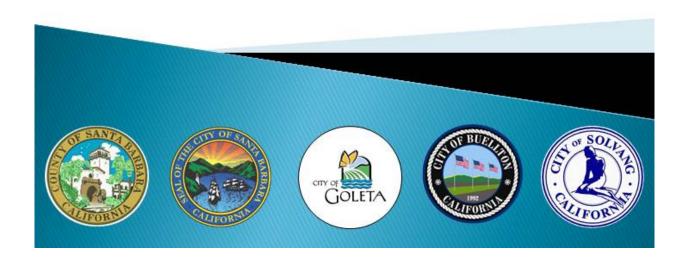
RESOURCE RECOVERY PROJECT SUMMARY

More recyclables, compost and energy through new technologies



Resource Recovery Project Summary

The Resource Recovery & Waste Management Division of the County of Santa Barbara Public Works Department is recommending a resource recovery project to process municipal solid waste currently buried at the Tajiguas Landfill. The following summary provides detailed information regarding various facets of the project including the procurement process, a discussion of thermal-based technologies, project collaboration and outreach, the recommended vendor/project, project benefits, key contractual points with the proposed vendor, the administrative structure of the project, CEQA review, and an estimated timeline.

Procurement Process

The Tajiguas Landfill currently provides disposal services for the cities of Buellton, Solvang, Goleta, and Santa Barbara as well as the unincorporated South Coast, Santa Ynez, and New Cuyama Valleys. Despite the region's aggressive and successful recycling efforts (our region is currently diverting over 70% of the waste generated), space at the landfill is diminishing and there is the need for a regional long-term solid waste management plan. In February 2004, the Multi-Jurisdictional Solid Waste Task Group (MJSWTG) developed a long-term waste management plan for the three wastesheds in the County (Santa Maria, Lompoc, and the South Coast including the Santa Ynez Valley). The plans were adopted by area jurisdictions and the plan for the South Coast included the development of a waste conversion facility (CT) which is essentially a facility that further recovers materials from the wastestream and converts those materials into energy, fuels, and other potentially marketable products.

In March 2007, the CT Subgroup of the MJSWTG was re-initiated and established a technical working subgroup comprised of staff from each of the participating jurisdictions (the cities of Buellton, Goleta, Santa Barbara, Solvang, and the County). This technical subgroup has met regularly over the last four years and was instrumental in hiring a consultant to evaluate the feasibility of conversion technologies, preparing the request for proposals for the project, reviewing the proposals submitted, making presentations to the general community regarding the project, and selecting the recommended project. The CT Subgroup of the MJSWTG has continued to meet as the elected officials forum to guide the technical staff with policy direction.

In August 2007, County staff provided a solid waste management update to the Board which included the request for direction for staff to work with its regional partners to evaluate the feasibility of constructing a facility that would reduce our community's reliance on landfilling. Technologies are available that would further process waste to remove recyclables and convert the majority of the remaining material into synthetic fuels, electricity or other usable products. The benefits of this type of facility include providing a long-term waste management plan, minimizing the environmental effects of waste disposal, providing financial stability, maximizing recycling rates for participating jurisdictions, and potentially generating green energy for our community. Link to Board item:

 $\frac{http://santabarbara.legistar.com/LegislationDetail.aspx?ID=462260\&GUID=B9D2F390-A38E-4478-AF31-7ACE156B2A6E}{4478-AF31-7ACE156B2A6E}$

In October 2007, the City Council of Santa Barbara and the County Board of Supervisors approved the recommendation made by the Subgroup to hire Alternative Resources, Inc. (ARI) to proceed with the evaluation of a CT facility to be established on the South Coast, most likely at the Tajiguas Landfill. ARI was recommended to the Board based on a RFP process and selection committee that contained staff members from the County of Santa Barbara, the City of Santa Barbara, the City of Goleta, and the Montecito Sanitary District. Link to Board item: http://santabarbara.legistar.com/LegislationDetail.aspx?ID=462525&GUID=5EFD75F1-850D-4B13-8B27-44B258B4DA25

Soon after ARI was hired, staff from the County and City of Santa Barbara conducted a comprehensive outreach effort speaking directly to over 40 community organizations, agencies, and jurisdictions including the City Councils of Goleta, Buellton and Solvang. The purpose of the effort was to make the community more aware of the current rates of waste generation and the need for a long-term waste management plan and how CT may fit in the plan. In addition, the potential benefits of further processing recyclables and converting waste to an energy source were explained. Based on community feedback, the CT Subgroup and ARI drafted goals that were used as guiding principles in the evaluation process as well as evaluation criteria that were used to screen potential technologies for suitability at the Tajiguas Landfill.

In January 2008, both the City of Santa Barbara City Council and the Board of Supervisors approved the project goals and criteria to be used when preparing the feasibility report. Link to Board item:

http://santabarbara.legistar.com/LegislationDetail.aspx?ID=462775&GUID=5D9A8FA9-8CC3-4751-874A-008B8FF33E6A

ARI developed a list of twenty four potential vendors based on known technologies as well as vendors that have participated in recent procurement efforts in other jurisdictions. A Request for Information was prepared and sent to these vendors requesting information to ensure their ability to meet the City and County's screening criteria.

In April 2008, the feasibility report was completed and identified eight potential CT contractors, representing three different processes (anaerobic digestion, thermal processing, and refuse derived fuel) (see table below). Each of the contractors met all of the criteria and expressed their ability to achieve 70-100% diversion at a rate of less than \$100 per ton (an assumed cost to dispose at an alternative facility in the future). Due to the breadth of contractor types and capabilities, it was determined by the consultant and Subgroup that there were feasible alternatives that could result from a competitive procurement process.

Name of Company	Type of Technology
CA Renewable Technologies	Anaerobic Digestion
Ecocorp	Anaerobic Digestion
AdaptiveNRG	Thermal – Plasma Gasification
International Environmental	Thermal – Pyrolysis
Solutions	

Interstate Waste Technologies	Thermal – Gasification
Plasco Energy Group	Thermal – Plasma Gasification
Tajiguas Partners	Thermal – Gasification
Herhoff California	Biological Drying/Mechanical Separation/Combustion Off-
	Site

In May 2008, staff presented the Feasibility Report and its findings to the Board and requested direction to begin drafting a Request for Proposals (RFP) to solicit project proposals from the short-listed conversion technology vendors, directions for staff to continue to make presentations to the community on the results of the report, and to hold a public forum for elected officials from the potential partner cities to discuss the legal arrangement for the facility. The Feasibility Report was originally released on www.conversiontechnologystudy.com and the link to the Board item is:

 $\frac{http://santabarbara.legistar.com/LegislationDetail.aspx?ID=462775\&GUID=5D9A8FA9-8CC3-4751-874A-008B8FF33E6A$

In August 2008, the Subgroup held a two-day public forum to discuss ownership, operation, financing, and contract administration of this potential facility. These meetings were attended by elected officials of the cities of Santa Barbara, Goleta and Buellton as well as the County of Santa Barbara. Feedback from this forum was formally presented and approved by the Board in October 2008 including:

- 1. The facility will be privately designed, built, owned and operated during the contract, but will allow the participating public jurisdictions to purchase the facility for a nominal fee at the end of the contract. Additionally, there will be the option of buying out the contract and purchasing the facility before the contract ends. Due to initial private ownership, this project will also be privately financed which will reduce the financial risk of this project to the County of Santa Barbara and increase scrutiny from private lenders to ensure viability.
- 2. Waste supply and contract administration will be based on a public partnership model. There will be individual contracts with the conversion technology contractor and each of the participating jurisdictions. The contracts will be developed by a Joint Powers Agreement to provide a uniform position in contract management and appropriate protection and remedies to all parties.

Link to Board item:

http://santabarbara.legistar.com/LegislationDetail.aspx?ID=463573&GUID=D33AD383-C264-45FC-92FD-2F0321509136

ARI, with the assistance of the Subgroup, developed a RFP incorporating both the feedback received from elected officials attending the public forums, and the evaluation criteria developed for the feasibility report based on community goals. During the course of the development of the RFP, three different public official forums were held that included elected officials from each of the jurisdictions served by Tajiguas to review the contents of the RFP as well as approve the final document. In August 2009, staff sought feedback from stakeholders during a public hearing at the Santa Barbara Public Library regarding the draft RFP.

At this same time (summer of 2009), the City Councils of each jurisdiction proposed to participate in the project (cities of Buellton, Goleta, Santa Barbara, and Solvang) approved letters of interest and intention to commit material to the project if the facility was able to meet each of the project goals. In October 2009, the RFP was released by the Board of Supervisors, link to Board item:

http://santabarbara.legistar.com/LegislationDetail.aspx?ID=488561&GUID=E6D9ECF9-F409-4681-A271-1C4493061EB3

At the same time, the City of Santa Barbara City Council received an update on the release of the RFP. Between November 2009 and June 2010, 9 addendums to the RFP were released.

In June 2010, the County received five proposals submitted by four vendors (one vendor submitted a Base and an Alternative proposal). In October 2010, each of the vendors made oral presentations of their proposals to the Subgroup.

Name of Company	Type of Technology
Mustang Renewable Power	Anaerobic Digestion (with Thermal Gasification included
Ventures	in an alternative proposal)
NRG Energy	Thermal – Plasma Gasification
Plasco Energy Group	Thermal – Plasma Gasification
International Environmental	Thermal – Pyrolysis
Solutions	

ARI and the Subgroup reviewed the proposals submitted and held four public official forums to discuss the proposals including their opportunities, weaknesses and their strengths. In February 2011, the Subgroup held a public official forum and recommended no further evaluation of two of the five submittals (International Environmental Solutions (IES) and NRG Energy Inc. (NRG)). The Subgroup felt that IES did not have the business background and had not assembled a team capable of successfully completing a project of this scale including financing, permitting, and project organization. NRG submitted a cursory proposal that included pricing, but indicated that all of the information they had submitted was subject to conducting their own feasibility study. The Subgroup gave them two opportunities to submit more detailed information that could be compared to other proposals submitted and they did not respond to the level of specificity and commitment required as part of the procurement process. This narrowed the evaluation process to two vendors (Plasco and Mustang Renewable Power Ventures) and three proposals.

Plasco is based in Ontario, Canada and specializes in converting post-recycled municipal solid waste into a fuel gas by using plasma gasification. Their proposal included a simplified material recovery facility (MRF) to pull out metals and inert materials, such as glass, that were not suitable for gasification. The emphasis of the material recovery facility was to prepare the municipal solid waste as a feedstock for the gasification facility by removing unnecessary materials and shredding the remainder before the conversion process. The gasification and power generation facility would convert this post-recycled MSW-based feedstock into more than 17

megawatts of energy. This process would also divert 98% of all material currently disposed of at the Tajiguas Landfill.

Mustang Renewable Power Ventures (Mustang) submitted two proposals: a Base and an Alternative. Principals for Mustang are based in San Luis Obispo and include partners to provide a material recovery facility (Van Dyk Baler), an anaerobic digestion facility (Bekon), and a gasification facility (W2E - for their alternative proposal only).

The goal of Mustang's Base proposal is to remove as many materials as possible for beneficial use and to landfill the remainder at Tajiguas. This proposal is projected to recover approximately 60% of the material currently buried: approximately 35% for sale as recyclables commodities, and 25% as organics for digestion, the collection and conversion of biogas (primarily methane) into electricity at a net rate of 1 megawatt per year, and landfilling of the remaining waste.

Mustang's Alternative proposal builds on its Base proposal, but instead of landfilling the remaining waste, they proposed to build a gasification facility to convert the material into slag and synthetic gas to be converted to electricity. In addition to the benefits listed above for the Base proposal, the Alternative proposal would provide 10.5 net megawatts of energy per year, and divert 85-90% of the material currently being landfilled thus significantly extending the life of the current permitted landfill.

Thermal-Based Technologies

The development and use of thermal-based technologies such as gasification or plasma arc gasification has largely been used on a smaller scale worldwide (for example on military bases or targeting a specific material type such as hazardous waste, not municipal solid waste) and on a larger scale in other parts of the world such as Asia and more recently, Europe. A thermal technology of this type using municipal solid waste as a feedstock has not been developed and operated in the United States. There is significant interest in using thermal-based technologies in the United States so regulating agencies are considering how to permit and regulate these types of facilities.

In California, regulations as currently written pose potential hurdles associated with the permitting of a thermal technology. Public Resource Code Section 40117 specifically states that a non-combustion thermal process cannot produce any air contaminants or emissions, no water discharge to surface or groundwater, and cannot produce hazardous waste. Additionally, it indicates that the technology must remove all recyclable materials and marketable green waste from the solid waste stream prior to the conversion process. The Salinas Valley Waste Authority is currently evaluating the construction of a thermal technology (Plasco's plasma arc gasification technology) to be sited at its Johnson Canyon Landfill in Gonzales, California. CalRecycle, the state agency responsible for determining if a proposed facility meets current regulations, has determined that the Authority's proposed facility meets the definition of gasification. The Authority is now in the process of preparing an Environmental Impact Report for the project. There has been significant opposition to CalRecycle's determination and it remains to be seen what the outcome for the project will be. The purpose of raising the issue is to demonstrate the

newness of this type of technology, the process proposed by the state to evaluate the technology, its unknown path for permitting, and, potentially, the public's perception of a facility of this type.

Specific to our process in Santa Barbara County, County staff met with representatives from our local Air Pollution Control District to discuss the different types of technologies being evaluated and what their concerns may be as a permitting agency. At that time, there was a lack of air emission data specific to this type of thermal technology and more specifically for their use to process municipal solid waste. While gasification presents many possible benefits for the future processing of waste materials in Santa Barbara County, the Subgroup determined that it would be prudent to continue to monitor and support the evaluation of these facilities but not to pursue a facility of this type at this time.

The Subgroup's concerns and subsequent recommendation to not include gasification technologies at this point was shared during two public official forums (May and December 2011), presentations made to stakeholders during the Summer and Fall months of 2011, and a City Managers meeting in December 2011.

Project Collaboration and Outreach

Each of the steps taken during this procurement process have been collaborative, comprehensive, and transparent. A Subgroup consisting of staff from each of the participating jurisdictions was created and has met regularly over the last four years to assist in preparing the RFP, reviewing the proposals, and making presentations to stakeholders and the general public. Eight public official forums comprised of elected officials, typically participating on the Multi-Jurisdiction Solid Waste Task Group, were held throughout the process to provide updates on the project's progress, discuss key policy questions, and respond to the Subgroup recommendations. Additionally, presentations were made regularly to the City Councils of the participating jurisdictions as well as the County Board of Supervisors regarding progress on the project (see Attachment A for a detailed list of City Council meetings, Board of Supervisors meetings, and public official forums where this project was presented and discussed).

At the initiation of the procurement process, the Subgroup launched an extensive public outreach program including a dedicated Website (www.conversiontechnologystudy.com), public service announcements, and presentations to a broad spectrum of audiences including environmental and advocacy organizations, business groups, and regulatory agencies. To date, over ninety presentations have been made over the course of the project. Attachment B is a listing of each of the presentations made to interested organizations. The Subgroup considered the feedback received during these presentations which assisted in identifying the best project to meet our community's solid waste management needs.

Recommended Vendor/Project

The recommended vendor is Mustang using their Base proposal. The vendor principal is John Dewey of the Dewey Group with a partner company, Rossi Enterprises. Participating firms include Van Dyk Baler (design, engineer, manufacture, install and service material recovery facility); Bekon Industries (provide, install, and maintain anaerobic digester); AJ Diani Building Corporation (a local builder based in Santa Maria); Worley Parsons (project engineer); and Westhoff, Cohen & Holmstedt (investment banker). Mustang included each of these firms as participants based on their significant experience in their respective areas of expertise. Attachment C is a summary of the types of facilities being proposed and the participant firms' past experience with other similar facilities.

The proposed project is not intended to change current or proposed recycling programs of the various jurisdictions, but consists of a state-of-the-art material recovery facility that will process all waste currently thrown into the trash can. Recyclables will be pulled out to be baled and sold as commodities. Organics will be directed to an on-site anaerobic digester for digesting and extraction of biogas (primarily methane). The biogas will be converted to energy through a combustion engine. The digestate that comes out of the digestion process will be cured to produce a compost product, if possible, based on the quality of the material. The waste that cannot be recycled or digested will be directed to the county owned and operated Tajiguas landfill for burial. An additional element that the Subgroup is proposing is to further analyze the processing of current and future source-separated commingled recyclables collected in blue containers as well as source-separated food and green waste to reduce costs and fluctuations in the quantity of materials processed at the facilities as recycling programs expand or change in the future. The project is proposed to be built at the Tajiguas Landfill and Mustang will lease the site from the County.

Benefits

Implementation of the project will provide a host of benefits to the region in addition to assisting the South Coast, and Santa Ynez and Cuyama Valleys in meeting many state mandates associated with solid waste management:

- The project will provide a long-term (20-year) waste management plan
- The project provides a cost-effective solution (rates proposed by Mustang are comparable to projected landfill costs)
- The project supports the region's recycling goals by providing the infrastructure necessary to support existing and future waste management programs (material recovery facility for recyclables, anaerobic digester for organics)
- The project assists the region in meeting CalRecycle's 15-year disposal capacity requirement (if built by 2016 the region would have enough disposal capacity until 2036 at current disposal rates)

- Implementation of the project would increase the region's diversion rate from 73% to 80% + without any changes to current programs (meets AB 341 goal of 75% in 2020)
- As compared to landfilling, the project would eliminate greenhouse gas levels equivalent to 22,000 vehicles/year (AB 32: greenhouse gas reductions by 2020)
- The project would generate a net of 1 megawatt of renewable energy and is eligible for renewable energy credits

Key Contractual Points

The RFP contained a section with a detailed discussion of key terms and conditions of a future contract with a potential vendor including waste delivery requirements, fees and payments, ownership and financing, design and construction of the facility, operations and maintenance, performance guarantees, and default and termination provisions. These same terms will be used in the final negotiations with the vendor, if the project is ultimately approved. The following highlights some of these key provisions.

Financial Plan: The vendor proposes to privately finance, build and operate the facility. The public participants will have the option to purchase the facility after 20 years for \$1. The vendor proposes that 60% of project costs are anticipated to be funded with proceeds from the sale of solid waste facility bonds to be issued by the California Pollution Control Finance Authority (CPCFA). Other local solid waste facilities that have been funded by CPCFA bonds include MarBorg's construction and demolition debris sorting facility. The remaining 40% of the project costs are to be funded with equity provided by Mustang's principals, affiliates and their institutional equity partners. The total estimated cost to construct the facilities at the scale originally proposed is \$48 million.

Tipping Fees: The vendor will fund the facility costs by charging a tipping fee to those using the facility. Proposed tipping fees are dependent on the volume of material that each jurisdiction commits to the facility. All fees proposed are comparative to projected future landfill costs thus creating no or minimal increase in costs to the regional ratepayers. The provisions in the RFP allowed for an annual adjustment to the operational portion of the tipping fee based on the published consumer price index. Revenue from the sale of the recyclables and the energy were built into the proposed *proforma* and serve as offsets to the tipping fee. Revenue above a specified threshold (referred to as windfalls) would be shared with the public participants in the form of a further offset to the tipping fee or in another form.

20-Year Agreement: The RFP set the term for the proposed agreement with the vendor for 20 years. This term will allow the reasonable depreciation of the facilities' capital costs and is common for projects of this magnitude. In addition, in the past, the region has contracted with solid waste collection service providers for 20 years as long as specific contractual performance standards are met.

Performance Requirements: The RFP set specific performance guarantees which will need to be further negotiated in the future based on the characterization of waste dedicated to be processed at the facilities. These performance guarantees fall in the categories of diversion levels, energy output, and environmental compliance.

Commitment of Material to the Facilities: The vendor will require each participating jurisdiction to commit to a range of material to be delivered to the facilities. Each jurisdiction will be responsible for meeting the minimum delivery commitment on an annual basis. In order to mitigate this delivery risk, the Subgroup has considered a variety of options including:

- sharing of tonnage among jurisdictions (if one jurisdiction exceeded its minimum delivery commitment, it could apply the extra tons to a jurisdiction that did not meet its obligation),
- design of the facility for a wider range of tonnage (this will increase the per ton cost to
 the ratepayer as the cost to manage the maximum capacity of tonnage will be borne on
 the minimum level of tonnage thus increasing the per ton cost as the range increases),
- designing the facility to process source-separated material as well as commingled material to make up for any future shifts of material away from the trash can and into the recycling container, and
- options associated with ratesetting such as charging the ratepayer the cost for the minimum delivery even if that quantity of material is not delivered.

The Subgroup has over 20 years of data regarding the generation of different waste material types and will consider this and any future program changes that may affect the quantity of material generated in the region when finalizing each jurisdiction's commitment to the facilities.

Administrative Structure

The proposed project currently includes 6 entities: the vendor (Mustang), and five public participants (County of Santa Barbara, and cities of Buellton, Goleta, Santa Barbara, and Solvang). The RFP described an arrangement whereby a master contract would be developed and each jurisdiction would have its own contract with the vendor and its own commitment of material to the facilities. This would necessitate the administration of five contracts. A recommendation was made to form an advisory group consisting of representatives of the five public participants to allow a forum to discuss any requested contract or tipping fee changes.

Since the distribution of the RFP in October of 2009, the Subgroup and legal counsel from each of the jurisdictions have met to discuss a more streamlined and efficient way of organizing the administrative structure for this project. The key components under consideration include the need for fair representation among the jurisdictions and the desire to limit risk to any one jurisdiction. Legal counsel is continuing to work to develop a final recommendation for the organization of the project. Recent presentations to the City Managers and at a public official forum held in December 2011 included the potential formation of a Joint Powers Authority that would contract singly with the vendor and each of the jurisdictions would have a contract with the JPA to commit its material to the facilities. A final recommendation will be developed over the next year (2012) and will ultimately be approved by each jurisdiction if the project is approved.

California Environmental Quality Act (CEQA) Review

The Subgroup is recommending the initiation of CEQA review for this project. The recommended project provides a long-term (20-year) solid waste management plan to service the current Tajiguas Landfill wasteshed. The recommended project is to further process material currently disposed of at the Tajiguas Landfill by using:

- Material Recovery Facility to sort material for sale or further processing
- Anaerobic Digester to process organics, extract greenhouse gases and convert gas to energy, and
- Landfill the remainder
- Additionally, to analyze the possibility of processing source-separated recyclables and organics

Pursuant to state and County CEQA guidelines, the environmental review will include an analysis of alternatives to the proposed project as well as a discussion of alternative facility locations.

The Subgroup recommends distributing a Request for Proposals to identify a consultant to prepare the environmental document. After the procurement process, staff will bring a recommended contract for consultant services to the Board for approval. The County Public Works Department, Resource Recovery & Waste Management Division will serve as the CEQA Lead Agency and the County Planning Department will be the Environmental Hearing Officer. Mustang has agreed to fund the CEQA review and to provide the technical information and studies necessary to complete the impact analysis. Staff will bring for future Board of Supervisors' approval a term sheet or MOU between the County and Mustang containing terms such as an agreement for Mustang to fund the CEQA review and the County's commitment to negotiate exclusively with Mustang, if, after the CEQA review is completed, the project is approved and established performance specifications continue to be met. Once the CEQA document has been completed, it will be brought to the Board for consideration and certification and the project will be brought forward for approval. At that time, the JPA or public participants can begin negotiations with Mustang for a contract to initiate the implementation of the project.

Estimated Timeline

2012	BOS approval of term sheet and environmental consultant
2012/2013	Preparation of CEQA document
2013	BOS certification of CEQA document and project approval
2013	Jurisdictions to approve formation of JPA
2013/2014	JPA or public participants to negotiate and approve agreement with Mustang
2013/2014	Jurisdictions to approve agreements with JPA
2014	Mustang to obtain permits

2014/2015 Mustang to finalize design, engineering, final subcontractor bids, and financing Mustang to construct, install, commission, and start up facilities

Updates and all reports related to this project can be found at: www.conversiontechnologystudy.com.

Attachment A

Resource Recovery Project: City/County Action History

The staff members of the participating jurisdictions have given *close to one hundred* presentations and received public input on the Resource Recovery Project from a broad range of stakeholders. This continuous community dialog has been crucial in developing a project that meets community needs and expectations, and has a broad range of stakeholder support and understanding. Below is a comprehensive list of the presentations made on this project to elected officials in chronological order.

2007

February 2007 – Meeting of Supervisors Carbajal and Firestone with Santa Barbara City Councilmembers Barnwell, Falcone and Williams –requesting analysis from County and City staff of feasibility of a conversion technology (CT) facility to replace landfilling for the jurisdictions served by the Tajiguas Landfill

February 2007 – The City Council of Santa Barbara authorizes "the Public Works Director to Work with Santa Barbara County (County) to Solicit Proposals for an Expert Project Manager to Assist with the Evaluation and Selection of a Municipal Solid Waste Conversion Technology Project"

March 2007 –CT Staff Subgroup reformed under the Multi-Jurisdictional Solid Waste Task Group and begins to meet biweekly.

May 2007 – CT Staff Subgroup presents to the Multi-Jurisdictional Solid Waste Task Group (MJSWTG). The MJSWTG is comprised of elected officials from all jurisdictions and special districts that are impacted by the management of Solid Waste. Update provided on the development of an RFP requesting consulting services to evaluate CT to be used at the Tajiguas Landfill. The RFP was completed as a joint effort between the City & County and was sent to a select list of vendors (20-30 consultants – many who specialize in this type of work).

May 2007 – The City Council of Santa Barbara approves its "Solid Waste Strategic Plan" which includes the future study and possible implementation of a CT Facility.

September 2007 – Charter of Conversion Technology Subgroup is finalized and signed by County and City of Santa Barbara staff (Signatories: Assistant County Executive Officer Ron Cortez, Deputy Public Works Director Mark Schleich, Assistant City Manager Joan Kent, and Assistant Finance Director Bob Samario)

October 2007 – Board of Supervisors accepts CT Staff Subgroup recommendation and awards a contract for consulting services to Alternative Resources Incorporated (ARI).

October 2007 – The City Council of Santa Barbara authorizes the City to pay half of the costs related to the study of the feasibility conversion technology for the communities served by the Tajiguas Landfill (\$75,000).

2008

January 2008 – the City Council of Santa Barbara approves the project goals and criteria associated with the evaluation of a CT facility.

January 2008 – the Board of Supervisors approves the project goals and criteria associated with the evaluation of a CT facility.

April 2008 – Feasibility Report and a summary of its findings are presented to the MJSWTG

May 2008 – The City Council of Santa Barbara receives the feasibility report and directs City Staff to move forward in its collaborative efforts.

May 2008 – The Board of Supervisors:

- 1. Receives Feasibility Report from Conversion Technology Study Group
- 2. Approves proposed process for moving forward with RFP to establish Conversion Technology at Tajiguas Landfill
- 3. Directs staff to return to present an update that will include:
 - a. Ownership and management considerations
 - b. Recommended financing arrangements
 - c. Progress on RFP

July 2008 – Presentations from the CT Staff Subgroup to the City Councils of Buellton and Solvang

August 2008 – Two different half-day public forums with elected officials from all participating jurisdictions to determine key aspects of the project.

August 2008 – Presentation to the City Council of Goleta on the Conversion Technology Project

October 2008 – CT Subgroup presents to MJSWTG on the outcome of the elected official forums in August

October 2008 – The Board of Supervisors:

1. Receives and files a summary of the August 18th and 20th public forums on Conversion Technology hosted by the City of Santa Barbara Solid Waste Committee.

- 2. Approves and authorizes the Public Works Department Resource Recovery & Waste Management Division to perform technical studies needed for the completion of the RFP:
 - a. A characterization study of the solid waste currently disposed at the Tajiguas Landfill.
 - b. A geo-technical study of the potential location for a CT facility at the Tajiguas Landfill.

November 2008 – The City Council of Santa Barbara approves the issuance of a letter of interest to the Conversion Technology Subgroup.

December 2008 – The City Council of Santa Barbara approves a reimbursement of CT related costs and receives an update on the project.

2009

May 2009 - Public Forum with elected officials to discuss key aspects of RFP

August 2009 – The City Council of Goleta issues a letter of support for the project (see attached)

August 2009 – The City Council of Santa Barbara adopts a resolution of its intention to commit the City's "Residual Solid Waste to the Conversion Technology (CT) facility to be located at the Tajiguas Landfill."

 ${\bf September~2009} \hbox{ - Public forum including elected officials of the participating jurisdictions to present key aspects of the RFP}$

September 2009 – CT Staff Subgroup presents outreach update and calendar related to the release of the RFP for establishing a CT Facility at the Tajiguas Landfill to the MJSWTG.

October 2009 – The City Council of Santa Barbara receives a report of the release of the final RFP to establish a CT facility.

October 2009 – The City Council of Solvang issues a letter of support for the project (see attached)

October 2009 – RFP to establish a CT facility that would process the waste currently being disposed of at the Tajiguas Landfill is released by the County Board of Supervisors. The Board of Supervisors also issues a letter of support for the project (see attached)

December 2009 – The City Council of Buellton issues a letter of support for the project (see attached)

2010

February 2010 – Public forum with elected officials to discuss legal arrangement between contractor and jurisdictions and the jurisdictions themselves

February 2010 – The City Council of Buellton receives an update from the CT Staff Subgroup.

June 2010 – CT Staff Subgroup presents a summary of the four companies and five proposals (one company submitted two proposals) received to the MJSWTG

July 2010 – Public forum with elected officials to discuss the proposals received

2011

February 2011 – Public forum with elected officials to discuss evaluation of the proposals. Two companies are recommended for further evaluation: Plasco Energy Group and Mustang Renewable Power Ventures.

May 2011 – CT Staff Subgroup holds public forum with elected officials from participating jurisdictions at Goleta City Hall to discuss preferred vendor, outreach efforts and next steps.

June 2011 – The City Council of Goleta receives an update from the CT Subgroup on project status

September 2011 – The City of Santa Barbara Sustainability Committee receives an update on project status from CT Subgroup

September 2011 – The City of Santa Barbara Sustainability Committee receives an additional update on project status and the recommendation of Mustang Renewable Power Venture's "Resource Recovery Project"

December 2011 – Presentation of recommended project and next steps at City Managers meeting

December 2011 – Public forum with elected officials to share recommended project and next steps.

Attachment B

Resource Recovery Project Outreach: Creating a Better Project with Community Input

The staff members of the participating jurisdictions have given close to one hundred presentations and received public input on the Resource Recovery Project from a broad range of stakeholders. This continuous community dialog has been crucial in developing a project that meets community needs and expectations, and has a broad range of stakeholder support and understanding. Below is a comprehensive list of the presentations made on this project to stakeholder groups in chronological order.

2007

February 2007 - Meeting with Supervisor Carbajal, Supervisor Firestone, City Councilmember Barnwell, City Councilmember Falcone, and City Councilmember Williams, and a separate meeting with the Santa Barbara City Council

May 2007 - Multi-Jurisdictional Solid Waste Task Group

June 2007 - Santa Barbara County Board of Supervisors

October 2007 - Santa Barbara County Board of Supervisors, Santa Barbara City Council

November 2007 - Air Pollution Control District, County Planning & Development – Energy Division, County Planning & Development – Development Review, Sanitation Agency Managers Association, Environmental Defense Council, Community Environmental Council, Santa Barbara Chamber of Commerce, Solvang City Council, League of Women Voters, City of Santa Barbara Solid Waste Task Group

December 2007 - Multi-Jurisdictional Solid Waste Task Group, Allied/Republic Waste, Heal The Ocean, MarBorg, UCSB Facilities Staff, Goleta City Council

2008

January 2008 - Goleta Chamber of Commerce, County Agricultural Commission (Cattleman's Association and Farm Bureau represented), City of Santa Barbara Planning Commission,

Buellton City Council, Build Green/ Santa Barbara Contractors Association, Santa Barbara County Board of Supervisors

February 2008 - Lompoc City Council, Women's Environmental Watch, Surfrider Foundation

March 2008 - Santa Ynez Valley Alliance

April 2008 - Build Green/ Santa Barbara Contractors Association – SBCC Forum, UCSB Industrial Ecology Course at the Bren School, Citizen's Planning Foundation, UCSB Associated Student Body – Environmental Advisory Board, Multi-Jurisdictional Solid Waste Task Group

May 2008 - Santa Barbara County Board of Supervisors, Santa Barbara City Council

June 2008 - Sierra Club, Santa Barbara County Air Pollution Control District

July 2008 - Buellton City Council, Solvang City Council

August 2008 - Public Forum with elected officials from participating jurisdictions, Goleta City Council, Santa Barbara City Sustainability Committee

October 2008 - Multi-Jurisdictional Solid Waste Task Group, California Assembly Member Pedro Nava, Santa Barbara County Board of Supervisors

November 2008 - Santa Barbara City Council

December 2008 - Los Angeles County Integrated Waste Management Task Force/ Southern California Conversion Technology Project, Santa Barbara City Council

2009

May 2009 - Tajiguas Operations Staff, Public Forum with Elected Officials from participating jurisdictions

July 2009 - Green Action Network (via phone)

August 2009 - Santa Barbara City Council

September 2009 - Arroyo Quemada neighborhood meeting, Public Meeting Santa Barbara Library – Gaviota Coast Conservancy attends, Public Forum with Elected Officials from participating jurisdictions, Multi-Jurisdictional Solid Waste Task Group

October 2009 - Santa Barbara City Council, Santa Barbara County Board of Supervisors

November 2009 - Buellton City Council

December 2009 - EJ Harrison & Sons

2010

February 2010 - Public Forum with Elected Officials from participating jurisdictions, Buellton City Council

June 2010 - County Department of Environmental Health, Multi-Jurisdictional Solid Waste Task Group

July 2010 - Public Forum with Elected Officials from participating jurisdictions, Project Tracking – CEO's Office

November 2010 - City of Fullerton Conference on Energy from Waste

2011

February 2011 - Gaviota Planning Advisory Committee, UCSB Bren School class, Public Forum with Elected Officials from participating jurisdictions

March 2011 - Air Pollution Control District

April 2011 - UCSB Facilities Staff, Santa Barbara Chamber of Commerce, Community Environmental Council, Surfrider Foundation, California Regional Water Quality Control Board Staff, Emerging Green Professionals – UCSB Students and Staff

May 2011 - Gaviota Planning Advisory Committee, Public Forum with Elected Officials from participating jurisdictions

June 2011 - Goleta City Council, Environmental Defense Center (Urban Creeks Council, SB CAN and Sierra Club attends), UCSB Sustainability Committee, SB CAN

July 2011 - Sierra Club

August 2011 - League of Women Voters

September 2011 - Gaviota Coast Conservancy Forum (Environmental Defense Council, Heal The Ocean, Urban Creeks Council, Sierra Club, Surfrider and Community Environmental Council attends), Arroyo Quemada neighborhood, City of Santa Barbara Sustainability Committee

October 2011 - UCSB Sustainability Summit, Public Meeting at Goleta Public Library, Surfrider Foundation, City of Santa Barbara Sustainability Committee

November 2011 - League of Women Voters – Brown Bag Luncheon Topic				

Attachment C

Participating Firms' Past Experience



Mustang Renewable Power Ventures 750 Pismo Street San Luis Obispo, CA 93401 Phone (805) 259-9499 john@deweygroup.com

Mustang Renewable Power Ventures

Company Overview

Who are the key Participating Firms?

Contractor/Developer:

Mustang Renewable Power Ventures, LLC ("Mustang Power"), San Luis Obispo Project developer with complex entitlement, financing & management experience

> Technology Providers:

VDB – BOLLEGRAAF – LUBO – TITECH ("VDB")
Material Recovery Facility ("MRF") Equipment Provider



BEKON Energy Technologies, Inc. ("BEKON") Anaerobic Digestion ("AD") Technology Provider



Construction, Engineering & Financing:

Diani Building Corp. ("DBC") – General Contractor



Worley Parsons – Project Engineer



> Westhoff, Cohen & Holmstedt ("WCH") - Investment Banker



Mustang Renewable Power Ventures

Technical Approach - Overview

- Despite the County and Public Participants' ~70% diversion rate, >170,000 tons of post-recycled MSW is disposed annually at the Tajiguas Landfill
- Mustang Power proposes to use two proven technologies to: (1) increase diversion rates, (2) recovery valuable recyclables, (3) produce compost & (4) energy



- 1. Resource Recovery via Materials Recycling Facility ("MRF") ~30% of post-recycled waste is valuable recyclables (glass, metal, paper, plastic)
- 2. Anaerobic Digestion converts organics (~30% food & green waste) into biogas and compost. Biogas is ~ 60% methane; which will be used to generate electricity or upgraded to natural gas sold as transportation fuel





Mustang Renewable Power Ventures

Tajiguas Resource Recovery Park

Technical Approach - MRF + Anaerobic Digestion

➤ Preliminary Draft Site Plan of the VDB/Bollegraaf MRF and BEKON Dry Fermentation Anaerobic Digestion (AD) facility at Tajiguas...occupies ~5+ acres of land.



Mustang Renewable Power Ventures

Tajiguas Resource Recovery Park

Technical Approach - MRF

Materials Recycling Facility ("MRF") - Van Dyk Baler / Bollegraaf

Recovers high valuable recyclables from Mixed MSW







MRF Output = High value recycled commodities for sale

- MRF Input = Mixed-MSW
- > End Products:
 - Baled recyclables of Mixed Paper, OCC, Film Plastics, PET, HDPE, Mixed Plastics, Ferrous & Non Ferrous Metals
 - Bulk loose material such as Wood, Oversize Metals, Large Rigid Plastics, Carpeting, Padding, etc.
 - 3. Clean Organic Fraction ready for Anaerobic Digestion
 - 4. Remaining fraction for disposal or process engineered fuel

Mustang Renewable Power Ventures

Technical Approach - MRF

- Specifically designed for Santa Barbara's waste characteristics to handle a wide variety of waste due to variety of waste sources.
- Capacity of ~800 tpd of MSW 222,756 TPY
- ➤ Employs ~50 full time employees
- High automation design using:
 - > Bag Openers
 - > Size Reducers
 - > Trommels
 - > Screens
 - > Magnets
 - > Optical Sorters
 - > Air Separators
 - > Eddy Currents
 - > Balers





Size Reducer

Optical Sorter



Overhead Magnet



Baler

Mustang Renewable Power Ventures

Tajiguas Resource Recovery Park

Company Overview



Van Dyk Baler Corp, Inc. (Bollegraaf)

- MRF technology provider Systems integrator of US and European Recycling Technologies
 - This proposal consist of a Turn-Key proposal by Bollegraaf Recycling Machinery, with integrated components of SSI, LUBO, WALAIR, HOCKER and TITECH Optical Sorting Solutions
- > VDB Design & Startup Team has cumulative 220 years of experience
- > 98% Repeat order status with US Private and Public Accounts
- VDB / BOLLEGRAAF has successfully supplied and installed equipment for over 140 MRF's and 475 private firms in the US and over 250 MRF's and 1,200 private firms in Europe
- > \$7 Million Parts Inventory in the US
- > 33 Field Sales & Service Support Teams in 7 US Locations (2 In California)
- > ~\$250 Million US Equipment Sales to 100+ MRF clients (2010-2011)-57% Dirty MRF related

Mustang Renewable Power Ventures



Rendering of the Bollegraaf / VDB Mixed MSW Dirty MRF System at Tajiguas

Mustang Renewable Power Ventures

Company Overview





Kings County, CA – Mixed MSW Dirty MRF sorting system constructed in 1997

VDB / BOLLEGRAAF Reference Dirty MRF Projects:

IESI – New York City Commercial Mixed MSW Dirty MRF Sorting System constructed in 1994



Mustang Renewable Power Ventures

Company Overview





To date, still the largest 1,000 TPD C&D Sorting Plant - Crown Disposal Los Angeles, CA (>80% Recovery) Constructed in 2000

EDCO San Diego 2004 22nd (of 75) Turnkey Single Stream Systems by Bollegraaf in the US. (10 SS Super MRF's process >700 TPD)

WM Baltimore – Largest Single Stream MRF processing 1,000 TPD (90% recovery) constructed in 2006



Mustang Renewable Power Ventures

Company Overview





Barcelona, Spain Mixed MSW Dirty MRF (Recycling, AD & PEF – Process Engineered Fuel production) Constructed in 2009

Larnaca, Cyprus
Mixed MSW Dirty MRF similar to BYS
Warsaw, Poland & proposed design for
Santa Barbara
(comparable waste composition)
Constructed in 2009



Mustang Renewable Power Ventures

Company Overview





WM San Antonio Mixed MSW Dirty MRF Recycling & PEF- Pellet constructed in 2011

Dongara Mixed MSW Dirty MRF PEF-Pellet Plant Facility Toronto, Canada constructed in 2007



Mustang Renewable Power Ventures



Mustang Renewable Power Ventures



▶ BOLLEGRAAF - TITECH – VDB:

Mixed MSW Dirty MRF Reference Facilities (PEF = Process Engineered Fuel)

Facility	Operational	Location	Products	Diversion	Capacity
				Target	(Tons/Year)
SESA	2006	Aviano, Italy	Recycling & PEF	75%	75,000 TPY
ECOWEST	2007	Enningerlo, Germany	Recycling, AD & PEF	75%	125,000 TPY
Wesotec	2008	Eitting, Germany	Recycling, AD & PEF	70%	125,000 TPY
Remondis	2008	Erfstadt, Germany	Recycling, AD & PEF	70%	200,000 TPY
EGN	2008	Neuss, Germany	Recycling, AD & PEF	70%	200,000 TPY
CTR Valles Ferrovial	2009	Barcelona Spain	Recycling, AD & PEF	70%	325,000 TPY
Dongara - Toronto Canada	2010	Toronto, Canada	Recycling & PEF	55%	180,000 TPY
Helector	2010	Larnaca, Cyprus	Recycling, AD & PEF	70%	250,000 TPY
Waste Management San Antonio PEF	2011	Texas	Recycling & PEF	50%	200,000 TPY
BYS	2011	Warsaw, Poland	Recycling & PEF	60%	150,000 TPY
Grand Central Recycling	2012	California	Recycling, AD & PEF	65%	160,000 TPY
Undisclosed (public) Disposal Company	2012	California	Recycling, AD & PEF	75%	350,000 TPY
WERX	2012	NorthEast	Recycling & PEF	55%	350,000 TPY

Mustang Renewable Power Ventures



BOLLEGRAAF - TITECH - VDB:

Mixed MSW Dirty MRF Reference Facilities (PEF = Process Engineered Fuel)

Facility	Operational	Location	Products	Diversion	Capacity
				Target	(Tons/Year)
Projects Pending	In	permit phase			
CBR	2012	California	Recycling, AD & PEF	75%	200,000 TPY
CED	2012	California	Recycling, AD & PEF	70%	150,000 TPY
DEP	2012	South Carolina	Recycling & Gasification	70%	100,000 TPY
PDC	2012	Undisclosed	5 facilities under development	50%	200,000 TPY
ASE	2012	Mass	Recycling & Gasification	85%	225,000 TPY
ALD	2012	New York	Recycling & PEF	55%	225,000 TPY
USP	2013	New Jersey	AD and PEF	70%	200,000 TPY
НОВ	2013	Ohio	Recycling & Gasification	70%	375,000 TPY
WCG	2013	Texas	Recycling, AD & PEF	85%	275,000 TPY
CPR	2013	Puerto Rico	Recycling & Gasification	70%	500,000 TPY

Mustang Renewable Power Ventures

Company Overview

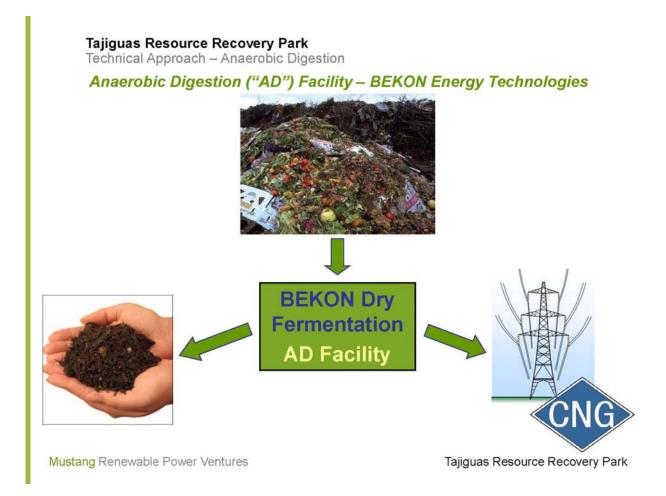


BOLLEGRAAF - TITECH - VDB

Future market expectations :

- Consolidation of industry improving economies of scale
- scale of High growth in Commercial Waste processing
- New trend towards wet/dry collection and processing. Existing MRF's are adapting to mixed dry Commercial
- > Zero Waste trends gain momentum as AD initiatives to continue
- Mixed MSW processing possible due to improved Sorting Technology, AD developments (for energy & compost) and increasing disposal cost
- Fuel markets are developing, most large MRF's are testing "cleaned" residue as process engineered fuel (PEF) for local markets

Mustang Renewable Power Ventures



Technical Approach – Anaerobic Digestion

The process has four steps to convert waste into energy and compost...



Waste material delivered to site: MSW including organics/yard waste and food waste



- Input material lightly screened, then placed into fermenter along with previously-fermented material
- Methane recovered over 28 days
- 65,000 ton site = 16 digesters





- · Digestate removed · Portion re-used for
- next batch · Remainder moved for finish aerobic
- composting or use as fill





- · Finished agricultural quality compost product is screened again, then sold as topsoil or compost
- · Non agricultural quality compost used as general fill
- Natural gas sold or used for electricity

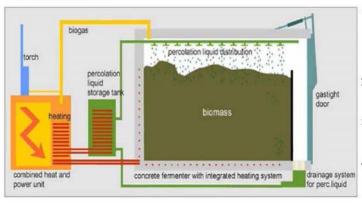


Mustang Renewable Power Ventures

Technical Approach - Anaerobic Digestion

The process anaerobically digests waste material to produce methane over a 28-day period.

The Process



- Waste material placed in large garage-style fermenter for 28 days (mix of yard waste and food waste delivered from MRF)
- Percolate and bacteria recirculated during digestion process
- Biogas collected from the top of fermenter
- Biogas is cleaned and used as fuel to produce electricity or further upgraded to pipeline quality natural gas

Mustang Renewable Power Ventures

Technical Approach – Anaerobic Digestion

Highlights of the BEKON Dry Fermentation Facility

- ➤ Capacity of ~250 tpd of Organic Fraction separated by MRF ~65,000 TPY
- ➤ Employs 4 full time employees
- ➤ Generates ~2MW of power ~10 Million kWh of renewable power annually
- ➤ AD Digestate is converted to 17,000 TPY of compost or Process Engineered Fuel ("PEF") for beneficial uses
- ➤ Proposal achieves an incremental diversion rate of 50-60%

Mustang Renewable Power Ventures

Tajiguas Resource Recovery ParkTechnical Approach – Anaerobic Digestion









Mustang Renewable Power Ventures

Tajiguas Resource Recovery Park

Company Overview



- Leader in Anaerobic Digestion Dry Fermentation technology since 1999 with headquarters in Munich, Germany.
- 16 Commercial Scale facilities currently in operation in Germany, Italy and Switzerland. 10 additional facilities are under construction or in planning.
- ➤ One of the tonnage leaders in processing waste via Dry Fermentation ~400,000 tons per year.
- > Proven Technology with 15 Technology Patents
- Venture capitalist firm of Kleiner Perkins Caufield & Byers are BEKON investors.



Munich, Germany Facility

Mustang Renewable Power Ventures

Company Overview



➤ 16 Commercial Scale facilities currently in operation in Germany, Switzerland and Italy processing Biowaste (food & green waste) or Renewables (bio crops)



Company Overview





Saalfeld, Germany



Melzingen, Germany



Rendsburg, Germany



Naples, Italy

Mustang Renewable Power Ventures

Company Overview





Vechta, Germany



Kusel, Germany



Baar, Switzerland



Thun, Switzerland

Mustang Renewable Power Ventures

Company Overview



Reference Facilities

Facility	Operational Since	Power	Capacity (US Tons/Year)
Munich - Green & Biowaste	Phase I – June 2003 Phase II – November 2007	570 kW	27,500 TPY
Saalfeld, Germany – Biowaste	November 2007	1,050 kW	22,000 TPY
Kusel, Germany – Renewables	January 2007	330 kW	8,300 TPY
Rendsburg, Germany – Biowaste	November 2008	1,050 kW	33,000 TPY
Gohren, Germany – Renewables	June 2008	625 kW	15,400 TPY
Melzingen, Germany - Renewables	June 2008	500 kW	14,300 TPY
Ostrhauderfen, Germany – Renewbls	December 2008	500 kW	13,200 TPY
Vechta, Germany – Biowaste	December 2008	330 kW	11,000 TPY
Schmölln , Germany– Renewables	December 2009	1,000 kW	17,600 TPY
Erfurt, Germany – Biowaste	November 2008	660 kW	18,000 TPY
Cesena, Italy - Biowaste	October 2009	1,000 kW	33,000 TPY
Bassum, Germany – Biowaste	November 2009	625 kW	18,000 TPY

Mustang Renewable Power Ventures

Company Overview

Treference i dellities	A CALCARITOR OF THE STATE OF TH		gg	
Facility	Operational Since/ Est. Construction Start	Power	Capacity (US Tons/Year)	
Pohlsche Heide, Germany – Biowaste	December 2009	Biogas	44,000 TPY	
Baar, Switzerland – Biowaste	October 2009	500 kW	18,000 TPY	
Thun, Switzerland – Biowaste	November 2010	500 kW	20,000 TPY	
Naples, Italy – Biowaste	August 2011	1,000 kW	33,000 TPY	
Rimini, Italy	December 2012	1,000 kW	35,000 TPY	
Voltana, Italy	December 2012	1,000 kW	40,000 TPY	
Codroipo, Italy	December 2012	1,000 kW	31,500 TPY	
Brametot, France	December 2012	526 kW	14,300 TPY	
Modena, Italy	August 2013	1,000 kW	40,000 TPY	
Bouvais, France	December 2013	660 kW	22,000 TPY	
Strasbourg, France	October 2013	1,000 kW	33,000 TPY	
ARCAVI, France	October 2013	1,000 kW	30.000 TPY	
Rastatt, Germany	May 2013	500 kW	18.000 TPY	
Steinfurt, Germany	August 2013	1,000 kW	44,000 TPY	