research into disposal alternatives is critical
  - ⊙ Technological advances
  - ⊙ Sustainable practices
  - ⊙ Operational methods
  - ⊙ Alternative sites



# LEGISLATION AND ORGANICS

- Changes in regulations and legislation will divert additional tonnage from landfills (AB 32, AB 341, AB 1594 and AB 1826).



*CalRecycle 2008 - Southern California Waste Stream*

Assuming 30% organics in disposal, if half of this material is recovered, OCWR could lose 15% of current tonnage, representing \$17 million per year in reduced revenue (based on FY 2015 revenue projections).



# PREVIOUS STUDIES AND PLANNING DOCUMENTS

- ◎ 2002 – Regional Landfill Operations for Orange County (RELOOC)
- ◎ 2005 & 2006 – RELOOC Updates
- ◎ 2009 – Conversion Technology Study and Report
- ◎ 2011 – Renewable Energy Feasibility Study
- ◎ 2015 – Renewable Technologies Implementation Plan



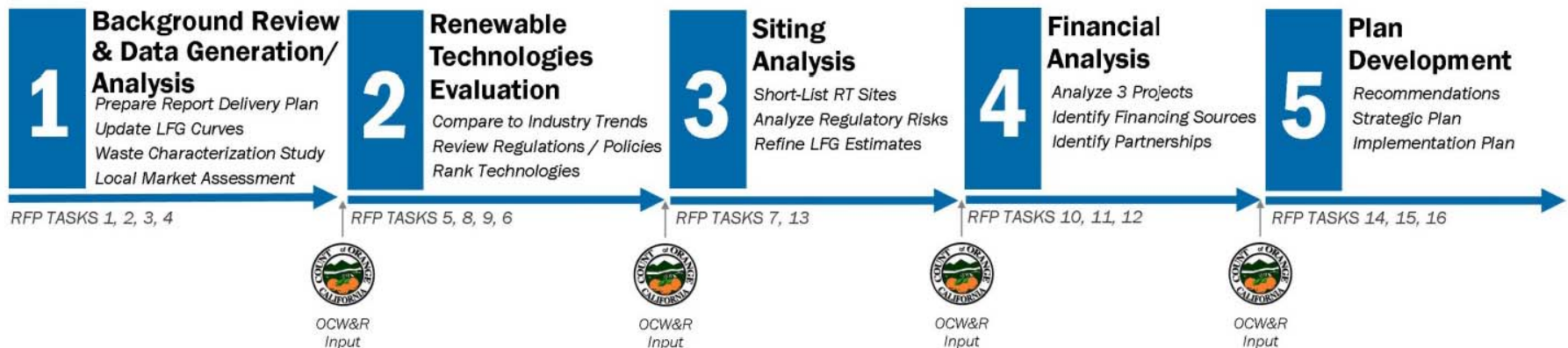
# RENEWABLE TECHNOLOGIES IMPLEMENTATION PLAN OVERVIEW

- ① Assessment of technological, operational, financial, economic, legislative, regulatory and environmental factors.
- ① Identify potential partnership and funding arrangements to implement renewable technologies at active and closed sites.
- ① Based on feasibility analysis and variable options, the proposed plan will include a short-term action plan.
- ① The proposed plan will also include a mid-term plan.



# APPROACH

- ◎ Comprehensive Report
- ◎ Implementation Plan - 3 yrs.
- ◎ Strategic Plan - 10 yrs.







# PROJECT STATUS/PATH

- ◎ October 28, 2014 – BOS selected TetraTech BAS
- ◎ January 27, 2015 – BOS (continued)
- ◎ March 3, 2015 – Approved
- ◎ March 4, 2015 – Initiated
- ◎ May 2016 – Two plans created (3 year & 10 year)



THANK  
YOU



Jeff Arbour  
OC Waste & Recycling

[oclandfills.com](http://oclandfills.com)