



COUNTY OF PLACER
Community Development/Resource Agency

Michael J. Johnson, AICP
Agency Director

PLANNING

MEMORANDUM

TO: Honorable Board of Supervisors

FROM: Michael J. Johnson, AICP
CDRA Director
By Brett Storey, Senior Management Analyst

DATE: May 18, 2010

SUBJECT: Department Of Energy (DOE) grant entitled "Placer County Biomass Utilization Pilot Project" in the amount of \$750,000 and related budget revision for FY 2010/11.

ACTION REQUESTED:

Staff requests that your Board accept the congressionally-directed DOE Grant entitled "Placer County Biomass Utilization Pilot Project" and approve the attached budget revision increasing expenditures and revenues in the Community Development Resources Agency in the amount of \$750,000.00.

BACKGROUND:

In 2008 Placer County was awarded a new biomass grant of \$492,000 to develop plans and perform studies for a potential wood biomass-to-energy facility within the Lake Tahoe Basin. Staff has made great strides in the work performed and, as a result, Senator Diane Feinstein has directed that another \$1,427,250 be awarded to Placer County for the next phase of the development of this facility. Staff has chosen to split this into two stages in order to spend the money appropriately and provide matching funds according to DOE regulations. Stage one will consist of \$750,000.00 and a corresponding 20% match of \$187,500 by the County and its partners. Stage two (\$677,250 + 50% \$677,250 matching funds) will be brought back to the BOS when we have achieved a land use entitlement and environmental review for our proposed Kings Beach site. Our matching dollars will consist of a combination of in-kind work by Placer County employees and in-kind contributions from multiple public and private agencies including UC Davis, CALFIRE, Nevada Energy, Forest Management Inc., North Tahoe Fire Protection District, and the California Tahoe Conservancy. This is truly a team effort that will be a nationally recognized project when completed.

Once the grant is accepted by your Board, our team will be able to move forward and develop the detailed analyses necessary (Listed in the attached DOE Grant Proposal) to acquire the land use entitlement and environmental review required to build a facility in Kings Beach. The analysis and planning will also be useful for any other area within the County or any wooded area within California.

FISCAL IMPACT:

All work will be paid from department funds and then reimbursed from the DOE. All matching funds will be in the form of in-kind contributions from the County or our partners. Any consultant contracts will be brought back to the BOS for approval. One such contract is being brought forward on another item for your approval today to hire the environmental consultant.

Respectfully submitted,



MICHAEL J. JOHNSON, AICP
Director of Planning

Attached to this report for the Board's information/consideration are:

ATTACHMENTS:

- Exhibit 1: DOE Letter
- Exhibit 2: DOE Grant Proposal
- Exhibit 2: Budget Revision

cc: Holly Heinzen, Assistant CEO
Scott Finley, Supervising Deputy County Counsel

EXHIBIT 1

Letter from Department of Energy agreeing to accept County's proposal to split grant funding expected to be received prior to May 18, 2010, BOS meeting and will be distributed upon receipt.

STATEMENT OF PROJECT OBJECTIVES
Placer County Biomass Utilization Pilot Project
Second Round of DOE Funding

A. PROJECT OBJECTIVES

The proposed project, to continue the evaluation of the feasibility of developing a woody biomass combined heat and power system in the Lake Tahoe Basin of Placer County, has the following primary objectives:

- Reduce the risk of catastrophic wildfires in Placer County;
- Protect Placer County citizens and visitors from the consequences of catastrophic wildfires;
- Improve air quality in Placer County;
- Reduce greenhouse gas emissions in Placer County;
- Develop a viable, sustainable renewable energy facility;

Forest fuels reduction activities in Placer County conducted for mitigating the potential for catastrophic wildfires necessitate that the woody biomass removed from the forest be utilized in some form. A locally available biomass power facility would be able to utilize such fuels and assist Placer County in the above stated objectives.

The second phase of this project has some specific goals related to analyses, planning, siting, and technology selection activities designed to examine the possibility of an on-the-ground energy facility in the Lake Tahoe Basin in the near future. Without these analyses and plans to be completed Placer County will not know if the possibility exists for the type of project to be approved by the land use agency known as Tahoe Regional Planning Agency (TRPA).

- Address, evaluate, and determine mitigation measures of environmental and land use impacts that may be posed by the development of the proposed renewable energy facility. Coordinate the assessment and mitigation of these impacts with local agencies and stakeholders;
- Develop management and technology integration plans to ensure successful integration of various technical components from multiple vendors;
- Develop and negotiate power purchase agreement terms with utility stakeholders; evaluate and include the opportunities and issues presented by California greenhouse gas emission reduction regulations;
- Coordinate planning, evaluation, and testing protocols for multiple technical proposals to meet a variety of comprehensive local and state and federal environmental regulatory standards.

B. PROJECT SCOPE

The County of Placer, CA plans to utilize the Congressionally Directed Project via the U.S. Department of Energy (DOE) pending award No. DE-FG36-08GO88026 to facilitate a comprehensive project that integrates all facets of feasibility for the successful deployment of a woody biomass to energy project located within Placer County, specifically the Lake Tahoe Basin. Such a facility is critical to serving the hazardous forest fuels reduction programs in the Basin in future years. In order to accomplish this, a series of specific analytical and investigatory studies are to be undertaken that will provide either a public agency or private entity with design to build information to permit the design, construction, and operation of a small, 1 to 3 megawatts (MW) biomass facility.

This biomass facility and supporting activities will meet many of the objectives spelled out in the DOE biomass program, particularly in providing environmental benefits in reducing air emissions (by diverting biomass from being burned in the open) and greenhouse gases (replacing fossil fuel use with carbon neutral biomass). In addition, this biomass project could serve as a model to other communities in forested areas to foster both economic development and as a significant aid in reduction of catastrophic wildfires via removal of hazardous forest fuels.

C. TASKS TO BE PERFORMED

The tasks to be performed during this phase of the project, as detailed below, are divided into two stages. Stage I contains those task activities will meet the DOE's requirements for a 20% match, whereas Stage II focuses on task activities that meet the 50% match requirements. We have divided up the two stages tasks for each Task below. It is anticipated that Placer County will work the stage I tasks to conclusion with the goal of obtaining an authorization to proceed with our land entitlement and air permit with a single site and technology determination. We anticipate coming back to the DOE at a later date to fully describe the Stage II tasks and subtasks.

Task 1.0 Environmental Impact Analyses: Multiple analyses will be required by local (Placer County), regional (Tahoe Regional Planning Agency - TRPA), state, and federal ordinances and regulations in order to determine if and what mitigation steps may be required for the construction and operation of a biomass electrical generation facility in the northern Lake Tahoe Basin. Under reviews required by the National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and the TRPA Code of Ordinances, an Environmental Impact Statement and Environmental Impact Report (EIS/EIR) will be prepared to determine the potential environmental impact of the proposed facility in regards to the site and technology ultimately selected. If significant or potentially significant environmental impacts are determined in the environmental review process, mitigation measures will be defined and implemented during facility construction and/or operations. Worked performed under Task 1.0 will assist in complying with all pertinent environmental and land use regulations for the facility, and the technology and site selected. Environmental assessment areas include: traffic, land use compatibility, geology/soils, water supply, air and water quality impacts, noise, aesthetics, biological, hazardous materials, utilities and service systems, cultural resource impacts and proposed best management practices (a unique requirement to Lake Tahoe to minimize soil erosion, control urban runoff, and minimize threats to Lake clarity).

STAGE I

Subtask 1.1 – Land Use Compatibility Assessment: Determine under TRPA regulations and guidance, the land use impact of the proposed facility. This land use study will assess various sites that are under consideration for development, and the biomass utilization technologies being considered. This land use study will take into account the following impacts and studies:

- Traffic Impact Assessment: Determine impact of fuel delivery, operations, and maintenance vehicle trips during normal operation of the facility. Determine impact of construction equipment during the construction phase of the project. Propose potential mitigation measures if determined traffic impact is greater than significance thresholds in CEQA and TRPA regulations and guidance;
- Noise Impact Assessment: The operation of the facility and equipment required for electricity generation will produce noise that may potentially impact the surrounding areas. A noise impact study will address community noise equivalent levels and single-event noise levels to determine if planned noise levels will exceed any local TRPA regulations, and propose mitigation measures to reduce noise impacts if determined to be significant;
- Scenic Impact Assessment: The natural view shed in the northern Lake Tahoe Basin is a major asset to the region as a whole. A scenic impact study will be conducted to evaluate if the facility will have an impact on local aesthetics and if any mitigation measures are required. It is expected due to the relatively small size of the facility and its location away from the lakefront that the aesthetics impact of the facility will be negligible. TRPA regulations regarding building and structure heights are also a key consideration in this subtask;

Subtask 1.2 – Water Supply/Quality Impact Assessment: Quantify and determine necessary water supplies for the operation of the proposed facility. Secure arrangements with necessary local water suppliers to provide sufficient water supply and water quality for site operations. Determine the volume, quality, and mode of water discharge, any pretreatment needs, and potential discharge of regulated constituents that will be produced from operations on the site. Determine the ability of the local agency to accept wastewater discharge to its sewer system from facility operations. Also, storm water runoff potential impacts will be addressed.

Subtask 1.3 – Air Quality Impact Assessment: In coordination with Phase I, Placer County Air Pollution Control District (PCAPCD) will work closely with TRPA (and its environmental impact assessment consultant) to evaluate the alternative technologies being considered for the proposed facility. Assessment will examine applicable local, state, and federal air quality regulatory framework; TRPA goals, policies, and threshold carrying capacities; existing regional and local air quality, including attainment status for criteria pollutants; sensitive receptors; short-term construction and long-term operational emissions; compared to the PCAPCD and TRPA Significance Thresholds for volatile organic compounds, particulate matter, nitrogen oxide, and carbon monoxide emissions; general conformity applicability analysis. A determination will be made in this impact study if reduction and/or mitigation measures are required based on PCAPCD and TRPA New Source Review regulations.

Subtask 1.4 – Greenhouse Gas Emissions and Climate Change: As currently required by CEQA Greenhouse Gas evaluation regulations, assessment will examine applicable regulatory framework and

relevant guidance; current state of the science discussion; short-term construction-related GHG emissions; long-term operational-related GHG emissions for mobile and area source types; applicable quantification methods, emissions factors, and assumptions protocols from, but not limited to, the Western Climate Initiative, IPCC, California Climate Action Registry's General Reporting Protocol, and California Air Resources Board (ARB) will be used to estimate long-term operational-related stationary source emissions; though mandatory reporting is not required as part of this analysis, quantification methods selected for this project will rely on ARB requirements and default emission factors as stated in the regulation for usability in the future and substantiation of approach for legal defeasibility; address the avoidance of GHG emissions from the alternate fates (e.g., biodegradation, open burning) of the biomass wastes (e.g., forest sourced material) by virtue of the collection of these wastes for use as fuel; qualitatively discuss any potential adverse impacts to the proposed project from adaptation to climate change; increases in GHGs will be compared to applicable thresholds. Mitigation measures, where applicable, will be formulated.

Subtask 1.5 – Biological Impact Assessment: An assessment will be conducted to determine if the operations of the facility will have a significant or potentially significant impact to the local biology at and surrounding the proposed facility site. An evaluation will be conducted to determine if analysis pursuant to the federal Endangered Species Act will be required and if consultation with the U.S. Fish and Wildlife Service is necessary.

Subtask 1.6 – Hazardous Materials Impact Assessment: Proposed technology applications will be evaluated and determined if, and what, hazardous materials will be required for their operation. If it is determined that hazardous materials are required for operation, proper and required transport, disposal, safety, and risk mitigation measures will be provided as mitigation measures.

Subtask 1.7 – Utilities and Service System Impact Assessment: Interconnection with the local Nevada Energy transmission system will be necessary for the project. The utilities and service system impact assessment will evaluate this need for the proposed site. The Subtask 1.6 assessment will also address the potential impact on the on-site and off-site existing utilities and service system.

Subtask 1.8 – Cultural Resource Impact Assessment: This assessment will evaluate the potential impact on historic and cultural resources of the proposed facility site and immediately surrounding area. This assessment will consider the ownership and historical ownership of the lands under consideration and propose any mitigation measures if significant or potentially significant impacts are determined.

Subtask 1.9 – Geology and Soils Impact Assessment: The site will be evaluated for its ability to accommodate the proposed biomass facility from the perspective of soils and structure. The assessment will identify the parcel's land capability (generally defined by TRPA as a level of use appropriate to a parcel without sustaining permanent damage) and allowable coverage (percentage of allowable hardscape based on a parcel's land capability). The assessment will identify any potential impacts to soils or structure, and recommend appropriate mitigation measures, including purchase of offsite coverage if necessary.

Subtask 1.10 – Best Management Practices Determination: In coordination with the subtask assessment results of Task 1.0 and in addition to the mitigation measures which may be proposed, biomass-fueled electrical generation Best Management Practices (BMPs) will be evaluated and the feasible BMPs will

be recommended for implementation to minimize potential impacts of the facility. Recommended and evaluated BMPs will take into account impacts determined in prior subtask assessments, consider all on-site and off-site operations, and propose required measures to protect the clarity of Lake Tahoe. This analysis is utilized by the TRPA to ensure that a project has environmental benefit above and beyond what is required as mitigation.

Subtask 1.11 – Integration of Environmental Impact Assessment into Technical Design of Biomass Utilization System: Project development will utilize technical and regulatory findings from the environmental impact assessment process and resultant EIS/EIR. Potential environmental impacts that require formal mitigation monitoring by the regulatory, will have those identified mitigations incorporated into final project design, and operations where deemed appropriate. It is expected that environmental issues such as (but not necessarily limited to) air quality, water use and discharge, noise, and transportation.

Subtask 1.12 – Mitigation Measures Monitoring Plan: In order to ensure that the mitigation measures and project revisions identified in the EIS/EIR are implemented, Placer County will prepare and adopt a program for monitoring and reporting on the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects.

STAGE II

Subtask 1.13 – Mitigation Measures and Best Management Practices Implementation: Mitigation measures and Best Management Practices may require the purchase of specialized equipment and mechanical/electronic systems. Placer County will develop and implement procurement documents for the purchase of select equipment based on environmental impact assessment needs.

Task 2.0 Land Entitlement Analyses: In order to properly design, permit and build the proposed biomass-to-energy facility in Lake Tahoe, a rigorous set of activities, actions and analyses will need to be performed to the satisfaction of multiple public agencies. Placer County will need to plan, design and document the development of the project from the ground up. Initial project-specific analysis will be followed by additional analyses of impacts and benefits to the surrounding communities and region. Multiple agencies and departments will require individual submittals of studies for independent review. Final approval and construction of this project can only occur subsequent to an exhaustive environmental analysis.

STAGE I

Subtask 2.1 – Planning Management: The planning activities to manage all of the analyses are required to keep track of all efforts of this project to ensure that the information flowing from other activities allows proper correlation back to the land entitlement process. Activities will include the analysis of existing biomass facilities in the region to establish parameters, logistics and potential impacts/benefits of proposed project. This analysis will result in the creation of a detailed project description, scaled site plan and discussion of environmental issues.

Subtask 2.2 – Pre-Development Analysis: To begin the process of entitling land for biomass power usage Placer County will need to coordinate between all land use agencies to layout what the preferred

facility and process are. Actions performed for this task will be the preparation and submittal of Predevelopment and Pre-Application materials for Placer County and TRPA. Attendance at resultant meetings will outline the scope and breadth of further analysis that may be required to obtain land use entitlements.

Subtask 2.3 – Design and Construction Management Planning: Development of the conceptual design will include the following: preparation of contract and documents, construction administration, substantial completion, and commissioning.

Subtask 2.4 – Preliminary Design: To perform all of the proposed analyses necessary for the project, a preliminary design of the biomass-to-energy facility will need to be accomplished. This analysis will be required for the power facility site (which can be used for all alternative sites) as well as the supply site, which will support the main facility. Development of a construction plans, site engineering and elevation schematic design are among the critical early activities.

Subtask 2.5 – Site Studies: Development of conceptual site studies for the primary site, which includes all potential alternatives and the material storage/staging site, will be conducted. Included will be an evaluation of site for soil classification, topography, land coverage and other constraints as well as an evaluation of the site for storage/staging of materials.

Subtask 2.6 – Environmental Coordination: Some environmental analyses and studies prepared prior to implementation of this task will need revision following final determination of analysis required by Placer County and TRPA. In addition, new studies and analyses will be required in order to complete an environmental document consistent with CEQA/NEPA. The following studies and analyses will be required: traffic; land use compatibility; soil, air and water quality impacts; noise; aesthetics and, biological and cultural resource impacts which can be used for all alternative sites.

Subtask 2.7 – Land Use Process: The detailed land use process analysis requires a multitude of studies, activities and analyses as well as application form submittals. The following will be performed under this subtask: determination of consistency with site zoning, community and general plan designations and ongoing revision of the Tahoe Regional Plan; preparation, submittal and review of land use entitlement requests for each of the proposed alternative sites.

Subtask 2.8 – Permitting Agency Processing Management: TRPA will need to manage and participate in general project coordination and communications between all consultants, TRPA and Placer County. Completion and presentation of the necessary documents and materials for the environmental certification process, project approval, and community plan amendments, Code amendments, or other policy documents based on conformance with TRPA's Regional Plan and direction of TRPA.

STAGE II

Subtask 2.9 – Planning Management: Coordinate final design of site and structures through Design Review processes required by Placer County and TRPA. Design review will determine the precise locations of all on-site improvements, selection of appropriate building materials, landscaping, circulation routes, parking configuration, detention, and treatment of storm water and snowmelt. The approved design will guide the project improvement/grading plan development.

Subtask 2.10 - Design and Construction Preparation: Oversight and guidance of the development of improvement and/or grading plans for the facility. These plans will be designed consistent with the approved Design Review approval.

Subtask 2.11 - Grading plans and permits: Placer County will assist in preparation of grading plans and permits to be submitted to the County for the necessary grading, erosion control, storm water runoff controls, and foundation work.

Subtask 2.12 - Construction: Throughout the construction of the project, review of plans and site visits will be required to determine consistency of development with approved improvement/grading plans.

Task 3.0 Future Facilities Management Plan Development: To ensure a sustainable project the facilities management plan development will take into consideration 1) the energy facility site alternatives, 2) the supply facility site and 3) the non-facility direct operations that support the operations and maintenance of the biomass-fueled electric generation facility which ever site is chosen. The management plan will consider fuel supply and deliveries, fuel yard operations, biomass-to-energy conversion technology operation and maintenance, safe disposal of site generated waste materials, and compliance with applicable regulations. Placer County will also be determining the best method for delivering the design and build package for the eventual selected site.

STAGE I

Subtask 3.1 - Biomass Facility Site Delivery Method Analysis:

- Determine best delivery method for the project: classic design/bid/construct, design/build, turnkey design/build/operate;
- Identify alternative operational models;
- Development of Basis of Design (design criteria documents, performance specifications, bid documents);
- Depending on the delivery method chosen, the bid documents could range from design criteria (for design/build) to full construction documents (for design/bid/construct).

Subtask 3.2 - Supply Facility Site Analysis: To minimize fuel storage at the power plant site due to available area limitation and to make use of an already nearby solid waste transfer facility, the following activities are necessary:

- Determine technical and regulatory requirements for biomass fuel supply and processing facility at the Placer County transfer facility at Cabin Creek as a possible location;
- Develop potential operating procedures for accepting biomass fuel in both processed (in the forest) and unprocessed;
- Development of Basis of Design for fuel processing and handling (design criteria documents, performance specifications, bid documents).

Subtask 3.3 – Off-Site Operations Analysis: Site material inputs and outputs will be considered within this analysis. The analysis will consider and propose recommendations to economically procure and dispose of facility required fuel and non-fuel materials, byproducts, and waste items should a project be approved for construction. The analysis will take into consideration:

- Fuel supply sources and procurement;
- Securing adequate water supply and water delivery infrastructure;
- Biomass ash disposal;
- Wastewater disposal (and treatment, where necessary or required).

Subtask 3.4 – Facility Operations and Maintenance Analysis: The subtask 3.1 study takes into account all operations and maintenance activities that occur on the project site once selected. The facility operations and maintenance analysis will consider proposed technologies, site conditions, and provide recommendations for optimized site operation. Operations and maintenance cost, labor, and environmental impacts will be considered within the recommendations. The analysis will take into account the follow components of the site operations:

- Biomass fuel deliveries;
- Fuel storage yard operation;
- Biomass to energy conversion technology operation;
- Turbine and Generator consideration;
- Utility interconnection consideration;
- Site generated waste disposal (wastewater, ash, non-hazardous and hazardous waste).

Subtask 3.5 – Request for Proposal Plan: Competitive bidding for major site components will require a Request for Proposal (RFP) plan. This RFP plan will include:

- RFP template for major pieces of site equipment including, but not limited to:
 - Biomass fuel feed and handling system(s)
 - Biomass to energy conversion technology (boiler, gasifier, etc.)
 - Turbine
 - Generator
 - Emergency fire pumps
 - Emissions control equipment
 - Interconnection and Transmission related equipment
 - Ancillary equipment needed for operations

- Timeline for RFP issue, review, selection, negotiation, and securing of contracts;
- Develop preliminary review criteria for review of submitted vendor proposals;
- Review and select preferred vendor

The RFP plan work will be conducted in coordination with Placer County and its partners developing the proposed power plant facility.

STAGE II

Subtask 3.6 – Biomass Facility Site Delivery: After entitlements are obtained, the project will require design, bidding, and construction. Design phases include schematic design, design development and construction documents. Since the project will likely include some type of design/build (D/B) methodology, the schematic design phase would be used to prepared criteria documents for design/build teams to bid. Those teams would include a general contractor, as lead, along with architectural and engineering design team members. A Request for Qualifications would be issued to obtain a pool of interested and qualified D/B teams. Then the criteria documents would be issued to those teams in a Request for Proposal. The D/B teams would then complete schematic designs as part of their proposals, which would also include a cost proposal to complete the project. A Best Value methodology is proposed for selection, which would provide optimum price/performance for the selected proposal. Once a contract has been awarded to a D/B team, the D/B team would proceed with design development documents. Upon approval of the design, the D/B team would complete the construction documents. At this stage, the D/B team may proceed with early start of fast tracked components. The D/B team would obtain building permit approvals and commence construction. As construction progresses, commissioning would be incorporated into the process in order to maintain quality and cost controls. Commissioning, including final testing and balancing, would lead to substantial completion, permit sign-off, notice of completion, and occupancy.

Subtask 3.7 – Operations and Maintenance RFP: Placer County will prepare an RFP to solicit companies to operate and maintain the biomass facility. RFP will be released and proposals from qualified companies will be reviewed and an O&M company selected.

Task 4.0 Power Purchase Agreement technical, financial, and legal assistance: In order to ensure how the impacts of AB32 (California GHG law) and the federal cap and trade law dictate energy agreements Placer County will conduct a series of analyses to have contracts ready to implement.

STAGE I

Subtask 4.1 -- GHG Impacts to Future Power Purchase Agreements: Assess the impacts of greenhouse gas emission reduction regulations on environmental attribute assets that may come into consideration during power purchase agreement negotiation. Determine if the project will generate potentially valuable environmental attributes assets (RECs, GHG/carbon offsets) that will be recognized by a power purchase agreement.

Subtask 4.2 – Power Purchase Agreement Development: Research, review etc including REC's and Carbon credits

Subtask 4.3 – Proposed Energy Agreement Formulation:

- Pre-negotiation: Form negotiation team, identify important County interests, define County goal and objectives, identify product(s) for sale, retain necessary power market experts and specialized counsel, identify key issues, draft key negotiation points from issues, determine selection process
- Selection of Counterparty: Determine counterparty qualifications, solicit interest (if necessary), evaluate counterparty/ies, implement selection process
- Negotiation of Contract: Meetings with selected counterparty, discussions of counterparty proposal, internal analysis and review, exchange of information/positions, review and re-analysis as necessary, memorialize agreement points
- Draft Agreement: Identify character/scope of agreement(s), outline template for agreement(s), identify provisions for inclusion, draft specific agreement provisions, exchange agreement drafts, renegotiate as necessary during process, revise drafts as necessary until consensus reached
- Obtain Approval of Agreement: Provide required notice and obtain approval of governing body

STAGE II

Subtask 4.4 – Operations and Maintenance Agreement: Develop the agreement to provide Operations and Maintenance of the selected biomass facility based upon the RFP selected vendor.

***Task 5.0 Technology Integration Studies:** The local community surrounding the proposed facility will play an integral role in the operation of the power plant facility. In addition to the electrical generation capabilities of the facility, heat will be generated for potential use within the community, and utility transmission capability may need to be examined and expanded. The technology integration study will evaluate the impacts and benefits of the following items:*

STAGE I

Subtask 5.1 – Integration of Combined Heat and Power Systems: In conjunction with the RFP development process, the economical potential for use of combined heat and power (CHP) will need to be further evaluated. Analyses will include identification of candidate waste heat user(s), engineering calculations of annual and seasonal heating requirements, investigation of candidate waste heat user facilities to determine technical and economic feasibility of retrofit (for existing structures) or incorporation of appropriate heating systems into new and planned construction. Analyses will also include use of waste heat for snow melting along roads and sidewalks identified as candidates by local and state road agencies in addition to the proposed facility site(s).

Subtask 5.2 – Heat Market Development: In tandem with subtask 5.1, community-level heat market options will be evaluated. This study will require outreach to community and business leaders and members to ascertain an understanding of total and seasonal heating requirements. The subtask 5.1 financial proforma analyses will supplement the heat market development, and preliminary financial analysis performed in Phase I to determine appropriate partners that would be willing to purchase waste

heat from the facility. Recommendations will include heat delivery partner identification and development of contract templates for heat delivery agreements.

Subtask 5.3 – Power Facility Infrastructure and Interconnection Needs: This subtask will require coordinating with the proposed utility partner (NV Energy/Calpeco) to determine power delivery infrastructure required. A technical evaluation will be conducted, in coordination with NV Energy/Calpeco of existing electrical interconnection infrastructure and based on input from NV Energy/Calpeco recommendations will be made regarding required interconnection upgrades. This study will identify on-site equipment required for interconnection and supplement the RFP plan subtask. A cost analysis will be provided for the potential site to determine site cost effectiveness for power deliveries to the utility partner.

STAGE II

Subtask 5.4 – Implementation of Selected Combined Heat and Power System: This subtask requires the direct input of Subtask 5.1 – Integration of Combined Heat and Power Systems. Subtask 5.1 will determine economical and technical feasibility for various CHP systems for various sites under consideration. Once a determination has been made for optimal project siting, review, and determination of best CHP system for the facility and surrounding community through the RFP process, this subtask will coordinate procurement and installation of the selected CHP system. This will require negotiating contracts with the selected vendor, securing technology, and infrastructure installation, and managing this construction process.

Subtask 5.5 – Selected Site and Technology Infrastructure and Interconnection: This subtask requires the direct input of Subtask 5.3 – Power Facility Infrastructure and Interconnection Needs. Determinations made in subtask 5.3 will provide information regarding the technical requirements for infrastructure improvement for interconnection to the proposed utility partner (NV Energy/Calpeco). After a site determination is made, the work under this subtask will consist of conducting regulatory Federal Energy Regulatory Commission (FERC) filing and approval. After interconnection equipment and technology has been procured through an RFP process (task 7.0), equipment and infrastructure will be installed, and management of this process will occur under this subtask.

Task 6.0 Emissions Testing of Selected Candidate Power Generation Technologies: This task will involve demonstration testing to quantify air emissions from up to three of the highest ranked biomass to energy conversion systems. A full testing of the preferred alternative technology will also be conducted to validate the ability to meet or exceed all local, regional, state, and federal air emissions regulations.

STAGE I

Subtask 6.1 - RFP Evaluation Analysis: In previous project tasks, responses received to the Request for Proposal will be evaluated and ranked based on criteria including technology risk, economics, and environmental performance. The top three-ranked biomass to energy conversion systems will be identified for subsequent air emissions verification testing.

Subtask 6.2 - Test Plan Development: Test plans will be prepared to establish testing procedures and system operating conditions. Testing will involve monitoring of air pollutant emissions including

nitrogen oxides (NOx), carbon monoxide (CO), volatile organics (VOC), total particulate matter less than 10 microns (PM10), and ammonia, if ammonia-based control techniques are employed, using U.S. EPA approved sampling and analysis methodologies.

STAGE II

Subtask 6.3 – System Testing: Testing will be conducted on a representative system with biomass materials matching that to be used at the Tahoe facility. Batches of fuel -- Tahoe basin conifer and forest floor materials -- will be provided to the selected candidates for demonstration testing.

Subtask 6.4 – Verification Test Reporting: A verification test report will be prepared, providing documentation of system operation conditions and emission test results.

Subtask 6.5 – Compliance Source Testing: After the preferred alternative technology system selection, installation, and operational shakedown, a compliance source test will be conducted to demonstrate the system meets all operating permit requirements.

Task 7.0 Purchase System Hardware: *Under Subtask 3.5, an RFP will be generated and vendor responses for major pieces of equipment and technology hardware will be secured. After review of RFP responses and equipment selection, equipment procurement will occur. Task 7.0 will consist of negotiating contracts with vendors of major pieces of hardware, procuring, and delivery of system hardware, managing installation of system hardware, and individual and integrated testing of delivered hardware. All direct and indirect management of the negotiation, procurement, delivery, installation, testing, and payment for system hardware will occur under task 7.0.*

STAGE II (Task 7 is only a Stage II task)

Task 8.0 FERC Authorization:

The project will be required to obtain a license through the Federal Energy Regulatory Commission and as a part of that process an EIS will be required. Our prior EIS information will be used to formulate the basis for our license conditions and any mitigation requirements necessary. Our team will coordinate and perform all of the required tasking necessary to satisfy the FERC process.

STAGE II (Task 8 is only a Stage II task)

Task 9.0 Site Preparations, Development and Construction: *After site selection has occurred and engineering documents (grading plan, infrastructure development plan) have been completed, task 9.0 will conduct the on-the-ground work necessary for site preparation. Task 9.0 activities will consist of selecting a contractor that will implement the engineering and civil plans for the site. This will include, but not limited to implementing site grading, landscaping, infrastructure installation (excluding major system components), and providing temporary services to the site in order to facilitate the installation and testing of major system components. Work conducted under task 9.0 will include site preparation for the biomass fuel storage yard and site preparation for the infrastructure building foundation. These tasks will also be part of a formal submittal and approval process with both Placer County and TRPA.*

Upon approval and contract initiation construction of the proposed facilities would take place and ultimately (if approved) the facility could be operational in the 2013 timeframe.

STAGE II (Task 9 is only a Stage II task)

Task 10.0 Project Management and Reporting: *Overall management of projects and tasks designated in Phase II. Ensure that all project tasks are performed on time and within budget. Coordinate all County and contractor efforts to produce quality work and documentation to the satisfaction of the DOE. Reports and other deliverables will be provided in accordance with the Federal Assistance Reporting Checklist following the instructions included therein*

STAGE I & STAGE II (Task 10 will be required during both stages of this project)

Subtask 10.1 – Management of projects and tasks provided by County personnel and contractors. Ensure that all projects are coordinated, information documented and results are verified as accurate and relevant to all parties. Provide oversight to all Placer County personnel and contractors that are working these projects and task associated with this DOE Project Scope. Preparation and revision of Scope of Work and budget items as needed, requested, or required by Placer County and DOE.

Subtask 10.2 – Budget and cost share management. Develop and track all aspects of budgeting for reimbursement and provide verification of all in-kind support to these projects and task. Ensure that all costs are tracked and verified according to Placer County and DOE auditing rules.

Subtask 10.3 – Preparation and submittal of required Quarterly Reports to DOE. Meet all deadlines of reporting to the DOE. Ensure all Placer County personnel and contractors have provided adequate documentation of activities and expenses. File reports electronically, or on planned occasions present findings to DOE and DOE related groups at DOE designated locations.

PLACER COUNTY

BUDGET REVISION

PAS DOCUMENT NO. _____

POST DATE:

DEPT NO.	DOC TYPE	Total \$ Amount	TOTAL LINES
06	BR	1,500,000.00	2

Cash Transfer Required

Reserve Cancellation Required

Establish Reserve Required

Auditor-Controller

County Executive

Board of Supervisors

ESTIMATED REVENUE ADJUSTMENT

APPROPRIATION ADJUSTMENT

DEPT NO.	T/C	Rev	Fund	Sub Fund	OCA	PCA	OBJ 3	GRANT	GRANT DR	AMOUNT	DEPT NO.	T/C	Rev	Fund	Sub Fund	OCA	PCA	OBJ 3	GRANT	GRANT DR	AMOUNT
06	006		100		BIOMAS		7326	10DOE1	990000	750,000.00	06	014		100		BIOMAS		2555	10DOE1	990000	750,000.00
TOTAL										750,000.00	TOTAL										750,000.00

REASON FOR REVISION: DOE pilot project phase II, stage I.

Prepared by Amy Townley Ext 3079

Department Head *[Signature]*

Board of Supervisors _____

Date: 5/11/10

Page: _____

Budget Revision # _____ FOR INDIVIDUAL DEPT USE

Exhibit 3

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