

# Woodsmoke Reduction Program

## Program Guidelines

FISCAL YEAR 2016-2017 APPROPRIATION



California Environmental Protection Agency  
 **Air Resources Board**

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## EXECUTIVE SUMMARY

The Woodsmoke Reduction Program is part of California Climate Investments, a statewide program that puts billions of cap-and-trade dollars to work reducing greenhouse gas emissions, strengthening the economy and improving public health and the environment—particularly in disadvantaged communities. The cap-and-trade program also creates a financial incentive for industries to invest in clean technologies and develop innovative ways to reduce pollution. California Climate Investment projects include affordable housing, renewable energy, public transportation, zero-emission vehicles, environmental restoration, more sustainable agriculture, recycling and much more. Statute establishes investment minimums for disadvantaged and low-income communities and low-income households. For more information, visit [California Climate Investments](#).<sup>1</sup>

The California Air Resources Board (CARB) developed the Program Guidelines for the implementation of the Woodsmoke Reduction Program (Program). Assembly Bill 1613<sup>2</sup> committed \$5,000,000 in funding for replacing uncertified, inefficient wood burning devices with cleaner-burning and more efficient devices. The Program is designed to help households replace an uncertified wood stove or insert used as the primary source of heat with a cleaner burning and more efficient device. The replacement devices emit less greenhouse gas (GHG) and other air pollution; they also are less likely to start fires than old stoves that may have been improperly installed. The Program will offer incentives towards the purchase and installation of the qualifying device. The Program, implemented by CARB, will be administered by the California Air Pollution Control Officers Association (CAPCOA) in coordination with local air pollution control districts or air quality management districts (Districts). CAPCOA will determine how much funding will be available to each District participating in the Program. California residents using uncertified wood stoves as the primary heat source in Districts awarded GGRF funds are eligible for this Program. The incentive amount will vary depending on the location of the residence and the household income, with some households qualifying for full replacement cost. The Program will include an outreach and educational component to ensure that households make informed decisions about how to burn and what to burn in order to maximize the efficiency of the device and minimize pollution. This Program will further the goals of AB 32,<sup>3</sup> reduce GHG emissions, improve air quality, and protect the health, safety, and well-being of California residents.

These Program Guidelines apply to the Fiscal Year (FY) 2016-17 GGRF appropriations and will be updated in future years if the Program is reauthorized with additional funds. The replacement of existing wood burning devices with cleaner technologies provides an important opportunity to secure the co-benefit of reduced near-source

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<sup>1</sup> <https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/auctionproceeds.htm>

<sup>2</sup> AB 1613, (Committee on Budget, Chapter 370, Budget Act of 2016), Item 3900-101-3228, Section 10, Provision 4

<sup>3</sup> AB 32, California Global Warming Solutions Act of 2006: [http://www.leginfo.ca.gov/pub/05-06/bill/asm/ab\\_0001-0050/ab\\_32\\_bill\\_20060927\\_chaptered.pdf](http://www.leginfo.ca.gov/pub/05-06/bill/asm/ab_0001-0050/ab_32_bill_20060927_chaptered.pdf)

exposure to woodsmoke. Therefore, contingent on reauthorization and funds, future guidelines will continue to maximize GHG reductions and also prioritize particulate pollution reductions, while still addressing the need to provide applicants within low income communities or households funding for cleaner home heating options. This includes considering opportunities to include applicants from urban areas that exceed particulate matter air quality standards where wood burning may not be the primary heat source. Future guidelines can also consider administrative streamlining based on the experience gained through implementation during this first year.

## I. PROGRAM GOALS AND OBJECTIVES

The Program furthers the goals of AB 32 and reduces GHG emissions by offering incentives toward the replacement of existing uncertified residential wood burning devices used for space heating with certified, high-efficiency devices. The Program will be funded through the appropriation of \$5,000,000 in the fiscal year (FY) 2016-2017 from the Greenhouse Gas Reduction Fund (GGRF). The Program, implemented by CARB, will be administered by CAPCOA in coordination with Districts. CAPCOA will determine how much funding will be available to each District participating in the Program. To be eligible for the Program, a homeowner or renter, for the purpose of this document referred to as an Applicant, must currently use an uncertified wood stove or wood insert as the primary heat source. The incentive amount will depend on where the property is located and Applicant's household income, with some households qualifying for full replacement cost. The Program will maximize benefits to households in disadvantaged or low-income communities and low-income households and has as a goal to distribute 75 percent of total funding to these populations. Applicants residing in a census tract identified as a disadvantaged<sup>4</sup> or low-income<sup>5</sup> community can qualify for higher incentives. Applicants residing outside of a census tract identified as a disadvantaged or low-income community who can demonstrate low-income eligibility based on household income can also qualify for higher incentives.<sup>6</sup> All other Applicants are eligible for lower incentives. Benefits to disadvantaged communities will be evaluated using the criteria Table 2.A-9 of CARB's Funding Guidelines Supplement. Benefits to low-income communities and low-income households will be evaluated using criteria in the forthcoming draft Funding Guidelines Update. Projects are expected to

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<sup>4</sup> Disadvantaged community census tracts are those identified by CalEPA using CalEnviroScreen 3.0. Maps of disadvantaged communities are available at <http://www.calepa.ca.gov/EnvJustice/GHGInvest/>

<sup>5</sup> For the purpose of this program, low-income communities are census tracts with a median household income at or below 80 percent of the statewide median household income or with a median household income at or below the threshold designated as low-income by Department of Housing and Community Development's State Income Limits adopted pursuant to the Health and Safety Code Section 50093. A final map of low-income communities is under development and is currently available in draft form at: <https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/upcomingevents.htm>

<sup>6</sup> For the purposes of this program, low-income households are those with household incomes at or below 80 percent of the statewide median household income or with household incomes at or below the threshold designated as low-income by the Department of Housing and Community Development's list of state income limits adopted pursuant to Section 50093. Districts will be responsible for verifying household income eligibility.

meaningfully address an important community need by reducing exposure to local environmental contaminants, such as toxic air contaminants and criteria air pollutants. The existing uncertified wood stove or wood insert must be replaced with a certified wood stove or insert, a natural gas heating device, propane heating device, or an electric heating device. The Program will achieve GHG emission reductions from the increased efficiency and reduced emissions of the newly installed devices. Older, uncertified wood stoves are often inefficient, high-polluting, and may pose a fire risk. United States Environmental Protection Agency (U.S. EPA) certified wood stoves burn more cleanly and efficiently, thereby reducing greenhouse gas and particulate matter emissions. Replacing an uncertified wood stove or wood insert with a certified wood stove, or a natural gas, propane, or electric heating device, will reduce the overall GHG emissions. Co-benefits include significant and long-term reductions in emissions of criteria pollutants and toxic air contaminants, along with reduced fire risk.

The replacement device must be installed by a professional, appropriately licensed stove installer (Installer) and meet local fire and building codes. A professionally installed device will improve the health, safety, and comfort of all residents. To ensure reductions in emissions are permanent, any stove removed through this program must be rendered permanently inoperable and recycled, if recycling is available in the area. The Program will include outreach and educational components to both inform residents about the benefits of switching to cleaner burning home heating devices and train them on the proper operation and maintenance to maximize the device efficiency and minimize pollutant emissions.

The Program implemented in each participating District will be considered a project (Project). The Project will comprise of all of the change-outs, for which Program funds are being used, within the District's jurisdiction along with the administrative work required to implement them.

## **II. STOVE ELIGIBILITY AND PERFORMANCE STANDARDS**

### **A. Existing Wood Stove**

To be eligible for the Program, Applicant must rely on an existing stove or insert that is uncertified, operational, and used as the primary source of heat in the residence. An uncertified stove or insert does not comply with the performance and emission standards as defined in Title 40 Code of Federal Regulations, Part 60, Subpart AAA, February 28, 1988, or any subsequent revisions. In order to determine if the existing stove is uncertified, Applicant may do the following:

- Determine when the stove was installed. Stoves installed prior to 1988 do not comply with the particulate emission standards and therefore qualify for this Program.

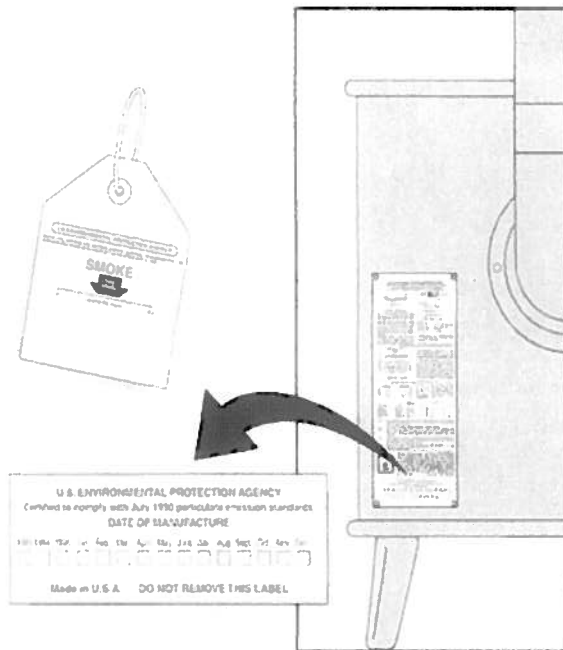
- Check the stove model against the U.S. EPA list of certified wood stoves found on the List of EPA Certified Wood Stoves.<sup>7</sup>
- Check the back of the stove for a certification label. Stoves which do not have any label describing particulate matter emission standards qualify for this Program. Wood stoves certified by the U.S. EPA to comply with the particulate emission standards are not eligible for replacement through this Program. These stoves will have a label, similar to that pictured in Figure 1, permanently affixed to them stating that the stove is certified to comply with 1988, 1990, or 2015 standard.

Applicants will determine the eligibility of their current wood stove. Applications will be reviewed by the District to determine if preliminary qualification requirements have been met. The stove's eligibility will be verified by the District or an Installer during an in home estimate.

Applicants may also qualify for this Program if they can document using a fireplace as the primary source of heat. Section III, Eligible Home Heating Replacements, includes more information on how to qualify for this type of change-out.

Figure 1. U.S. EPA Stove Certification Label

EPA certification label circa 1988 to present



<sup>7</sup> <https://www.epa.gov/compliance/list-epa-certified-wood-stoves>

Only operational devices, currently installed in a residence, and used as the primary source of heat qualify for this program. Applicants who remove the device prior to an in-home estimate will be disqualified. A wood burning device providing at least 50 percent of heat to the primary residence during the home heating season is considered the primary source of heat. Wood stoves, fireplaces, or wood stove inserts providing less than 50 percent of heat to the primary residence or used to provide ambience are not considered the primary source of heat.

## **B. Replacement Device**

The uncertified wood stove or wood insert must be replaced by a cleaner-burning and more efficient device. Applicants may select one of the following replacement options:

- U.S. EPA certified wood stove or wood insert with emission rates not to exceed 4.5 grams/hour and 2.5 grams/hour for non-catalytic and catalytic stoves, respectively;<sup>8</sup>
- Natural gas home heating device;
- Propane home heating device; or
- Electric home heating device.

The replacement device must be installed by a professional, appropriately licensed Installer participating in this Program. A list of participating Installers will be established by CAPCOA or each participating District. Self-installation of heating devices will not be allowed under this Program. Any building permits or other required approvals shall be obtained per local or State ordinances and shall be the responsibility of the Installer or the Applicant. Districts will be responsible for verifying that each change-out is permitted and inspected in accordance with State or local ordinances before payment is issued to the Installer or the Applicant.

## **III. ELIGIBLE HOME HEATING REPLACEMENTS**

Applicants interested in upgrading their uncertified wood stove to a U.S. EPA certified wood stove or other cleaner, more efficient heating device qualify for this Program if they meet all of the requirements listed below:

- Currently use wood as the primary fuel;
- Use an uncertified wood stove or wood insert, currently operational, as the primary source of heat;
- Select a replacement device which meets stove eligibility in Section II;
- Plan to have the replacement device professionally installed by a participating Installer;

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<sup>8</sup> These emissions rates represent the toughest emission standards set by the federal or state government. CARB encourages CAPCOA and Districts to consider only allowing replacement stoves that meet even stricter emission standards than the ones mentioned above.



- Agree to receive training on proper wood storage and wood burning practices (if applicable) and device operation and maintenance; and
- Surrender their old wood stove or insert to the Installer who will render it permanently inoperable and recycle it, if recycling is available in the area.

This Program provides incentives for one replacement per household. The replacement device must be the primary source of heat in the house. The Program is available to both homeowners and renters. In the case of rental properties, formal approval from the property owner will be required as part of the approval process. Retroactive rebates are not available under this program, so Applicants who remove the old device or purchase a new replacement device prior to being approved for this Program will be disqualified. The old, uncertified device must be rendered permanently inoperable and recycled, if recycling is available in the area, before payment can be issued to the Installer.

Burning wood in a fireplace is very inefficient for home heating purposes; fireplaces are therefore not typically used as the primary source of heat. In rare situations, when an Applicant uses a fireplace as a main source of heat, the Applicant may qualify for the Program. In these cases, the Applicant will be required to demonstrate that the fireplace is used as the primary source of heat. This demonstration would require reporting and documenting the following information to the District:

- The amount of wood stored for winter or receipts for wood purchase indicating that the amount of wood used is at least twice the average wood usage for the area; or
- Utility bills to verify less than 25 percent increase in fuel usage during winter.

The District would be responsible for verifying this information and retaining documentation for justifying this type of change-out. If the existing fireplace is structurally sound, the Program may offer an incentive to be used towards purchase and installation of a fireplace insert utilizing wood, natural gas, propane, or electricity. However, if the fireplace is lacking structural integrity, the incentive could be used towards the purchase of a free-standing home heating device. In this case, the fireplace and chimney must be rendered permanently inoperable to prevent use of the fireplace. Verification of inoperability would be the responsibility of the District.

Installers interested in participating in this Program must agree to the Program's terms and conditions by signing an agreement with CAPCOA or the District. Each District will establish their own requirements, but at a minimum, in order to participate in the Program, the Installer will be required to agree to the following:

- Abide by the terms and conditions of the Program;
- Unless verified by the District, verify that the old device and the replacement device qualify for the Program;
- Conduct professional installation of the qualified device in compliance with all applicable State, county, or city codes/ordinances;

- Provide residents with training on device operation and maintenance and, if applicable, for wood burning devices, best practices in wood storage and wood burning; and
- Render the old device inoperable and recycle it, if recycling is available in the area.

Only Installers who have a signed agreement with CAPCOA or the District will be eligible to participate in the Program. Installers will be responsible for ensuring that all installations are done in accordance with any applicable State, county, or city codes/ordinances, including obtaining any applicable permits and having the installation inspected. Agreements must include the components required by this document and should include key milestone dates and participant requirements for maintaining eligibility prior to Project completion.

#### **IV. ELIGIBLE COST**

Eligible project costs include the cost of the new device including sales tax, installation including any parts, materials, permits, or labor required for the safe and legal installation of the new device, and removal and disposal of the old stove or insert. The Installer will be required to provide a base estimate for the installation of a basic model that will be safe, clean-burning, and efficient. Upgrades above the base estimate will be paid by the Applicant. The incentive structure will be determined by CAPCOA or each individual District. Districts will pay the Installer (voucher model) or Applicant (rebate model) the approved incentive amount. Any additional balance due will be paid by the Applicant.

Applicants who remove the high-polluting device or purchase a new device prior to being approved for this Program will be disqualified from obtaining compensatory funds. Wood stoves or wood-burning inserts designed exclusively for aesthetic and decorative use are not eligible for this Program.

All eligible costs must be supported by appropriate documentation. Costs incurred outside of the performance period, indirect/overhead costs, and cost of food or beverages (e.g., served during outreach events) are not eligible for reimbursement. Indirect/overhead costs are expenses of doing business that are of a general nature and are incurred to benefit two or more functions within an organization. Examples of indirect costs include salaries and benefits of employees not directly assigned to work on the Program, functions such as personnel, business services, information technology, and salaries of supervisors. Examples of overhead costs include rent, utilities, and supplies.

The total cost of administering the Program (i.e., the total administrative costs incurred by both CAPCOA and Districts) cannot exceed \$500,000, which is 10 percent of the total 2016-2017 appropriation.

## V. ELIGIBILITY

Households using uncertified wood stoves or wood inserts as the primary heat source are eligible for an incentive towards replacing their old, uncertified device with a cleaner, more efficient heating device. The incentive amount will be determined by each District in coordination with CAPCOA, but the general structure of incentives must adhere to the following rules:

- Low-income households and households located in disadvantaged or low-income communities will be eligible to replace their heating device for little or no cost. They will qualify for a higher incentive (Enhanced Incentive). CAPCOA, in coordination with the District, will determine the maximum allowable Enhanced Incentive level;
- All other households, regardless of their income, will qualify for a smaller incentive (Standard Incentive) to be applied towards the purchase and installation of the new device. CAPCOA, in coordination with the District, will determine the maximum allowable Standard Incentive level; and
- CAPCOA will implement the Program with the goal of directing 75 percent of the funds for Enhanced Incentives to help low-income households and households in disadvantaged and low-income communities replace their old wood stoves for little or no cost. This goal could be accomplished in a variety of ways and Districts are encouraged to explore different options. Examples of two possible scenarios include:
  - Conducting a District-wide solicitation during which all applications would be collected and reviewed and priority would be given to those Applicants qualifying for Enhanced Incentives.
  - Implementing the Project in two phases. During the first phase, only applications from low-income households and households in disadvantaged and low-income communities would be accepted. During the second phase, the Project would be open to all Applicants.

Every Applicant using an uncertified wood stove or insert as the primary source of heat for their home qualifies for a Standard Incentive without any need for income verification. To qualify for the higher Enhanced Incentive, the Applicant must reside in a disadvantaged or a low-income community or demonstrate a household income not exceeding a low-income threshold specified below. Income verification will not be required for Applicants residing in disadvantaged or low-income communities.

Applicants residing outside of disadvantaged and low-income communities wishing to be considered for Enhanced Incentives are required to demonstrate that their household income does not exceed one of the following thresholds:

- 1) 80 percent of the Statewide Median Household Income (MHI),<sup>9</sup> or
- 2) County-specific HCD low-income limits.<sup>10</sup>

Districts will be responsible for verifying household income eligibility. Districts can qualify an Applicant based on the higher allowable maximum income (80 percent MHI or HCD low-income limits). Under MHI, as of the publication of these guidelines, any household with income not exceeding \$49,454 is considered low-income. The HCD low-income limits vary depending on the county and household size.<sup>11</sup>

For purposes of the Woodsmoke Reduction Program, there are multiple methods to demonstrate household income eligibility. Applicants may demonstrate eligibility by presenting pay stubs or tax returns for each person living in the residence to District personnel for verification and, if qualifying using the HCD low-income limits, reporting the number of people in the household.

Eligibility may also be established through proof of participation in an existing federal or State low-income assistance program, several examples of which are listed below. In cases where an Applicant chooses to demonstrate eligibility through participation in an alternate low-income program, Districts will work with ARB staff to verify that the alternate program's income limits do not exceed Enhanced Incentive income limits for their area.

- U.S. Department of Agriculture Women, Infants and Children (WIC) Program;
- U.S. Department of Health and Human Services Low Income Energy Assistance Program (LIHEAP);
- California Alternate Rates for Energy (CARE) Program with a participating California utility company.

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<sup>9</sup> U.S. Census Bureau, American Community Survey 2015, 5-year Estimates (2011-2015) available at: <https://www.census.gov/quickfacts/table/PST045215/06>

<sup>10</sup> California Department of Housing and Community Development. State Income Limits for 2016 is available at: <http://www.hcd.ca.gov/grants-funding/income-limits/state-and-federal-income-limits/docs/inc2k16.pdf>.

<sup>11</sup> Ibid.

## VI. APPROVAL PROCESS

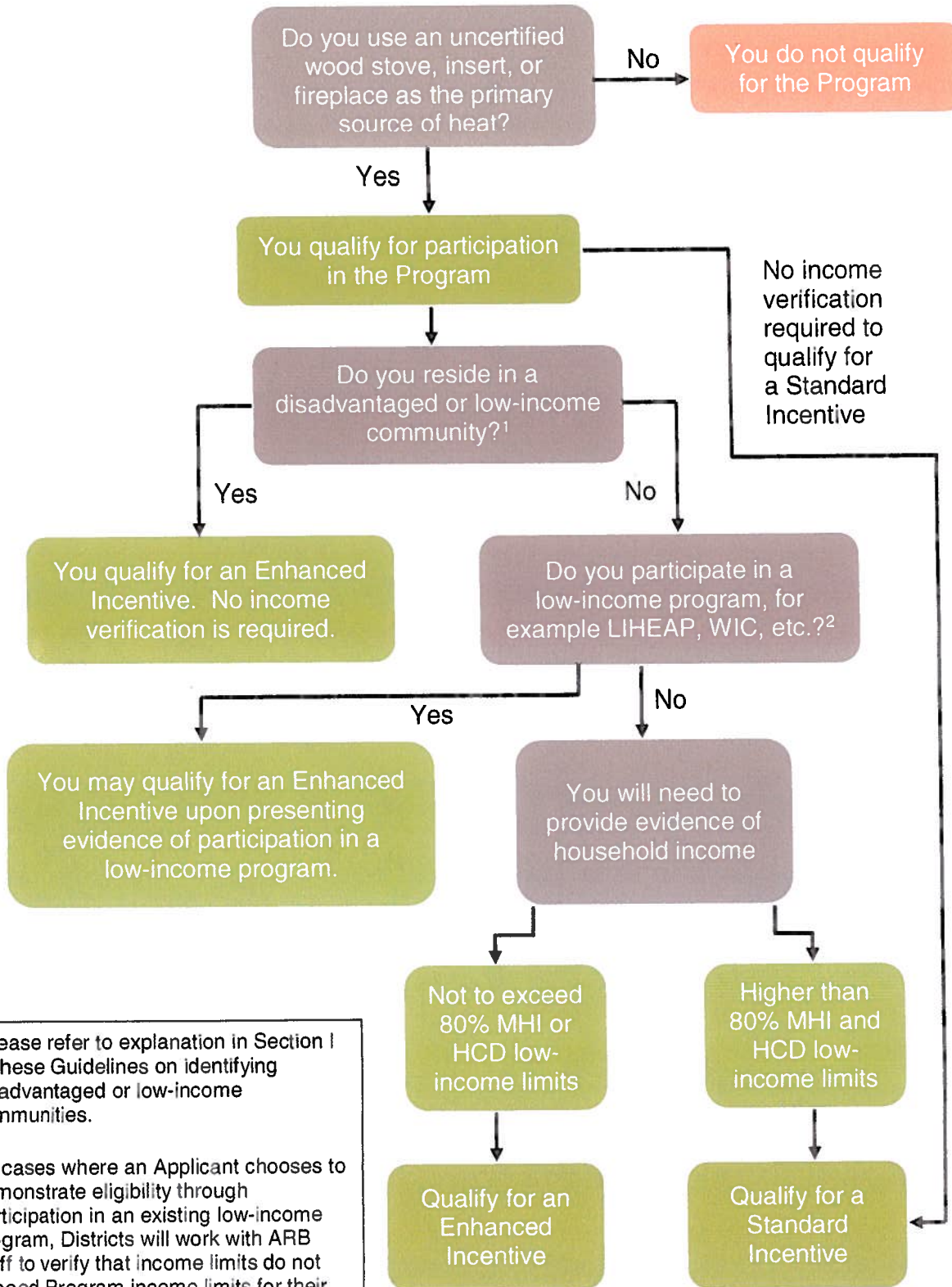
In order to participate in the Program, Applicants will be required to complete an application. Applicants must agree to provide information to the District and allow the District and/or Installer to verify that information. Applicants must agree to receive training on proper wood storage and wood burning practices (if applicable) and device operation and maintenance. The District will be responsible for verifying the following:

- Eligibility of the existing stove - ensuring that the existing stove is uncertified, operational, and used as the primary heat source in the house;
- Eligibility of the replacement stove – ensuring that the replacement stove is eligible for the program as described in Section II; and
- If applying for the Enhanced Incentive, eligibility as a resident of a disadvantaged or low-income community or a low-income household.

The application will be reviewed to determine if the preliminary qualification requirements have been met. Figure 2 illustrates the approval process and helps determine Program eligibility. The District will notify the Applicant whether the application was approved for participation in the Program. Districts must inform Applicants that applications will be treated in accordance with Public Records Act requirements and that certain information, subject to those requirements, may be publicly disclosed.

Once approved, the Applicant will schedule an in-home estimate with a participating Installer. The Installer will verify the stove's eligibility and present an estimate to the Applicant. The District will have the flexibility to run the Program as a voucher or a rebate model. If a Program follows a voucher model, qualified Applicants are issued vouchers that provide an instant discount of the cost of purchase, installation, and disposal of a qualifying device. If a Program follows a rebate model, qualified Applicants are issued rebates after they submit the required documents showing that they have purchased a qualifying device, had it installed by a participating Installer, and properly disposed of their old appliance. Districts must verify that the old device was deemed permanently inoperable and recycled, if recycling is available in the area, before issuing payment for the change-out. Districts choosing to follow a rebate model must ensure that low-income households and households in disadvantaged and low-income communities are able to participate. This may require offering vouchers in lieu of rebates or administering the Project with a combination of rebates and vouchers.

Figure 2. Approval process



## VII. GHG REDUCTIONS

Switching from an uncertified wood stove to a U.S. EPA certified wood stove reduces GHG emissions as certified stoves are cleaner burning and more energy efficient. Design features in newer wood stoves promote more complete combustion, reducing emissions of methane, a GHG pollutant.<sup>12</sup> They also typically use a third less wood to produce the same amount of heat as an uncertified stove.<sup>13</sup> A one-third reduction in wood burning will further reduce GHG emissions by approximately the same amount. Switching from an uncertified wood stove to a natural gas, propane, or electric heating device also reduces GHG emissions. In the absence of a mechanism to verify that the wood burned in an Applicant's primary heating device is waste material harvested pursuant to an approved timber management plan prepared in accordance with the Z'berg-Nejedly Forest Practice Act of 1973 or other locally or nationally approved plan and harvested for the purpose of forest fire fuel reduction or forest stand improvement, biogenic CO<sub>2</sub> is included in the calculation of GHG benefits for these devices.

## VIII. OUTREACH AND EDUCATION

CAPCOA and the Districts will be responsible for promoting the Program and helping households understand the benefits of changing from an uncertified wood stove to a cleaner home heating device. Since the goal is to distribute 75 percent of total funding to residents of disadvantaged and low-income communities and low-income households, the outreach should focus on reaching this segment of the population.

The Program requires an educational component to ensure that the new home heating devices, particularly wood stoves, are properly operated and maintained to maximize energy efficiency and achieve the lowest possible emission rates. With proper burning techniques and properly seasoned wood, the amount of wood used could be significantly reduced. While a new wood stove typically pollutes less than an old one, user operation is important for achieving estimated reductions. CAPCOA will be required to ensure that each change-out is supplemented with a training component. This could be accomplished by having Installers train homeowners following the installation. Districts will be required to obtain verification of training.

## IX. CO-BENEFITS

In many communities throughout the State, uncertified wood stoves are a major source of air pollution. Replacing these highly polluting and inefficient stoves with certified wood stoves or non-wood home heating devices can significantly reduce emissions of

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<sup>12</sup> Residential wood stove emissions are in AP 42, Fifth Edition, Volume I, Chapter 1, External Combustion Sources, Section 1.10, web link: <https://www3.epa.gov/ttn/chieff/ap42/ch01/final/c01s10.pdf>

<sup>13</sup> U.S. EPA Burn Wise Publication, How to Implement a Wood-Burning Appliance Changeout Program, September 15, 2014; web address: <https://www.epa.gov/sites/production/files/2015-08/documents/howtoimplementawoodstovechangeout.pdf>

fine particulate (PM2.5), black carbon, and toxic air contaminants. These emission reductions will vary depending on the type of the replacement device, with the natural gas, propane, or electric devices offering the greatest reductions. Certified wood stoves or inserts have significantly lower emissions compared to uncertified stoves. These emission reductions, however, could diminish due to improper operation or lack of proper maintenance. Reductions in black carbon, PM2.5, and toxic air contaminants will reduce the impacts of climate change and improve indoor and outdoor air quality and visibility. In some parts of the State, the PM2.5 co-benefit reductions could have a significant impact on a region's ability to attain ambient air quality standards.

Reductions in PM2.5 pollution will have significant short- and long-term health benefits. Short-term exposures to PM2.5 can aggravate lung disease, causing asthma attacks and acute bronchitis, and may also increase susceptibility to respiratory infections. Long-term exposures have been associated with reduced lung function and the development of chronic bronchitis and even premature death.

Consumers should be able to save approximately a third of their annual fuel cost through the use of professionally installed, certified, high efficiency wood stoves. Many old stoves are improperly installed, posing significant safety concerns, including health impacts and potential fires. Professional installation required under this Program will ensure that newly installed stoves meet local fire and building codes. If a replacement device is installed in a residence that does not have functional smoke and carbon monoxide detectors, the Program will pay for purchasing and installing new detectors. The Program may support the local economy and job creation by increasing demand for, and installation of, certified wood stoves and other clean heating devices.

## **X. KEY DATES AND DEADLINES**

The Program Guidelines will be posted for public review and comments. Once comments are incorporated and final Guidelines are drafted, CARB will draft grant agreements with CAPCOA. Grant agreements must be signed and fully executed before work can commence on the Project. CARB will notify Districts when work may begin. Any work done prior to a District grant agreement being fully signed and executed will be ineligible for funding.

In order to have sufficient time to process final payments and close out grant agreements, Districts must submit all deliverables and payment requests within 45 days after the Project performance period. The deadline for executing all grant agreements is June 30, 2018 and the deadline for all CARB payments to CAPCOA is June 30, 2020.



## XI. REPORTING AND GHG QUANTIFICATION

Each District participating in the Program will be responsible for recordkeeping and providing CAPCOA with information necessary to fulfill Program reporting requirements. CAPCOA will be responsible for compiling the reports and submitting them electronically to CARB. All reports must be consistent with the quantification methodologies<sup>14</sup> and reporting guidance<sup>15</sup> developed by CARB and the requirements established in these Program Guidelines. The Program implemented in each participating District will be considered a Project with most of the reporting done on a Project basis. The Project will comprise of all of the change-outs, for which Program funds are being used, within the District's jurisdiction along with the administrative work required to implement them. Some reported Project information will be publicly available on the CARB website, including the amount of funding that is being spent on projects that benefit disadvantaged communities, low-income communities, and low-income households.

Since the Program is funded by the GGRF, the following reporting requirements, as outlined in Table 3.A-17 of the Funding Guideline Supplement for FY 2016-17 Funds (Supplement),<sup>16</sup> will apply:

- Project Profile;
- End of Year Report;
- Project Closeout Report; and
- Project Outcome Report (for a subset of projects only).

The Project Profile, required to be submitted once by December 10 of the first year of the Program implementation, must include the following information:

- 1) Project identification number;
- 2) Project type;
- 3) Total amount of GGRF dollars allocated, per project type;
- 4) Anticipated Project start date;
- 5) Anticipated Project completion date;
- 6) Estimated GHG reductions;
- 7) Estimated co-benefits;
- 8) Total GGRF dollars allocated to benefit:
  - a. Households located in disadvantaged communities;
  - b. Households located in low-income communities; and
  - c. Low-income households;
- 9) Description of how the Project meaningfully addresses an important community or household need and the approach used to identify that need;

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<sup>14</sup> Available at [www.arb.ca.gov/cci-quantification](http://www.arb.ca.gov/cci-quantification)

<sup>15</sup> Available at [www.arb.ca.gov/cci-fundingguidelines](http://www.arb.ca.gov/cci-fundingguidelines).

<sup>16</sup> Available at <https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/fundingguidelines.htm>

- 10) Identification of the specific criteria used to determine that the project provides direct, meaningful, and assured benefits to residents of disadvantaged communities in Table 2.A-9 of CARB's Funding Guidelines Supplement; and
- 11) Identification of the specific criteria used to determine that the Project provides direct, meaningful, and assured benefits to low-income communities and low-income households using criteria in the forthcoming draft Funding Guidelines Update.

The End of Year Report must be submitted by December 10 of each year of the Program and include the following information:

- 1) Overall Project status;
- 2) Number of incentives issued;
- 3) Amount of GGRF dollars expended by fiscal year;
- 4) Total Project cost (including non-GGRF funds);
- 5) Total Project energy savings, fuel savings, or pollutant reductions; and
- 6) Total Project GHG reductions.

The Project Closeout report, required once after the Project completion date and submitted to CARB by December 10 of the year of project completion, will include the following information:

- 1) Summarization of Project accomplishments, including benefits to:
  - a. Households located in disadvantaged communities;
  - b. Households located in low-income communities, and
  - c. Low-income households;
- 2) Total GGRF dollars allocated to benefit:
  - a. Households located in disadvantaged communities;
  - b. Households located in low-income communities, and
  - c. Low-income households;
- 3) Estimation of GHG reductions for the entire Project; and
- 4) Summarization of co-benefits for the entire Project.

Project Outcome report, for a subset of projects, required annually for two home heating seasons after change-outs and submitted to CARB by June 1, will include the following information:

- 1) Energy savings, and
- 2) Energy use reductions.

Net GHG reductions from wood stove replacement will be calculated using the CARB approved GHG Quantification Methodology for Fiscal Year 2016-17 available at the [Cap-and-Trade Auction Proceeds Quantification Materials](https://www.arb.ca.gov/cci-quantification) webpage.<sup>17</sup> CARB will also develop a methodology to quantify some of the Program's co-benefits. CAPCOA will be

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<sup>17</sup> <https://www.arb.ca.gov/cci-quantification>

responsible for performing calculations and reporting results to CARB as part of the reports outlined above.

In order to document and calculate reductions in GHG, black carbon, and criteria pollutants emissions, and document other co-benefits and benefits to disadvantaged communities, low-income communities, and low-income households, CAPCOA and/or Districts will be responsible for collecting and maintaining the following information for each change-out:

- Tracking number for each change-out;
- Location of change-out;
- Incentive amount and, if applicable, verification that Applicant qualifies for an Enhanced Incentive based on the location of the property in a disadvantaged or low-income census tract or Applicant's household income;
- Criteria the change-out meets for benefiting a disadvantaged community, low-income community, or low-income household and description of how the change-out meets respective community need(s);
- Type of wood burning device being replaced (stove, insert, or fireplace);
- Replacement device type and model;
- Quantity of wood burned annually before replacement;
- Replacement device emission rates and efficiency (if available);
- Installation date;
- Verification of destruction of uncertified stove (including recycling if available locally);
- Verification that the resident was trained on device operation and maintenance and, if applicable, following best practices in wood storage and wood burning for residential space heating;
- GGRF dollars spent; and
- Information on jobs and training opportunities created and whether employees are residents of disadvantaged or low-income communities or low-income households.

Documentation of each wood stove replacement must include all of the parameters above, which are necessary for quantifying the reductions. Record keeping and tracking will be retained by CAPCOA or the District for three years after the Project Closeout report is submitted.

## **XII. DISBURSEMENT OF FUNDS**

Funds cannot be disbursed until there is a fully executed grant agreement between CARB and CAPCOA. Only those actual and direct Program related costs incurred during the approved term of the grant agreement and as specified in the grant agreement budget will be eligible for payments.

Districts shall maintain an accounting system that accurately reflects fiscal transactions with the necessary controls and safeguards. The accounting system must retain itemized receipts and invoices for all Program funds for at least three years after final payment is made by CARB. Districts must submit itemized receipts or other information that would enable CARB to establish that the funds have been used for eligible expenses. CARB staff will review documents submitted to request reimbursement. A reimbursement check will only be issued if the reimbursement request properly documents all Program related expenses.

### **XIII. AUDITING**

The State of California has the right to inspect all work and associated records at any time over the project life. This right shall extend to any subcontracts, and CAPCOA and/or Districts shall include such access in all their contracts or subcontracts.

CARB shall review a sufficient number of projects each year to ensure proper Program implementation. The District responsible for the project selected for audit will be contacted at least 30 days in advance. The audit should include all books, papers, accounts, documents, photographs, and other records related to the project for which Program funds were used. The District will be expected to assign an employee familiar with the project and accounting procedures to assist the State auditor and have the project records, including cancelled warrants, readily available for inspection.

If the audit reveals that the District did not follow these Program Guidelines and/or the grant agreement, does not have proper documents to demonstrate following Program Guidelines and/or the grant agreement, or violated any State or federal law or policy, a corrective action plan will be put in place. The District will have three months to implement the corrective measures. A follow-up audit will be conducted to verify that the deficiencies are fully mitigated. If the corrective actions were not implemented or new problems were discovered during the follow-up audit, a second corrective action plan will be established. If the second follow-up audit is less than satisfactory, the grant agreement with that District will be terminated immediately and the District will be prohibited from receiving any future funding from this Program. The District may be required to fully or partially repay Program funds spent in violation of these Program Guidelines and/or the grant agreement.

The following are examples of Program deficiencies:

- Replacing a stove not eligible for the Program;
- Installing a device not eligible for the Program;
- Issuing an Enhanced Incentive to an ineligible Applicant;
- Failing to properly document each change-out;
- Failing to properly dispose of the old stove; and
- Allowing an Applicant to install his/her replacement device.

If deficiencies are identified during an audit, CARB will be responsible for communicating them to the District, giving District an opportunity to respond, and, if necessary, assist in drafting a corrective action plan. Districts must make every effort, including requesting assistance from CARB, if necessary, to ensure that the deficiencies are fully mitigated.

**To:** Northern Sierra Air Quality Management District Board of Directors

**From:** Gretchen Bennitt, Air Pollution Control Officer

**Date:** August 28, 2017

**Agenda Item: V.D**

**Agenda Description:** Loyalton Biomass Plant Quick Fact Sheet

**Issues:**

Attached is a fact sheet put together and released by American Renewable Power concerning the Loyalton Biomass Plant.

**Requested Action:**

None, informational only

**Attachments:**

1. American Renewable Power – “Loyalton Biomass Plant Description”

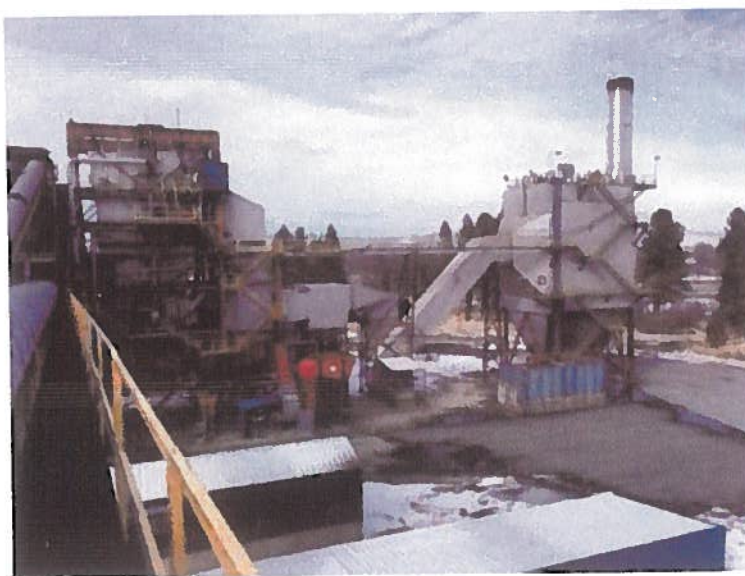
## Loyalton Biomass Plant Description

### Quick Facts:

- 20MW plant (net 18MW to grid)
- located on 212 acres in Sierra County, CA.
- commenced initial operations in 1987
- operated continuously as a combined heat and power (CHP) plant serving a large sawmill and delivering power to the NV Energy system.
- certified by the California Energy Commission (CEC#605-70A) as a renewable energy generator.

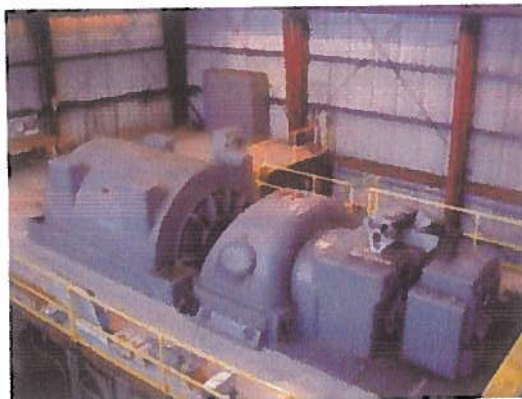
The facility operated as a cogeneration plant until the sawmill closed in 2001. Generation of power plant continued with 21 full-time employees until the end of 2010, at which time the facility was placed into ready-start condition for restart.

Biomass is sourced within an hour's drive of the plant from >5,000,000 acres of managed forests grown for saw timber. The bulk of the plant's biomass fuel will be sourced from six national forests surrounding the plant to remove fire-risk forest materials as well as thinnings cut down as part of US Forest Service-authorized timber contracts.



### Plant Overview

- **Power Systems:** The facility consists of a woody biomass fired 335.7 MMbtu Riley boiler which supplies ~200,000 pounds of steam to a GE condensing turbine directly coupled to a 20 MW generator. The boiler is specifically designed to receive and burn a broad range of woody biomass sourced materials which allows the plant to burn fuel more efficiently with lower air emissions and less overall ash material. This design is referred to as a suspended membrane water wall boiler with water-cooled-stationary inclined pinhole type grates.
- **Interconnection & Distribution:** Loyalton Biomass Power is currently interconnected to the NV Energy system at a 60KV substation on its property to deliver its renewable energy into the CAISO system at the Summit 120 substation. Via the NV Energy



transmission system, all or a portion of the power can also be transported to BHA/Hilltop substation into the PacifiCorp substation at Malin.

- **Experienced Plant Staff:** The biomass plant is in Sierra County. Most of the staff live locally and have worked at the plant for more than 15 years.



### Plant and Site Permits

The biomass power station is fully permitted and currently interconnected to the regional utility distribution system. Site features include:

- **Zoning** - The entire 212-acre site is zoned for industrial businesses.
- **Potable water** - The site and plant have the following approved sources of water available:
  - **Chlorinated city municipal water** is available at 100 gallons per minute per business customer hookup. This water averages a total dissolved solid number of 350 and a pH of 7.90.
  - **Onsite deep well water** is available at 200 gallons per minute. This water averages a total dissolved solids number of conductivity of 310 and pH of 7.95. It is fully permitted and regulated by the California Water Resources Ground Water Management Sierra Valley District.
  - **Surface water** is available at a rate of 350,000 gallons per day from adjudicated first-priority water rights on Smithneck Creek. This water averages a total dissolved solids number of 120 and a pH of 7.90. These water rights were modified in 2002 in Plumas County Superior Court to allow the transfer of creek water to the adjacent parcel irrigation area.
- **Sewer-Wastewater discharge** -- Onsite septic systems with leach fields and holding tanks are in place.
- **Fire Protection** The plant has a large, standalone fire protection system that includes a 500,000-gallon water reservoir supplying static 85 psi water pressure at up to 1000 gallons per minute on demand.

### Regulatory Compliance Permits

All industrial businesses in California are required to be permitted on their respective wastewater and storm water discharges by the California Regional Water Quality Control Board.

The entire Loyaltan site is covered under a **General Industrial Storm Water Discharge Permit No. 5S46I000246**. All required testing of discharges and scheduled reporting is currently active and is third-party validated.

**Industrial Wastewater Treatment** is covered under **Permit No. R5-2002-0174**. There is an installed onsite monitoring well network that is sampled and tested periodically for indications of any industrial impacts to groundwater. Sampling is also performed on surface waters onsite and process water discharged offsite for irrigation purposes. This fully developed waste water discharge program has significant excess capacity for additional evaporation and discharge to land water volumes if needed. Industrial waste water discharge to land permits are difficult to obtain and can become a major hurdle for many industrial processes on other sites. *[special note: this permit is presently inactive as the biomass plant is not operating. It will be re-instated when the facility goes into commercial operation]*

**Air Emissions and Permits** Businesses in California that emit any emissions, visible or invisible, are required to



apply for an Air Quality Permit with the local Air District, California Air Resources Board-CARB, and Environmental Protection Agency-EPA. Loyalton has the following permits in place:

- Northern Sierra Air Quality Management District Permit to Operate # 88-19-0-01
- Title V Permit # NSAQMD-SPI-L 33
- EPA PSD Permit # SAC 87-01-A

Trained onsite staff perform all monitoring and reporting duties to the regulatory agencies mentioned above. Third-party laboratories and periodic external tests are conducted as per the requirements of each permit.

The 7,000T of ash produced by the biomass plant is certified by the California Department of Food and Agriculture as an organic input material. This permits the material to be used as a replacement for commercial lime and is classed as an organic fertilizer.

**Growth Plan** – The plant historically operated as an inside-the-fence combined heat and power facility with excess power sold into the regional power grid. When restarted this fall, the plant will initially generate 100% of its output under the terms of a long-term Power Purchase Agreement.

Within the next two years, however, the Loyalton Biomass Power Station expects to expand its services to deliver heat and power utilities directly to a unique industrial park which will be dedicated to a blend of advanced wood products R&D and manufacturing businesses.

**Expected Commercial Life** – Biomass plants of similar design have been in continuous operation for more than 50 years throughout the US and Canada, predominately as cogeneration facilities providing both steam and power to large sawmills and pulpmills. Much like any utility power station, with semi-annual shutdowns for planned maintenance and funding reserves for major turbine generator overhauls (typically at 10 year intervals), such facilities will operate reliably at 92%+ availability.

**Fiber (Fuel) Supply** – Each biomass power station typically receives 100% of its supply from within a 60 mile radius on a year-round basis. Loyalton has 18 regular suppliers with half comprising the bulk of the deliveries each year. The plant receives roughly 65% of its biomass from forest residue removals associated with contracted logging operations where 25% of each tree is left behind in the form of tops and limbs. Another 20% is sourced from forest thinnings and fire-hazard biomass removals. The balance is in the form of diverted green waste fiber from landfills. Fiber supplies are delivered to Loyalton under continuing agreements (referred to as 'evergreen' arrangements) where so long as the quality of the material is acceptable to Loyalton, the supplier has an open account to deliver to the plant. Unique to the Loyalton facility, there is a very large area for fiber storage and suppliers are able to deliver 24 hours a day, seven days a week. Loyalton will receive ~155,000BDT/year of biomass and expects to maintain two months of inventory.