

Program to improve air quality with emission-reducing tech

By Alysson Aredas, staff writer

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In an effort to help the San Joaquin Valley reduce emissions and meet critical air quality standards, the San Joaquin Valley Air Pollution Control District will provide funding for businesses and individuals to develop new emission-reducing technology through its Technology Advancement Program.

“Despite major reductions in emissions, the Valley continues to face difficult challenges in meeting federal air-quality standards,” said Executive Officer and Air Pollution Control Officer Seyed Sadredin. “It is virtually impossible for the Valley to attain the new standards for ozone and particulates without these significant advancements in low-emission technologies through TAP Projects.”

In addition to supporting technological development for emission reduction in the San Joaquin Valley, the Valley Air District also has plans to improve air quality by replacing 75 agriculture tractors with Tier 4 or cleaner engines after it was awarded \$1 million in Diesel Emission Reduction Act grant funding from the U.S. Environmental Protection Agency West Coast Collaborative.

The DERA grant program has provided funding for emission reduction projects nationwide since 2008. These projects have cleaned up more than 7,900 engines, reduced 400 tons of particulate matter a year, reduced 6,800 tons of oxides of nitrogen a year, and 400,000 tons of carbon dioxide a year.

As part of the Valley Air District’s strategic approach to improve air quality, TAP encompasses an ongoing review of new technology concepts, interagency partnerships, funding for technology advancement programs, and collaborations to build and expand local capacity for research and development in the San Joaquin Valley.

The U.S. EPA Region 9 provides annual funding to support this program through its Clean Air Technology Initiative, which aims to utilize resources and research efforts to expedite cleanup solutions in the form of advanced clean technologies for the San Joaquin Valley and South Coast Air Basins.

One technology advancement project that was made possible thanks to the partnership between the EPA and the Valley Air District can be found at Verwey Farms in Fresno County. The project allowed the dairy farm to replace four higher polluting diesel powered equipment with clean electric power equipment in the dairy feed mixing process.

As a result, Verwey Farms is expected to reduce 22 tons of NOx each year, 2.2 tons of fine particulate matter each year, one ton of hydrocarbons each year and 648 tons of CO2 each year. The project will also conserve upwards of 90,000 gallon of diesel each year.

The total cost of the project was \$1,145,782. The Valley Air District provided \$300,000 through the TAP and Verwey Farms incurred the remaining \$845,782.

“The San Joaquin Valley offers many opportunities for testing advanced clean air technologies,” said Kerry Drake, air division associate director for the EPA’s Pacific Southwest Region. “By continuing to work together to develop new technologies, such as these electrified dairy feed mixers, we can move toward our ultimate goal of bringing healthier air to Valley residents.”

Although the program is currently not accepting proposals for TAP, interested individuals can be notified when the next request for proposal opens via email. For more information on the TAP, visit valleyair.org/grants/technologyadvancement.htm.

Cutting ozone will require radical transformation of California's transit sector

By Tony Barboza, Los Angeles Times

In the Modesto Bee, Sacramento Bee and other papers, Wednesday, Oct. 14, 2015

LOS ANGELES - At a laboratory in downtown Los Angeles, a big rig spins its wheels on massive rollers as a metal tube funnels its exhaust into an array of air quality sensors. Engineers track the roaring truck's emissions from a bank of computer screens.

The brand-new diesel truck is among the cleanest on the road, the engineers at the California Air Resources Board testing lab say. Even so, its 550-horsepower engine spews out more than 20 times the smog-forming nitrogen oxides of a typical gasoline-powered car - and that won't be good enough for the state to meet stricter federal smog limits adopted this month.

Cutting ozone, the lung-damaging gas in smog, to federal health standards while meeting state targets to cut greenhouse gas emissions will require a radical transformation of California's transportation sector over the next two decades, air quality officials and experts say.

Millions of new electric cars must replace gasoline-powered models. Buses will have to run on hydrogen fuel cells. New technologies and cleaner fuels need to proliferate quickly to slash pollution from trucks, cargo ships and trains.

"We have to go to zero tailpipe emissions," said Mark Z. Jacobson, a professor of civil and environmental engineering at Stanford University. "There's really no other solution."

The changes will fall heavily on vehicles because they are the dominant source of air pollution in California. The largest reductions must come from the heavy-duty sector that transports goods through ports, freeways, rail yards and warehouses. The diesel-powered freight system emits 45 percent of the smog-forming pollution in the state and lags behind passenger vehicles, which have reduced tailpipe emissions dramatically over 50 years of smog-fighting regulations.

The transition is beginning with automobiles. A 2012 Air Resources Board mandate aims to put 1.4 million zero-emissions vehicles on the road by 2025 and requires them to account for one in seven new car sales by that year. In one scenario under consideration by the agency, the number of electric, plug-in hybrid and fuel-cell vehicles would increase to 5 million and 40 percent of new car sales by 2030.

About 160,000 zero-emissions vehicles are on the road today in California - just 0.5 percent of the passenger fleet.

To reach air quality and climate change targets, zero-emission technologies being pioneered in cars must eventually be scaled up to trucks and other heavy-duty vehicles.

In July, Gov. Jerry Brown issued an executive order directing state agencies to establish "clear targets" to transition California's freight system to "zero-emission technologies."

That won't be easy, state regulators say. But one advantage for California is that it can lean on many of the same efforts needed to meet its goal of cutting greenhouse gas emissions 40 percent below 1990 levels by 2030. Those carbon-cutting policies should simultaneously reduce levels of ozone, fine-particle pollution and cancer-causing diesel soot.

Some of those measures are outlined in a recent Air Resources Board report that projects California can reduce transportation-related pollution to meet air quality and climate change targets over the next 15 years with cleaner fuels, vehicles and energy sources. For heavy-duty vehicles, diesel engines will continue to dominate through 2030, the report says, but under even tougher emissions rules.

"While today's trucks are significantly cleaner than their predecessors, we'll need new engine standards that are about 90 percent cleaner," said Karen Magliano, chief of the air quality planning and science division at the Air Resources Board.

Chris Shimoda, policy director for the California Trucking Association, acknowledged the industry "is way behind light-duty cars in terms of the introduction of zero-emissions technology."

That's in part because the state Air Resources Board has not yet adopted zero-emissions requirements for freight, Shimoda said. But heavy-duty trucks also face higher technological hurdles and "the engineering challenges of trying to get a battery-electric or hydrogen fuel cell truck that can haul 80,000 pounds across the country."

"It's going to take time to introduce that technology," Shimoda said.

A key driver of the changes is the nation's worst ozone pollution in Southern California, which can reach over 100 parts per billion in inland valleys. Ozone, linked to asthma, heart disease and premature deaths,

is formed when pollution from motor vehicles, power plants and other combustion sources cooks in the heat and sunlight.

Though air quality has improved markedly in California, the smoggiest regions - the South Coast basin and the San Joaquin Valley - have so far failed to meet a series of federal ozone standards going back to 1979.

Regional air quality regulators say they must cut smog-forming nitrogen oxides at least 75 percent beyond existing regulations to meet a 2037 deadline to clean the air to the new federal ozone limit of 70 parts per billion.

Environmentalists say Southern California officials are not acting quickly enough.

The obstacles are so great that air regulators and transportation planners "have to get a lot more aggressive," said Adrian Martinez, an attorney for the environmental nonprofit Earthjustice.

Martinez wants to see zero-emissions lanes on freeways and electrified corridors for trucks hauling cargo in and out of the ports. "We need to get this stuff going now because these projects take decades," he said.

Barry Wallerstein, executive officer of the South Coast Air Quality Management District, is optimistic that the region can meet ozone standards through improvements in diesel engines and new technology, such as hybrid trucks powered by overhead catenary wires.

"We shouldn't underestimate ingenuity and ability to continue to further reduce emissions," Wallerstein said. When pressed on the Southland's failure to meet previous air quality standards, he said, "We need to pick up the pace."

Wringing enough pollution out of trucks and other cargo-moving vehicles to get Southern California's ozone levels down to 70 ppb will require a "paradigm shift" to battery-electric and fuel cell technology, said Scott Samuelsen, an engineering professor who directs the Advanced Power and Energy Program at the University of California, Irvine. The key question, he said, "is how to make an economically viable transition of a freight industry that's evolved with diesel engines."

Some of those changes can be seen at the Port of Long Beach, where crews have finished building the first half of a \$1.5 billion terminal that unloads, stacks and sorts shipping containers using electric cranes and driverless, battery-powered vehicles instead of diesel-burning yard tractors.

"We're looking to expand use of electricity," said Art Wong, a spokesman for the port. "This terminal is going to be the first."

Back in downtown L.A., where the Air Resources Board is testing heavy-duty trucks, lab manager Keshav Sahay put the difficult task ahead in simple terms: "We have to do more."

Possible 'toxic fumes' over Dos Palos as recycling plant burns

By Rob Parsons

Fresno Bee and Merced Sun-Star, Tuesday, Oct. 13, 2015

Possible "toxic fumes" hovered over the skies of Dos Palos late Tuesday as a large fire burned for hours at a recently shuttered recycling center, authorities confirmed.

The fire at the Pacific Coast Recycling Center on Almond Street was first reported around 5:30 p.m. and was contained by firefighters around 9:10 p.m., said Barry Mann, police chief and city spokesman.

Flames shot 15 to 20-foot flames into the air and heavy, black smoke containing possibly noxious fumes hovered over South Dos Palos and moved slowly into rural areas of Merced County, officials said.

"We have about 150 tons of recyclable materials burning including an unknown substance in the air that (environmental health officials) are very concerned about," Police Chief Barry Mann said. "We are asking people to shelter in their place for now, there's a lot of bad stuff in the air."

Other materials burned at the plant includes large amounts of plastic, rubber, wood and cardboard, officials said.

Mann said residents should plan to stay inside overnight.

No injuries were reported.

The cause of the fire was not immediately known. A damage estimate was not available Tuesday.

Mann confirmed the recycling center recently closed and owners were in the process of moving out. Mann said city officials believe the plant had been closed for at least 60 days, but said he was unsure the of the reason for the closure.

"There's nothing to indicate this fire was suspicious, but we'll obviously be looking into that possibility (Wednesday) morning," Mann said.

Winds on Tuesday night were expected to blow from the north-west to the south-east in Dos Palos at about five to 10 mph, according to the Jeff Barlow, a meteorologist with the National Weather Service in Hanford.

Those winds blew the potentially noxious smoke over populated areas, including the Dos Palos Apartments on Highway 33.

Mann said most of the city would be affected by the smoke and fumes and should remain inside. "I'd say at least two-thirds of everybody in Dos Palos is affected right now," Mann said.

Officials from the the county's Environmental Health division were on scene to investigate, police said.

Inspectors were also called to help investigate from the San Joaquin Valley Air Pollution Control District.

"We always advise people in these situations to stay inside and to run their air conditioners, if they can, to help circulate the air in their homes," said Jamie Holt, the district's chief communications officer.

Holt said district officials would work closely with firefighters to investigate the air quality issues.

Dozens of firefighters were on scene from Dos Palos, Calfire and Merced County. Law enforcement officials from Dos Palos and Merced County were also on scene, an official said.