

substantial noise increases. There will be two motors and two fans for each pyrolysis chamber, these machines do not produce substantial noise and would remain enclosed within the proposed, preventing any additional noise pollution.

The Project is consistent with Section 15329(b)(3), requiring that the project be contiguous to other structures associated with the project. This project is located adjacent to the existing Treehouse Almonds Huller facility, directly north of the site with contiguous ownership, which will provide the almond shell and agricultural waste to be chemically transformed into biochar.

Environmental Assessment Officer: Reed Schenke, P.E., RMA Director/EAO

Name of Public Agency Approving Project: County of Tulare

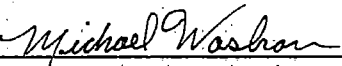
Project Planner/Representative: Emily Gage, Planner III

Telephone: (559) 624-7083

Signature: 
Gary A. Mills

Date: 7/24/2025

Title: Chief Planner,
Environmental Planning Division

Signature: 
Michael G. Washam, A.C.E.

Date: 7/23/2025

Title: Associate RMA Director, Designee

☒ Signed by Lead Agency

Date submitted to the LCI/SCH: _____

The Sitos Biochar Reactor process is characterized as "Slow-Pyrolysis", a process in which biomass material is heated in an oxygen-deficient atmosphere within an enclosed kiln. This process results in the production of process exhaust gas and a carbon-rich solid product ("biochar"). The feedstock biomass will be made up of cellulose, hemicellulose, and lignin, in this case, almond shell. Cellulose and hemicellulose evaporate almost completely at temperatures above 500°C (932°F), while up to 50% of the lignin also volatilizes. The volatile components of biomass consist mainly of different hydrocarbon compounds. When these compounds are released during the pyrolysis process, they are mixed with air and spontaneously combust to provide the heat to continually sustain the process, avoiding the need for external fuel sources to be relied upon. As such, the Biochar Reactors will be self-sustaining except for minimal electricity and water requirements.

Temperature, pressure, and air/oxygen levels in the Biochar Reactor are regulated using water injection and air intake controls and are optimized for each individual feedstock. The syngas produced in the process is burnt off prior to passing through the exhaust stack. Conceptually, there are two horizontal chambers within each Biochar Reactor themselves. These include a trough through which the biomass is transported, and a reactor zone that is situated above the biomass trough. With the slight upward vacuum effect and airflow direction, the feedstock passed through the reactor in an oxygen limited or oxygen free environment.

At its operating temperatures around 750°C, the Biochar Reactor unit forces biomass into releasing flammable volatiles, which are then combusted just above the biomass as it moves through the trough. While conversion of the volatiles is maximized through the addition of process air in the combustion zone, surface reactions of the biomass itself are kept to a minimum. Specifically, feedstock biomass is substantially chemically altered through the thermo-decomposition process. What leaves the system is almost pure carbon; therefore, it has been determined that this project will not have a significant effect on the environment.

Construction for this project includes a proposed building on a less the 5-acre portion of a 39.91-acre parcel, a 20,000 sq. ft. metal building with a 650 sq. ft. entry canopy and a 2,500 sq. ft. canopy, for a total of 23,150 sq. ft. which will house the main activities of the facility. It will also include the construction of a 1,350 sq. ft. receiving pit canopy which will be used to keep rainwater out of the receiving pits, a 400 sq. ft. fire pump house, a 100 sq. ft. guard shack, and a 716 sq. ft. architectural canopy. Portions of the building's purpose includes holding the three pyrolysis reactors, as well as the control room, office, breakroom, and restrooms for employees.

Exempt Status:

- ☒ Categorical Exemption: CEQA Guidelines Class 29, Section 15329 Cogeneration Projects at Existing Facilities

Reasons why project is exempt: Section 15329, Class 29, pertaining to Cogeneration Projects at Existing Facilities, is applicable and appropriate for this project as each of the requirements for the exemption have been fulfilled. The installation of the equipment will have a capacity of less than fifty (50) megawatts.

The project will result in no net increases in air emissions, and will assist in producing lower emissions, fulfilling the requirements of Section 15329(a)(1). The proposed Biochar Reactor system can process approximately 26,000 tons/year (~70 tons/day) of organic material almond shell and produce roughly 8,000 tons/year (~20 tons/day) of high-quality biochar to be incorporated into compost and sold to local and regional wine grape and almond and pistachio growers for regenerative agriculture. Based on Sitos Pilot Plant Life Cycle Assessment completed for Carbon Dioxide Removal Certificates, for every one ton of biochar Sitos can apply to soils, Sitos can remove 2.5+ tons of carbon from the atmosphere. A study determined a similar biochar/bioenergy site co-located at an almond huller sheller would result in a carbon footprint of -34,000 tons of CO₂e per year. A similar carbon negative footprint is expected from the Sitos / Treehouse Almond Project.

Section 15329(a)(2) is complied with through the three-machine system and integrated wet scrubbers for gaseous emissions control and baghouses for particulate matter emissions control. Therefore, the anticipated emissions related to the Project are not expected to adversely affect compliance with applicable San Joaquin Valley Air Pollution Control District (SJVAPCD) or California Air Resources Board (CARB) requirements. The primary emissions from the Project are anticipated to consist of very minimal amounts of carbon monoxide (CO), nitrogen oxide compounds (NO_x), and particulate matter (PM), if any. Despite the September 2024 USEPA Guidance which exempts these systems from Clean Air Act regulation, it is expected that the operating emissions would otherwise comply with the emission limitations outlined in CAA Table 1 of 40 CFR 60, Subpart EEEE (per § 60.2915) as well as the SJVAPCD Best Available Control Technology (BACT) thresholds. In addition, since the feedstock will consist of almond shell that will be pre-cleaned/screened prior to being fed into the Biochar Reactors, Project emissions are not expected to include hazardous or toxic air pollutants.

As the Project is consistent with the requirements stated in Section 15329(a), it complies with Section 15329(b)(1).

The Project is consistent with Section 15329(b)(2) as the project does not result in a noticeable increase in noise to nearby residential structures. The nearest residential structures to the site is one single family home approximately 1,300 sq. ft. to the west of the site, and another single family home approximately 1,400 sq. ft. to the east of the site. The project is not expecting to result in any

NOTICE OF EXEMPTION

To: ☒ Office of Land Use and Climate Innovation
1400 Tenth Street, Room 121
Sacramento, CA 95814

☒ Tulare County Clerk
Room 105, Courthouse
221 South Mooney Blvd.
Visalia, CA 93291

Lead Agency: County of Tulare c/o Resource Management Agency
5961 S. Mooney Blvd.
Visalia, CA 93277 (559) 624-7000
Attn: gmills@tularecounty.ca.gov and jwillis@tularecounty.ca.gov

Applicant(s): Sitos Group, LLC
40410 Arroyo Seco Rd.
Soledad, CA 93960 (559) 288-4986

Project Title: Special Use Permit No. PSP 25-033 – Sitos Treehouse Almonds Biochar Project

Project Location - Specific: The project site is located at 2115 Rd. 144, Delano, CA 93215, west of Road 144, approximately two (2) miles north of County Line Road in the City of Delano, and one-half mile east of State Highway 99 (APN: 336-040-024).

Project Location- Section, Township, Range: S1/2 Section 22, Township 24S, Range 25E

Project Location - City: Delano, CA **Project Location - County:** Tulare

Description of Nature, Purpose, and Beneficiaries of Project: Special Use Permit No. PSP 25-033 is requesting to allow for a bioenergy facility to be constructed on a 5.00-acre portion of a 39.91-acre parcel located in the AE-20 (Exclusive Agricultural – 20 Acre Minimum) Zone within the Rural Valley Lands Plan with a Land Use Designation of Valley Agriculture. The project consists of the installation and operation of three continuous pyrolysis reactors, side-by-side, to manufacture biochar from unusable portions of by-product almond shell generated at the Treehouse Almonds Huller (Treehouse) facility as well as by-product almond shell procured from local and regional almond huller/shellers through contractual agreements. The Project will be constructed at the Treehouse Almonds Huller facility located at 2115 Rd 144, Delano, Tulare County, California. The objectives of the Project are to manufacture biochar for use in vineyards and orchards, to generate renewable electricity and to develop Carbon Dioxide Removal Certificates (CORCs) for atmospheric carbon removal. The biochar will be used as a soil amendment to support regenerative agriculture in local and regional wine grape vineyards and almond and pistachio orchards. Almond shells are currently sold to dairies as dairy bedding, and to other buyers as a road base for dust control. When almond shell is used for these purposes, all absorbed carbon present in the shell is released into the atmosphere as that shell decomposes in a dairy or road base setting. When almond shells are chemically transformed into biochar and applied to soils, that carbon remains in the soil for millennia, and is not released into the atmosphere.

Utilizing pyrolysis heat from its reactors, Sitos can generate inexpensive renewable electricity. The Sitos Biochar Reactor system consists of three Carbon Powered Mineral Technology & Products (CPM) Continuous Pyrolysis units which will be used to process approximately 26,000 tons/year of almond shell, and the other to be procured from other local almond huller/shellers through contractual agreement. These 26,000 tons per year will produce roughly 8,000 tons/year of high-quality biochar that will be incorporated into local and regional wine grape vineyards and almond and pistachio orchards to facilitate regenerative agriculture. The Project will utilize existing loaders and other ancillary equipment associated with the current operations at the Treehouse Almonds Huller facility.

The Biochar Reactors are expected to operate approximately 8,000 hours per year with periods of shutdown approximately one-day every two weeks. During periods of shutdown, the units will be inspected and maintained, including regular maintenance of all valves, moving parts, and thermocouples. During operations, up to 40 gallons per hour of water will be used for temperature control and quenching within each unit (up to 320,000 gallons per year based on maximum operation of 8,000 hours per year). Water will be delivered to the 5,000-gallon water tank on site. After each maintenance period, the units will be restarted which requires a maximum of 26 gallons of propane per startup cycle. Accordingly, assuming 26 startup cycles for each of the three reactors per year, Project operations will require approximately 2,028 gallons of propane.

FILED
TULARE COUNTY

JUL 24 2025

ASSESSOR / CLERK-RECORDER
BY:

DATE RECEIVED FOR FILING AT TULARE COUNTY CLERK'S OFFICE