

Developing a Statewide Program EIR for CalRecycle's Anaerobic Digestion Initiative



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Executive Summary

Strategic Directive 6.1 calls for a 50 percent reduction in the amount of organics in the waste stream by 2020. In support of that strategic directive, the California Integrated Waste Management Board (now known as the Department of Resources Recycling and Recovery, or CalRecycle) awarded a \$250,000 contract to Environmental Science Associates (ESA) in 2009 to prepare and circulate of a Program Environmental Impact Report (EIR) to assess the environmental impacts of siting new anaerobic digester facilities in California.

To gain a better understanding of these facilities, ESA researched various anaerobic digestion technologies, typical locations of anaerobic digester facilities, environmental impacts, potential feedstocks, and best management practices to reduce environmental impacts at anaerobic digester facilities. A Technical Advisory Group was formed to help identify the potential environmental impacts to be considered in the Program EIR, the types of anaerobic digestion projects being considered statewide, and the regulatory, technological and economic barriers to implementing potential anaerobic digestion projects. More than 50 stakeholders participated in the three advisory group meetings held in 2010.

A Notice of Preparation (Notice) for the Program EIR was prepared and filed with the State Clearinghouse on April 30, 2010. It provided responsible and trustee agencies and the public with information describing the project and its potential environmental effects. Nine written comments were received during the 30-day public comment period. Technical advisory group members and local agencies indicated that the Notice did not clearly define a “project” or discretionary action to be taken by the lead agency (CalRecycle).

In response to comments on the Notice, CalRecycle developed the Anaerobic Digestion Initiative, which is a restatement of CalRecycle program initiatives currently under way (e.g., the anaerobic digestion-related activities in the Organics Roadmap) and policies adopted by the Board (now CalRecycle) (e.g. Strategic Directive 6.1). The restatement of these policies and program initiatives within the Program EIR strengthens the value of the document to subsequent users while providing a clear picture of the environmental impacts of anaerobic digester facilities.

ESA analyzed information and data obtained from anaerobic digestion research, technical advisory group feedback, and public comments on the Notice and incorporated the information into a Draft Program EIR consistent with California Environmental Quality Act (CEQA) guidelines. ESA submitted an Administrative Draft Program EIR to CalRecycle in October 2010.

CalRecycle and several technical advisory group members reviewed the Administrative Draft Program EIR and provided comments to ESA, which then revised the preliminary document based on the comments and filed the Draft Program EIR at the State Clearinghouse on Feb. 11, 2011.

The Draft Program EIR was published on Feb. 14, 2011, and was available for public comment through April 4, 2011. Public comments were also accepted at the CalRecycle monthly public meeting on March 15, 2011, in Sacramento and on March 30, 2011, in Lakewood. CalRecycle received 19 comment letters/emails on the Draft EIR.

CalRecycle staff and ESA developed responses to the comments in May 2011 for inclusion in the Final Program EIR, which was certified on June 22, 2011, after staff recommended certification at a CalRecycle public meeting on June 21, 2011.

Introduction

Compostable organic materials comprise more than 25 percent of the waste stream disposed in California landfills. In February 2007, the California Integrated Waste Management Board (Board) adopted Strategic Directive 6.1, which calls for a 50 percent reduction in the amount of organics in the waste stream by 2020. Achieving this goal will require expanding the statewide capacity of organic diversion facilities, including anaerobic digester facilities.

In support of Strategic Directive 6.1, the Board (now CalRecycle) awarded a \$250,000 contract to Environmental Science Associates (ESA) in 2009 to prepare a Statewide Program Environmental Impact Report (EIR) to assess the environmental impacts of siting anaerobic digester facilities in California. The following report summarizes the activities employed by ESA and CalRecycle to develop the “Statewide Program Environmental Impact Report for Anaerobic Digester Facilities for the Treatment of Municipal Organic Solid Waste.”

Anaerobic Digestion Facility Research

ESA worked with CIWMB (now CalRecycle) staff in October 2009 to develop a work plan for the project. From October 2009 to June 2010 as identified in the Scope of Work, ESA, in coordination with the technical advisory group, completed the following tasks:

- Identify existing Environmental Impact Reports, Environmental Impact Studies and other environmental assessments that have already been developed for similar activities.
- Identify locations and typical “environmental settings” where the anaerobic digester facilities would be located.
- Identify potentially significant environmental impacts of anaerobic digester facilities.
- Identify and recommend various models and best management practices associated with anaerobic digester facilities and those that could be applied to anaerobic digester facilities in California.
- Identify issues associated with specific waste streams and the potential impacts to the environment and public health and safety in the development and operation of anaerobic digester facilities.

Information obtained during this research phase of the project was essential in preparing the Draft Program EIR.

Technical Advisory Group

The purpose of the Technical Advisory Group was to help identify the potential environmental impacts to be considered in the Statewide Program EIR, the types of anaerobic digestion facilities being considered statewide, and the regulatory, technological and economic barriers to implementing anaerobic digester facility projects. ESA coordinated with CalRecycle from October 2009 to February 2010 to establish the technical advisory group. Its participants represented the solid waste industry; environmental groups; university/academia; local government; and federal, state, and regional agencies. Group members are listed in the acknowledgements section of this report.

The group met three times at the Cal/EPA headquarters during the project:

- Feb. 2, 2010
- March 24, 2010
- Aug. 5, 2010

Approximately 50 stakeholders participated in the technical advisory group. Topics discussed at the meetings included anaerobic digestion technologies, benefits of anaerobic digester facilities, potential environmental impacts, greenhouse gas emissions, anaerobic digester facility permitting, the scope of the Program EIR, and Program EIR Alternatives. Group members were supportive of the goals of the Program EIR, and many group members indicated that the Program EIR would provide information that could help anaerobic digester facility projects that are in the early phases of planning and/or permitting. There was also considerable support for CalRecycle regulations to specifically address the permitting of anaerobic digester facilities.

The inclusion of the landfill in-ground digester cell alternative was a topic that raised some controversy in the technical advisory group meetings. Some members indicated that it should be included as part of the project. Others wanted it discussed as an alternative or not at all in the Program EIR. Ultimately, the in-ground digester cell was considered as an alternative to the project (in the Program EIR).

Some group members indicated that the thermal conversion alternative was not an appropriate project alternative because thermal conversion technologies have different target feedstock materials than anaerobic digestion facilities. Because of the differences in target feedstock materials, the thermal conversion alternative was described in some detail in Chapter 13 (Alternatives) of the Program EIR, but it was not directly compared as a project alternative.

Notice of Preparation (Notice)

The Notice was prepared and filed with the State Clearinghouse on April 30, 2010. The Notice provides responsible and trustee agencies and the public with information describing the project and its potential environmental effects. The preliminary project description and a list of environmental issues to be addressed in the Program EIR were included in the Notice. Responsible and trustee agencies and members of the public were asked to provide written comments regarding the scope and content of the Program EIR. The Notice was provided as Appendix A in both the Draft and Final Program EIRs and can be found at: www.calrecycle.ca.gov/SWFacilities/Compostables/AnaerobicDig/NOP.pdf

Nine written comments were received during the 30-day public comment period. Advisory group members and local agencies indicated that the Notice did not clearly define a “project” or discretionary action to be taken by the lead agency (CalRecycle). In response, CalRecycle management collaborated with CalRecycle’s Legal Office to develop the Anaerobic Digestion Initiative, which represents CalRecycle’s project.

Anaerobic Digestion Initiative

Under its Strategic Directive 6.1, CalRecycle seeks to reduce by 50 percent the amount of organic waste disposed in the state’s landfills by 2020. In addition to helping conserve limited landfill capacity, this CalRecycle policy recognizes that organic wastes are a resource, not just solid

wastes that must be disposed. Organic wastes have an energy value that can be captured and utilized and are also a necessary component of compost, soil amendments, and other useful products. Directive 6.1 also encompasses one of CalRecycle's actions to help California significantly reduce its generation of greenhouse gases that contribute to global warming.

Under the state's "Climate Change Scoping Plan, a Framework for Change" (California Air Resources Board, December 2008), CalRecycle is responsible for taking actions to reduce the emission of methane, a potent greenhouse gas, from landfills. Anaerobic digestion facilities utilize organic wastes as a feedstock from which to produce biogas (which is captured), and the methane in the biogas is converted to other forms of energy, such as liquid natural gas or compressed natural gas. The development of such facilities is one of CalRecycle's charges under the AB 32 Climate Change Scoping Plan. The plan anticipates that anaerobic facilities can reduce landfill methane emissions by 2 million metric tons of CO₂ equivalent gases per year by the year 2020. Anaerobic digestion facilities also can contribute to meeting the state's Renewable Portfolio Standard and Low Carbon Fuel Standard.

To assist in achieving those objectives, CalRecycle intends to adopt the Anaerobic Digestion Initiative, a comprehensive program to foster the development of anaerobic digestion facilities which convert organic solid wastes into sources of energy and can produce valuable compost feedstocks, soil amendments, and other products.

The Anaerobic Digestion Initiative consists of CalRecycle's adoption of a policy and a series of discrete actions to implement the policy, together with additional actions that will be developed and implemented in the future:

- It is the policy of CalRecycle to encourage the development of anaerobic digestion facilities in California as an alternative to the landfill disposal of organic solid waste. Specifically, as an initial measure, CalRecycle will encourage the establishment of in-vessel digesters located at existing or new solid waste facilities and in areas zoned for industrial or solid waste handling activities.
- CalRecycle shall, not later than Jan. 1, 2012, establish programs to implement the above policy, including without limitation:
 - Provide research grants, loans, and contracts (dependent on funding availability) to develop anaerobic digestion facilities and for activities that advance the state of knowledge about anaerobic digestion and its applications and the uses of products and byproducts, including anaerobic digestion demonstration projects that use the organic fraction of municipal solid waste as a feedstock.
 - Develop guidance publications to assist operators who seek to establish anaerobic digestion facilities.
 - Develop guidance publications to assist LEAs and other local and regional government agencies that permit and regulate anaerobic digestion facilities, specifically guidance for co-location at solid waste facilities.
 - Draft revised regulations for aspects of specific design, operation and permitting of anaerobic digestion facilities within the authority and responsibility of CalRecycle.

- Promote anaerobic digestion through CalRecycle’s participation with the California Energy Commission in implementing AB 118 (Alternative and Renewable Fuel and Vehicle Technology Program), the Bioenergy Interagency Working Group, and with the Air Resources Board in implementing the Anaerobic Digestion and Low Carbon Fuel Standard measures in the AB 32 Climate Change Scoping Plan.
- Work with the California Pollution Control Financing Authority and California Alternative Energy and Advanced Transportation Financing Authority to help anaerobic digestion project proposals obtain funding.
- Participate on technical workgroups convened by the Climate Action Reserve to develop or modify protocols, such as the Organic Waste Digestion Project Protocol, or projects that divert and anaerobically digest organic waste that otherwise would have gone to solid waste landfills.

Draft Program EIR

ESA began preparing the Draft EIR in November 2009 by writing a skeleton of the project based on ESA standard formats and ideas gleaned from a Biosolids Program EIR. In December 2009, ESA began developing the project description and a template for the environmental issues sections of the Program EIR. From January 2010 to October 2010, ESA compiled data obtained from anaerobic digester facility research, feedback from the technical advisory group, and public comments on the Notice, and incorporated the information into the Draft Program EIR document based on California Environmental Quality Act guidelines. The following chapters and sections are included in the Draft Program EIR:

- Chapter 1: Executive Summary
- Chapter 2: Introduction
- Chapter 3: Project Description
- Chapter 4: Approach to Environmental Analysis
- Chapter 5: Air Quality and Greenhouse Gas
- Chapter 6: Hydrology and Water Quality
- Chapter 7: Noise
- Chapter 8: Public Services and Utilities
- Chapter 9: Transportation
- Chapter 10: Aesthetics
- Chapter 11: Hazards and Hazardous Materials
- Chapter 12: Other CEQA Considerations
- Chapter 13: Alternatives
- Chapter 14: EIR Authors and Organizations/Persons Consulted

- Chapter 15: Acronyms and Glossary
- Appendices

ESA submitted an Administrative Draft Program EIR to CalRecycle on Oct. 26, 2010. CalRecycle and several technical advisory group members reviewed the Administrative Draft in November 2010, and CalRecycle provided a consolidated set of comments (including technical advisory group and CalRecycle reviewers) in early December 2010. ESA reviewed and incorporated the comments in January 2011 and after a final review by CalRecycle in early February, ESA submitted the Draft Program EIR to the State Clearinghouse on Feb. 11, 2011.

It is noteworthy that the Draft Program EIR determined that all the program level environmental impacts of developing anaerobic digester facilities could be reduced to a less than significant level with the implementation of mitigation measures found in the Draft Program EIR.

The Draft Program EIR was published on Feb. 14, 2011 and was available for public comment through April 4, 2011. Public comments also were accepted at the CalRecycle monthly public meeting on March 15, 2011, in Sacramento and at a special public meeting for Southern California jurisdictions on March 30, 2011, in Lakewood. CalRecycle received 19 comment letters/emails on the Draft Program EIR. CalRecycle staff and ESA developed responses to the comments in May 2011 for inclusion in the Final Program EIR.

Final Program EIR

The proposed Final Program EIR was posted to the [CalRecycle website](#) on June 10, 2011. CalRecycle sent notice of availability of the proposed Final Program EIR to all public agencies that commented on the Draft EIR and all of the stakeholder email lists. The Final Program EIR is comprised of the revised Draft Program EIR (Chapters 1-15 and Appendices) and the Comments and Responses Document (following the revised Draft Program EIR). Revisions to the Draft Program EIR are shown in underline for additions and strikethrough for deletions. Revisions to the Draft Program EIR are the result of the comments on the Draft Program EIR and minor staff-initiated text changes.

For the convenience and clarity of future users of the document, the executive summary table (Table 1-1) and all figures are shown as clean copies (without mark-ups) and noted as revised in the title. All changes to the impact statements or mitigation measures in Table 1-1 are shown in underline and ~~strikethrough~~ in the respective chapters of the revised Draft Program EIR (Chapters 5-11). The Final Program EIR is available on the CalRecycle website at <http://www.calrecycle.ca.gov/SWFacilities/Compostables/AnaerobicDig/DPEIR.pdf>

Certification of Final Program EIR and Approval of Anaerobic Digestion Initiative

CalRecycle staff provided an update and overview of the Final Program EIR at the CalRecycle monthly public meeting on June 21, 2011, and discussed staff recommendations on CEQA findings, certification of the Program EIR, and approval of the Anaerobic Digestion Initiative. The Final Program EIR is in compliance with CEQA. (CEQA Guidelines, Section 15090[a][1]). CalRecycle determined that the proposed Anaerobic Digestion Initiative would have potentially significant impacts (as identified in the Final Program EIR) but these can be mitigated to a level that is less than significant. Mitigation measures identified in the Final Program EIR would avoid or substantially lessen the potentially significant environmental impacts of anaerobic digester facilities.

When an anaerobic digestion facility is constructed in the future, it will be subject to numerous governmental approvals (primarily at the local level) and will be subject to CEQA. In most cases, the lead agency will be the local land use authority or the Local Enforcement Agency (LEA). In considering a specific anaerobic digestion facility, and based on site-specific conditions and circumstances, the lead agency will adopt the appropriate mitigation measures among those specified in the Final Program EIR and others as necessary to avoid or substantially lessen the significant environmental effects of the project.

Therefore, with respect to CalRecycle in its certification of this Final Program EIR and adoption of the Anaerobic Digestion Initiative, all of the changes or alterations (i.e., Final Program EIR Mitigation Measures) to specific projects which are constructed and operated in the future will be within the responsibility and jurisdiction of other public agencies and not CalRecycle.

On June 22, 2011, CalRecycle Acting Director Mark Leary certified the [Anaerobic Digestion Final Program EIR](#), adopted the [Mitigation Monitoring and Reporting Plan](#), and approved the [Anaerobic Digestion Initiative](#). The Notice of Determination for the project (in compliance with Public Resource Code §21108(a)) was filed at the State Clearinghouse on June 22, 2011.

Abbreviations and Acronyms

Board	California Integrated Waste Management Board
CalRecycle	California Department of Resources Recycling and Recovery
CEQA	California Environmental Quality Act
EIR	Environmental Impact Report
EIS	Environmental Impact Studies
ESA	Environmental Science Associates
LEA	Local Enforcement Agency
NOP	Notice of Preparation
SD	Strategic Directive

Glossary of Terms

Acronyms and Glossary can be found in Chapter 15 in the Final Program EIR

<http://www.calrecycle.ca.gov/SWFacilities/Compostables/AnaerobicDig/DPEIR.pdf>