

**Lancaster, California  
Material Recovery Facility and  
Conversion Technology Project  
Request for Information  
February 11, 2014**

**Introduction**

The City of Lancaster, California, is evaluating the feasibility of developing a material recovery facility (MRF) and conversion technology (CT) project as an alternative to landfilling municipal solid waste (MSW) at the Lancaster Landfill. The City of Lancaster (City) currently disposes approximately 118,000 tons per year (tpy) of MSW. If determined to be feasible and desirable for the City, a project will be developed to divert MSW from landfill disposal. Such a project would implement recycling efforts and convert the non-recycled material into beneficial products such as energy, fuels, or other marketable products (e.g., compost, aggregate, metals). The City has established specific goals for a MRF/CT project, which are presented in Attachment 1.

**Evaluation Process**

In order to complete the evaluation, eleven (11) primary evaluation criteria have been established (see Attachment 2). These criteria are minimum screening parameters. Each technology supplier considered in the evaluation must meet all of the criteria in order to be further considered for a future procurement. The criteria have been structured to assess the viability of a reasonably-sized, commercial project that meets the goals established by the City (Attachment 1). The intent is to apply the criteria to develop an un-ranked short-list of approximately ten (10) technology suppliers. In establishing the short-list, the City reserves the right to conduct a comparative, secondary application of the primary evaluation criteria. If completed, secondary application of the criteria would assess the degree to which technology suppliers exceed the minimum requirements and are thus comparatively advantageous or highly advantageous.

The outcome of the evaluation process is intended to be an un-ranked short-list of companies determined to be best suited and capable of providing a successful MRF/CT project. The short-list and the evaluation process leading up to the short-list may or may not be used to actually make the selection of a preferred MRF/CT company. The City may elect to solicit a detailed, comparative evaluation and ranking of formal proposals submitted in response to a future procurement should this process be deemed to be in the best interest of the City. If the City does elect to do a secondary solicitation, MRF/CT companies included on the short-list would be invited to submit proposals.

**Request for Information (RFI)**

MRF/CT companies responding to this RFI are requested to provide information that enables the City to review and evaluate the capabilities of the proposed technology and the experience and qualifications of the project team. At a minimum, information should be submitted to

address each of the eleven criteria identified in Attachment 2 and to clearly demonstrate that such criteria are met by the respondent. Attachment 3 provides guidance regarding the information to be submitted for each criterion.

For purpose of this RFI, responses should be based on a project concept whereby the City would enter into a long-term waste supply agreement with the project developer, and would assist in locating a site for the facility. Financing may be public or private, but for purpose of this RFI, responses should assume that the project developer would design, build, own, operate and finance the project, with the potential for public purchase at the end of the financing period. The project developer would be responsible for marketing all products. The project developer would also be responsible for disposing of residue, but may assume, for purpose of this RFI, that non-hazardous residue can be disposed at the Lancaster Landfill at a cost of \$57.00 per ton. Responses to this RFI should also be based on the following assumptions:

- **Project Size.** The project should be a commercial (i.e., not a demonstration) facility designed to process MSW. The project must be capable of processing a minimum of 118,000 tpy of MSW during the first operating year of the project, and must be capable of increasing capacity. Historical Jurisdiction Review Reports can be viewed at <http://www.calrecycle.ca.gov/LGCentral/Reports/Jurisdiction/ReviewReports.aspx> Population Growth Charts (historical and projected) are provided below.

Historical Population Growth						
	City of Lancaster				Los Angeles County	
Year	Population	% of County Population	Average Annual Growth	Avg Annual Growth Rate (%)	Population	Avg Annual Growth Rate (%)
1950	10,250	.2%	0	0	4,151,687	0
1960	31,503	.5%	2,125	20.7%	6,038,771	4.5%
1970	33,460	.5%	196	.6%	7,032,075	1.6%
1980	48,027	.6%	1,457	4.4%	7,477,503	.6%
1990	97,291	1.0%	4,926	10.3%	8,863,184	1.9%
2000	118,718	1.2%	2,143	2.2%	9,519,338	.7%
2010	156,633	1.6%	3,792	3.2%	9,818,605	.3%

Source: US Census 2010

Projected Household Allocation Revised – May 2011												
Existing Population Forecast				Growth Delta		Adjusted Population Forecast						Growth Delta
2008	2010	2020	2035	2010-2020	2020-2035	2008	2010	2011	2020	2021	2035	2011-2021
144,293	147,318	165,492	191,995	18,174	26,503	154,518	156,633	157,795	174,807	177,023	201,310	19,228

- Project Location. Responses should assume that the project would be located within the City limits of Lancaster. MRF/CT Responses should assume that the responsibility of securing the appropriate land is that of the respondent. The City will assist in locating a site. Potential sites must include the following considerations:
  - Project site must be located in either the Heavy Industrial (HI) or Light Industrial (LI) depending upon the type of technology.
  - Development of the site must comply with the requirements of Title 17 of the City's Municipal Code, specifically Chapter 17.16.
- MRF/CT Waste Characterization. A current waste characterization is not available from the City for MSW disposed at the Lancaster Landfill. Responses to this RFI should assume a waste composition as defined in the December 2008 Statewide Waste Characterization Study prepared by Cascadia Consulting Group for the California Integrated Waste Management Board. Table ES-3 of the Executive Summary, Composition of California's Overall Disposed Waste Stream by Material Type, should be the basis of responses to this RFI. The full report can be downloaded from <http://www.calrecycle.ca.gov/Publications/Documents/General/2009023.pdf> .

### **RFI Process**

Information submitted in response to this RFI will be reviewed and evaluated in consideration of the goals and criteria provided in Attachments 1 and 2, to determine the feasibility of a MRF/CT project as an alternative to landfilling MSW at the Lancaster Landfill, and to establish a short-list of technology suppliers determined to be best suited and capable of providing a successful MRF/CT project. MRF/CT companies included on the short-list may be invited to submit proposals under a future procurement. The City reserves the right to make a selection based on the RFI if doing so is deemed to be in the best interest of the City.

The preliminary schedule for the RFI and evaluation process is as follows:

RFI release	February 11, 2014
Last day to submit questions	March 4, 2014
Responses due	March 13, 2014
Review of responses complete	April 8, 2014

Responses should be submitted electronically to the City of Lancaster by 11:00 AM, Pacific Standard Time, on March 13, 2014, as follows:

City of Lancaster:

Ms. Heather Swan  
Senior Projects Coordinator  
Lancaster Power Authority  
44933 Fern Avenue  
Lancaster, CA 93534  
[hswan@cityoflancasterca.org](mailto:hswan@cityoflancasterca.org)

**Attachment 1**  
**City of Lancaster Material Recovery Facility and**  
**Conversion Technology Project**  
**Project Goals**

*Increase Diversion of MSW.* Any considered MRF/CT must increase the diversion of MSW intended for landfill disposal through pre-processing (or post-processing) and/or conversion of MSW into beneficial products such as energy, fuels, or other marketable products (e.g., compost, aggregate, metals).

*Reduce Environmental Impacts of Landfilling MSW.* Any considered MRF/CT must limit and/or mitigate environmental impacts of landfilling MSW, including but not limited to water quality and greenhouse gas emissions.

*Provide Financial Feasibility and Sustainability.* Any considered MRF/CT must have capital and operating costs that result in a feasible, cost-competitive tipping fee, with long-term financial stability that would limit financial impacts to affected rate payers and provide a revenue source to the City.

*Produce Green Energy and Other Marketable Products.* Any considered MRF/CT must include a component of green energy and/or fuel production, along with other marketable products, as applicable, such as recovered metals and compost.

*Provide a Humane Work Environment.* The project will be dedicated to maintaining humane working conditions, and will not consider any MRF/CT that is deemed to have an unjust or unsafe impact on workers.

*Result in a Long-Term Waste Disposal Plan.* Any considered MRF/CT must result in a long term waste disposal alternative for the City (with a 20 year minimum lifespan required).

**Attachment 2**  
**City of Lancaster Material Recovery Facility and Conversion**  
**Technology Project Primary Evaluation Criteria**  
**(Minimum Screening Parameters)**

1. Any considered MRF/CT must be capable of processing a minimum of 118,000 tons per year (tpy) of MSW during the first operating year of the project, and must be capable of increasing capacity to accommodate anticipated growth within the City.
2. Any considered MRF/CT must be capable of operating for a minimum of 20 years.
3. Any considered MRF/CT must be compatible with local solid waste management programs, including recycling programs.
4. Any considered MRF/CT must be capable of diverting at least 50% by weight of the MSW received for processing from landfill disposal with the ability to expand to 75%. In addition, provide a matrix that shows any changes in revenue and/or ratepayer costs based on increased percentages of diversion. Percent diverted must be based upon California's accepted diversion principles.
5. Any considered MRF/CT must have a projected tip fee that limits financial impact to affected ratepayers
6. Any considered MRF/CT must produce end products that have probable, identifiable or existing markets (including electricity and/or fuel products).
7. Any considered MRF/CT must conform to California environmental standards, and must limit and/or mitigate environmental impacts of landfilling MSW.
8. Any considered MRF/CT must have been demonstrated at a minimum of one facility of similar size or with a minimum unit size of 50 tons per day (tpd), and shall have been in operation for at least six months (as of June 1, 2013) processing MSW or similar feedstock. If the facility is only processing 50 tpd, please provide an explanation as to how it can be expanded to accommodate the City's anticipated tpd.
9. Any considered MRF/CT must have a project team that has experience designing, building and operating a solid waste management facility, either individually or as a team.
10. The project developer must have bonding ability equal to the estimated cost of facility design and construction, and, during operation, equal to the estimated annual operating cost; must not be in bankruptcy; and must provide a financing plan that reasonably demonstrates that it can offer private project financing, if required.
11. The project developer must not be debarred from contracting in California.

**Attachment 3**  
**City of Lancaster Material Recovery Facility and**  
**Conversion Technology Project Information Requested for**  
**Application of Evaluation Criteria**

Criterion	Requested Information
<p>1. Any considered MRF/CT must be capable of processing a minimum of 118,000 tons per year (tpy) of MSW during the first operating year of the project and must be capable of increasing capacity to accommodate anticipated growth within the City.</p>	<ul style="list-style-type: none"> <li>• Describe, in narrative form, the proposed MRF/CT along with a description of how a facility would work including, as applicable: receipt of waster, preprocessing, conversion, post-processing, and product and reside management.</li> <li>• Identify the initial facility capacity that would be proposed (starting at 118,000 tpy with the ability to expand)</li> <li>• Describe the number of processing lines and unit capacities to meet that overall facility capacity. Describe whether unit capabilities and facility capacity are comparable to existing applications of the technology, or how scale-up will be achieved.</li> <li>• Describe how the facility would be modularly expanded and discuss possible disruptions or interruptions to operations, if any, during expansion work.</li> <li>• Identify the acreage required to develop the proposed facility, at initial and full capacity. Describe whether any specific design features are required to develop the proposed facility.</li> </ul>
<p>2. Any considered MRF/CT must be capable of operating for a minimum of 20 years</p>	<ul style="list-style-type: none"> <li>• Describe the useful life of the technology, in the application that would be proposed. Provide available supporting information, such as the length of time existing facilities have operated and the contractual operating periods for such facilities. If operating histories do not directly provide evidence of a 20-year useful life, provide information on fabrication, construction, operations, maintenance and/or capital replacement strategies intended to assure such useful life.</li> </ul>
<p>3. Any considered MRF/CT must be compatible with local solid waste management programs, including recycling programs.</p>	<ul style="list-style-type: none"> <li>• Describe how the technology can be incorporated into an integrated, municipal solid waste program that has, as one of its priorities, recycling and/or energy and materials recovery.</li> <li>• Describe how the technology could supplement recycling activities.</li> <li>• Identify any technology-specific feed stock requirements that could be impacted by recycling programs or other waste management activities.</li> <li>• Describe the flexibility of the technology to manage MSW along with other potential waste streams, such as wastewater sludge.</li> </ul>
<p>4. Any considered MRF/CT must be capable of diverting at least 50% by weight the MSW</p>	<ul style="list-style-type: none"> <li>• Provide mass, energy, and water balance information for the technology, showing the amount of MSW that would be diverted from the landfill disposal through the recovery of recyclables and generation of products (including electricity, as applicable).</li> <li>• Describe the quantity and quality of the residue resulting from the</li> </ul>

<p>received for processing from landfill disposal with the ability to expand to 75%.</p>	<p>process that would require landfill disposal, including identification of the source of that residue in the process.</p> <ul style="list-style-type: none"> <li>• Provide available supporting information, such as diversion data from existing facilities.</li> <li>• Discuss the eligibility of the technology for diversion credits, now or in the future.</li> <li>• Provide a matrix that shows any changes in revenue and/or ratepayer costs based on increased percentages of diversion.</li> </ul>
<p>5. Any considered MRF/CT must have a projected tip fee that limits financial impact to affected ratepayers and provides a revenue stream to the City</p>	<ul style="list-style-type: none"> <li>• For the proposed facility capacity, provide planning-level cost and pricing estimates (in 2014 dollars), including capital cost, product revenue (by product), and tip fee revenue.</li> <li>• Provide a breakdown of capital cost including: permitting, design, and construction, and cost for structures, equipment control systems, utilities, ancillary services, vehicles, and other costs.</li> <li>• Provide a breakdown of operating costs including: labor, residuals disposal, utilities, chemicals, maintenance and repair, capital repair and replacement, and other costs.</li> <li>• Provide a breakdown of potential revenues by product type</li> <li>• For the costs identified above, estimate the corresponding, first-year tipping fee. Describe how the tipping fee would be expected to change over the life of the project (i.e. what events of circumstances may affect the tip fee, such as expansion if not done initially, general inflation, change in MSW composition, energy and/or materials prices over time, state or federal regulations).</li> <li>• Describe the availability of any funding sources (i.e. grants, state or federal loan guarantees, etc.) for the proposed technology, how such funds would be pursued, and the potential impact of such funds on the planning –level cost and pricing estimates.</li> </ul>
<p>6. Any considered MRF/CT must produce end products that have probable, identifiable or existing markets (including electricity and/or fuel products)</p>	<ul style="list-style-type: none"> <li>• Provide a listing of all potential products, including electricity and/or fuel products, and expected revenues by product (unit-price basis_</li> <li>• For each product, identify the expected market and describe the anticipated strength of the market.</li> <li>• Describe contingency plans for products that may have less certain markets.</li> <li>• Describe experience in marketing products at existing facilities.</li> <li>• Discuss the eligibility of the technology for renewable energy credits under current conditions or, if not eligible today, under what future circumstances might the technology be eligible for renewable energy credits.</li> </ul>
<p>7. Any considered MRF/CT must conform to California environmental standards, and</p>	<ul style="list-style-type: none"> <li>• Describe the types of permits expected to be needed to implement the technology.</li> <li>• Describe how the technology would limit and/or mitigate the impacts of landfilling MSW.</li> <li>• Describe expected environmental performance, and provide any supporting information associated with existing facilities (i.e. air</li> </ul>

<p>must limit and/or mitigate environmental impacts of landfilling MSW</p>	<p>emissions data, consumptive water use, wastewater data, traffic impacts, site and aesthetic considerations).</p> <ul style="list-style-type: none"> <li>• For technologies that produce and intermediate gas (syngas, biogas) that would be combusted to generate electricity, describe whether the gas is (or otherwise could be) captured and pre-cleaned prior to conversion to electricity. Identify any existing facilities where this practice has been demonstrated.</li> </ul>
<p>8. Any considered MRF/CT must have been demonstrated at a minimum of one facility of similar size of 50 tons per day (tpd), and shall have been in operation for at least six months (as of June 1, 2013) processing MSW or similar feedstock</p>	<ul style="list-style-type: none"> <li>• Provide an explanation as to how it can be expanded to accommodate the City’s anticipated tpd.</li> <li>• Provide a listing of the facilities that are currently or have previously been in operation, indicating location and name of the facility, facility capacity, unit capacity, period of operation (including if operated continuously or on a limited basis), type of operation (i.e. demonstration or commercial facility), and type of waste processed.</li> <li>• Identify the facility or facilities that provide the best demonstration of the technology.</li> <li>• If available, provide photographs of the technology and facilities in a jpg format.</li> </ul>
<p>9. Any considered MRF/CT must have a project team that has experience designing, building and operating a solid waste management facility, either individually or as a team</p>	<ul style="list-style-type: none"> <li>• Identify principal project participants</li> <li>• Describe the experience of individual project team members in the following key areas: <ul style="list-style-type: none"> <li>• Project development, design and construction of MSW facilities in general, and utilizing the proposed or similar technology</li> <li>• Project financing experience</li> <li>• Regulatory and permitting experience in the US for solid waste management facilities, including experience in California and with the CEQA process</li> <li>• Public-private partnership experience in the US for MSW projects, including experience in responding to public procurements</li> <li>• Experience marketing products from the technology</li> </ul> </li> <li>• Describe the experience of the project team in working together previously in development, permitting, design, construction and operation of a solid waste management facility and with the proposed or similar technology, providing specific project examples, where available.</li> <li>• Describe the overall technical and financial resources of the project team, including the location of key resources (i.e. outside the US, inside the US, California based). As appropriate, also provide such information for any parent corporations that may be proposed as guarantors of participating subsidiaries and/or projects. If available, provide audited financial statements (annual reports) for the immediately preceding fiscal year for the principal team members.</li> </ul>

<p>10. The project developer must have bonding ability equal to the estimated cost of facility design and construction, and, during operation, equal to the estimated annual operating cost; must not be in bankruptcy; and must provide a financing plan that reasonably demonstrates that it can offer private project financing, if required.</p>	<ul style="list-style-type: none"> <li>• Provide a preliminary financing plan that reasonably demonstrates the project team can structure a private project financing, if required (i.e. for a design, build, own, operate [DBOO] approach). Indicate commitments from the City that may be necessary to support a DBOO structure.</li> <li>• Describe the financial resources of each principal member of the project team regarding the ability to provide the requested bonding (or other comparable project security instruments) for project construction and operation, and experience in obtaining such bonds or security for other projects.</li> <li>• Provide a statement that the project developer is not in bankruptcy.</li> </ul>
<p>11. The project developer must <b>not</b> be debarred from contracting in California</p>	<ul style="list-style-type: none"> <li>• Provide a statement that the project developer is not debarred from contracting in California.</li> </ul>

