

Valley air district officials urge ozone precautions

Bee staff reports

Modesto Bee, Wed., Aug. 1, 2012

MODESTO -- Rising ozone levels throughout the valley are causing air quality to deteriorate, and air officials urge residents to take protective measures where necessary.

Typical summer meteorological conditions are ideal for ozone (smog) formation, which officials expect to continue through today.

The San Joaquin Valley Air Pollution Control District has developed a tool to help residents stay informed about air quality in their area.

The Real-Time Air Advisory Network is a free, automated data delivery service that links the subscriber's computer to an air monitor of choice. For more information and to subscribe, visit www.valleyair.org/programs/raan/raan_landing.htm.

"This is, unfortunately, typical summer air quality in the valley. Folks need to take precautions to protect their health and to take steps to reduce their emissions," said district spokesman Jaime Holt.

Ozone is created when emissions "cook" in heat and sunlight, and it peaks during the late afternoon and early evening. It can exacerbate conditions such as asthma and cause symptoms including sore throat, cough and fatigue.

Residents can reduce smog-forming emissions by:

- Refraining from idling their vehicles
- Car-pooling or using alternate transportation
- Refraining from using drive-through services

UC Merced Professors working on biomass research

Merced Sun-Star, Wed., Aug. 1, 2012

MERCED -- Behind a locking fence near the entrance to UC Merced, a group of professors are producing some serious heat.

Engineering professors Gerardo Diaz, Wolfgang Rogge and Yihsu Chen, and a group of students are spending their summer in the lab, generating plasma blasts of more than 3,000 degrees Celsius (5,432 degrees Fahrenheit) as they work on turning biomass -- organic leftovers such as coffee grounds, almond hulls and the leavings from wineries -- into clean-burning energy.

The three-year project recently received a \$258,000 grant from the California Energy Commission and \$50,000 in equipment from Foret Plasma Laboratories to examine how clean the gas produced through the process is, and whether it is cleaner than the current

biomass-incineration process in use at plants around the state.

"There's a lot of biomass here in the form of agricultural waste, and it is left to rot, is burned in the fields or is burned for fuel, but not very efficiently or cleanly," Diaz said. "This might be a way to put it to use with very little emission."

The project is just another example of UC Merced's research exploring innovative solutions to complex worldwide problems.

Researchers turn liquid waste into steam that is forced into a plasma gasifier used to super-heat the biomass materials and leave behind almost nothing but hydrogen and carbon dioxide. The gasifier products can be configured to create liquid fuel or gas, and can even be used to turn biomass into a carbon product that can enhance agricultural soil.

Obviously, cleaner energy production would have a huge effect on the San Joaquin Valley, said Rogge, who is an expert in air quality and is studying the air pollution aspects of the biomass project.

But the implications would be much farther reaching, he said.

For example, Rogge and Diaz would like to design a mobile version of the gasifier that could be used in national parks around the world to help manage potential fire fuels.

"All the trees that fall, and all the other biomass, it gets burned up and the smoke just goes up in the air," Rogge said. "Why not use it for something productive?"

Diaz, an engineering professor, works with the plasma gasifier in his lab.

Chen will work with the group to add the economic analysis of the biomass-to-energy process.

Four students are helping the professors: juniors Adam Martin and Jose Guadarrama, senior Azucena Robles and graduate student Neeraj Sharma.

"This is the hands-on, experimental part of my research, but we also study the theoretical, and it's interesting to see the connection between the two," Sharma said.

For Robles, Martin and Guadarrama, who all want to go to graduate school, this is an opportunity to play a vital role in real research that gives them experience, and to make connections with the professors who could be supervising them in their intensive studies.

"I'm getting experience in something I could possibly work on for the rest of my life," Martin said.

UC Merced Connect is a collection of news items written by the University Communications staff.

[Fresno Bee editorial, Thursday, Aug. 2, 2012:](#)

Presidential candidates are ducking climate change issue

The United States -- among the top three emitters of carbon dioxide and other greenhouse gases, along with China and India -- cannot hope to confront climate change unless our political leaders stop tiptoeing around the issue.

Few scientists doubt that the Earth's climate is changing and growing warmer. Only a small number of skeptics dispute that humans are a prime cause of the problem.

The ranks of the skeptics just got smaller, however, with UC Berkeley physics professor Richard Muller joining the overwhelming scientific consensus that global warming is real, and that human-caused pollution is a major culprit.

This summer offers a sense of the consequences of inaction. We've seen massive drought, Colorado on fire, and Atlanta recording its hottest day in history. While it's impossible to tie specific events to climate change, these are the kinds of extremes we will increasingly see unless emissions are brought under control.

On the campaign trail, there is plenty of vague talk about "energy independence" or "clean energy," with both presidential candidates ducking what policies they will pursue to reduce greenhouse gases.

Presumptive Republican nominee Mitt Romney has offered various positions, depending on the audience, providing little confidence to date in where he really stands. In 2003, as governor of Massachusetts, Romney said climate change "is beginning to affect our natural resources and that now is the time to take action."

Fast forward to the current campaign, and Romney has been all over the map, backing both sides of the issue within months. He now says, "My view is that we don't know what's causing climate change on this planet. And the idea of spending trillions and trillions of dollars to try to reduce CO2 emissions is not the right course."

Obama made climate change a priority in running for president in 2008. But he has backed off in the face of Republican opposition in Congress.

Both candidates must be pressed on what policies they would pursue, both nationally and globally. Obama and Romney must discuss the issue and offer solutions. The stakes involved couldn't be higher.