Utilities offer farmers a deal

Change from diesel to electricity would bring 20% discount.

By Jennifer M. Fitzenberger / Bee Capitol Bureau
The Fresno Bee, Tues., Nov. 9, 2004

SACRAMENTO — California's two utility giants today will ask the Public Utilities Commission for permission to give farmers who replace diesel engines with electric models a discounted electricity rate.

Under the plan, farmers who make the switch will pay a rate that is 20% less than what Pacific Gas & Electric Co. and Southern California Edison currently charge their agricultural customers. The rate will be guaranteed for 10 years with 1.5% bumps each year, providing farmers with pricing stability.

Farmers say the lower rate — plus a larger allowance to hook up motors to the line — will make electric engines more affordable. Diesel engines generally cost less to operate, but they pump out ozone-forming chemicals and specks of soot that can lodge in people's lungs and cause health problems. Electric models are much cleaner.

If the PUC approves the rate, it could go into effect in the next few months. Farmers would have two years to decide whether to make the switch and get the lower rate.

The proposal comes at a time when new clean-air laws are forcing farmers to make major decisions. Owners of large farms now have to obtain air operating permits and, in the next few years, they will have to comply with regulations that likely will force them to replace their dirtiest equipment with cleaner models and make other expensive changes. The utilities hope the new rate will entice farmers to pick electric motors over newer diesel engines.

"The timing is good because the community is facing an investment decision in the next couple of years," said Jan Berman, director of rates and tariffs for PG&E. "It's an excellent time to offer a program like this."

Leaders in the farming community who have worked with the utilities in the past few years to create the rate proposal say the plan will benefit growers, the utilities and the environment.

"It's a better choice for farmers, and at the same time it is going to provide a very, very significant benefit to the residents of the Central Valley in the form of cleaner [air]," said Michael Boccadoro, executive director of the Agricultural Energy Consumers Association. "There is absolutely no downside."

Said Roger Isom, vice president of the California Cotton Ginners and Growers Associations: "This is a landmark issue for us. It is going to give a cost-effective alternative to continuing to run diesel engines."

Grower Matthew Efird, who runs a farm with his father near Caruthers, said he is eager to learn the details. Efird has five diesel pumps, three of which used to be electric. His family switched to diesel in the early 1990s because electricity became too expensive.

If the new rate pencils out, Efird would consider switching back to electric motors, which he says are easier to maintain.

"If economics justifies, then yes," said Efird, who grows almonds, raisins, plums and other crops on about 1,000 acres. "I want to do what's best, but at the same time I have to make a living."

For years, farmers considered electric motors too pricey because of high utility rates that were unstable. Power companies charge farmers to stay hooked up to the grid, even though many growers use their pumps only during certain times of the year or when there is a water shortage.

Diesel engines became the alternative. About 3,700 stationary diesel irrigation pumps exist in the San Joaquin and Sacramento valleys.

California harbors some of the dirtiest air basins in the country. In the San Joaquin Valley, diesel agriculture engines produce about 20 tons of nitrogen oxides per day. Nitrogen oxides help form ozone.

A total of about 500 tons are produced per day in the Valley, about 214 of which come from on-road motor vehicles.

Reducing emissions from diesel engines would help clean up the Valley's air, said Tom Jordan, an air quality project adviser with the San Joaquin Valley Air Pollution Control District.

Old diesel engines pump out up to 20 grams of nitrogen oxides per horsepower, and newer diesel engines emit about 6 grams. A typical agriculture engine is 200 horsepower. Engines that are 50 horsepower and larger qualify for the new program.

"Basically you go to zero" emissions with electric engines, said Seyed Sadredin, deputy air pollution control officer.

Power plant emissions would increase slightly but not enough to make up the difference.

Jordan said the district supports the utility rate proposal: "In the end, it's a win for everybody if they can go electric."

Environmental advocates also like the plan.

Kerry Drake, associate director of the air division in the U.S. Environmental Protection Agency's Pacific Southwest Region, said nothing in the plan raises any environmental red flags.

"I have read the application from cover to cover," Drake said. "It seems solid to us."

To qualify for the program, a farmer must agree to get rid of the diesel engine. Older engines will be trashed. Newer engines might be recycled by air officials.

A guaranteed rate — plus state and federal money farmers can tap to help buy the electric motors — could be a pretty good deal for farmers, said Jerry Martin, a spokesman for the California Air Resources Board.

Said Martin: "This could be a time to put those two programs together and invest in new equipment."

Eight nations find Arctic warming quickly

By JOHN HEILPRIN
The Associated Press
Published in various forms in the SF Chronicle and Orange County Register
Tuesday, November 9, 2004
(11-08) 09:53 PST WASHINGTON (AP) --

Scientists say changes in the earth's climate from human influences are occurring particularly intensely in the Arctic region, evidenced by widespread melting of glaciers, thinning sea ice and rising permafrost temperatures.

A study released Monday said the annual average amount of sea ice in the Arctic has decreased by about 8 percent in the past 30 years, resulting in the loss of 386,100 square miles of sea ice -- an area bigger than Texas and Arizona combined.

"The polar regions are essentially the earth's air conditioner," Michael McCracken, president of the International Association of Meteorology and Atmospheric Sciences, told a news conference Monday. "Imagine the earth having a less efficient air conditioner."

Susan Joy Hassol, the report's lead author, said the Arctic probably would warm twice as much as the Earth. A region of extreme light and temperature changes, the Arctic's surfaces of ice, ocean water, vegetation and soil are important in reflecting the sun's heat.

Pointing to the report as a clear signal that global warming is real, Sens. John McCain, R-Ariz., and Joe Lieberman, D-Conn., said Monday the "dire consequences" of warming in the Arctic

underscore the need for their proposal to require U.S. cuts in emissions of carbon dioxide and other heat-trapping greenhouse gases. President Bush has rejected that approach.

In the past half-century, average yearly temperatures in Alaska and Siberia rose by about 3.6 degrees to 5.4 degrees Fahrenheit and winters in Alaska and western Canada warmed by an average of 5 degrees to 7 degrees Fahrenheit.

With "some of the most rapid and severe climate change on earth," the Arctic regions' melting contributed to sea levels rising globally by an average of about three inches in the past 20 years, the report said.

"These changes in the Arctic provide an early indication of the environmental and societal significance of global warming," says the Arctic Climate Impact Assessment, a four-year study by 300 scientists in eight Arctic-bordering nations, including the United States.

This most comprehensive study of Arctic warming to date adds yet more impetus to the projections by many of the world's climate scientists that there will be a steady rise in global temperature as the result of greenhouse gases released into the atmosphere from the burning of fossil fuels and other sources.

It is based on ice core samples and other evidence of climate conditions such as on-the-ground and satellite measurements of surface air temperatures. Nations participating in the study besides the United States are Canada, Denmark, Finland, Iceland, Norway, Russia and Sweden.

"The bottom line is that the Arctic is warming now, much more rapidly than the rest of the globe, and it's impacting people directly," Robert Corell, chairman of the scientists' study panel and a senior fellow with the American Meteorological Society, said Sunday.

The process is only likely to accelerate in the Arctic, a region that provides important resources such as oil, gas and fish, the study finds.

That would wreak havoc on polar bears, ice-dependent seals, caribou and reindeer herds -- and local people such as Inuit whose main food source comes from hunting those animals. Some endangered migratory birds are projected to lose more than half their breeding areas.

The study projects that in the next 100 years the yearly average temperatures will increase by 7 to 13 degrees Fahrenheit over land and 13 to 18 degrees over the ocean, mainly because the water absorbs more heat.

Forests would expand into the Arctic tundra, which in turn would expand into the polar ice deserts, because rising temperatures would favor taller, denser vegetation. The areas of Arctic tundra would shrink to their smallest extent since 21,000 years ago when, humans began emerging from the last Ice Age.

Sea levels globally already are expected to rise between another 4 inches to 3 feet or more this century. Longer term, sea levels would rise alarmingly if temperatures continue to rise unabated, in the range of 5 degrees to 11 degrees Fahrenheit over the next several centuries.

In that scenario, the study projects "a virtually complete melting of the Greenland Ice Sheet," which would contribute as much as 23 feet to the world's sea level rise.

Climate Change Accelerating, Report Warns

Arctic heating is melting ocean ice and affecting species and indigenous cultures, researchers say.

By Usha Lee McFarling
L.A. Times, November 9, 2004

The Arctic is experiencing some of the most rapid and severe warming on the planet, according to a new, eight-nation report — the most comprehensive assessment of Earth's fragile northern cap to date.

The report, a four-year effort involving hundreds of scientists, describes vast areas of melting ice, declining species and fading indigenous cultures.

"It's affecting people up there now," said Robert Corell, the American oceanographer who led the project. "And there are very serious consequences for people on the rest of the planet."

The report states that climate change is accelerating sharply, spurred by human production of greenhouse gases, which have increased in the atmosphere by nearly 30% since the Industrial Revolution.

The 140-page report, released Monday, chronicles the many changes that have resulted as the Arctic has warmed in recent decades. Average temperatures there have risen nearly 2 degrees Fahrenheit in the last century — twice the global average — while winter temperatures have risen nearly 4 degrees.

Parts of Alaska and Russia have seen average winter temperatures rise 11 degrees since the 1970s and are at their highest in 400 years, according to the report. The amount of ocean covered by ice over the last three years has been the lowest ever recorded.

Among the most obvious changes are the melting of the massive Greenland ice cap and other Arctic glaciers and the decimation of northern forests by foreign insect invasions. Some coastal villages are jeopardized by erosion and rising seawater.

Many environmental groups hailed the Arctic report and said it was an urgent call for the United States, which has been reluctant to agree to international limits on greenhouse gas production, to join the efforts of other nations.

The report was produced by the Arctic Council — comprising government representatives from Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden and the United States — along with scientists and members of indigenous groups.

Scientists have long puzzled over how much of the Arctic warming is due to human influence and how much is due to natural climate cycles.

For decades, an oceanic and atmospheric pattern known as the Arctic oscillation has been stuck in a phase that increases warming over parts of the Arctic. In recent years, the pattern has shifted to a more neutral state, "yet the Arctic is still warming, and we're still losing sea ice," said Mark Serreze, a researcher with the National Snow and Ice Data Center in Colorado, who contributed to the report.

"This is one of the pieces of evidence that we're starting to see more clearly the effects of greenhouse warming," he said.

Using computerized projections based on a "moderate scenario" of climate change, the authors say the Arctic faces an even warmer future, with half as much sea ice in summer by the end of the century.

Large sections of the report deal with problems faced by indigenous Arctic people, who tell of hunters falling through melting sea ice, declining reindeer herds and difficulty traveling in roadless regions with no snow for their snowmobiles and sleds.

In more developed areas of the Arctic, buildings, pipelines, runways and roads are beginning to crumble as the permafrost beneath them thaws and becomes less stable.

"Global warming connects us all," said Sheila Watt-Cloutier, a Canadian Inuit who chairs the Inuit Circumpolar Council. "The Arctic is the world's health barometer, and Inuit are the mercury in that

barometer."

Although the problems are immediate to many of the Arctic's 4 million residents, the changes will affect the rest of the world as well, scientists said. Melting ice sheets and glaciers raise the sea level, which could affect low-lying cities in Florida and Louisiana, for instance. Melting ice exposes darker ground, which absorbs more sunlight and leads to greater warming, which in turn melts even more snow. This means that the reduction of snow and ice cover in the Arctic is likely to accelerate warming across the Earth, the researchers say.

The report is not all gloomy. A warmer Arctic could increase the numbers of some species, such as Arctic char, a fish. It could extend the growing season for wheat in Canada and open up now-treacherous sea routes, such as the Northwest Passage and the Northern Sea Route, which parallels Russia, for shipping and resource exploration.

Last of environmental tests finds no cancer cause in McFarland

By MATT WEISER, Californian staff writer
Bakersfield Californian, Tuesday, Nov. 9, 2004

McFARLAND -- After nearly 20 years of uncertainty, residents of this struggling farm town had hoped a final round of environmental testing would tell them why so many children here have birth defects or cancer.

But the results only added to the sense of dread.

On Monday, the U.S. Environmental Protection Agency presented the results of an 18-month study of air quality in McFarland. The study tested for 145 chemicals at two locations in town.

Though it detected 79 chemicals in the air, none exceeded health standards or otherwise pointed to cancer.

The results mirror earlier studies of the town's water and soil. The water was ruled healthy to drink, and the soil was called safe.

"We need to know what's killing our children, and we need the answer now," said Marta Rodriguez of Healing Our Mother Earth, a community group that formed to draw attention to the issue.

Rodriguez held a press conference before the EPA's presentation at McFarland Middle School on Monday. She lashed out at the EPA for failing to find a cause, accusing the agency of concealing information to protect polluters.

"We have an environmental disaster and it's caused by EPA lying and manipulating," she said.

EPA officials said their work is sound, and was never meant to find a cancer cause. Its purpose was merely to report on existing environmental conditions in McFarland.

This distinction was little comfort to people whose children have been deformed or killed in McFarland.

"I'm still not happy because the kids are still sick," said Maurilio Herrera, whose 11-year-old son has an eye tumor. "We need some more help than that. We need a lot of help."

Some have called the situation in McFarland a "cancer cluster." But experts say it is very difficult to prove that a series of deaths or illnesses have a common cause.

Between 1970 and 1980, Kern County health officials said the childhood cancer rate in the town was normal. Then in 1985, five children were diagnosed with cancer during a nine-month period.

The state Department of Health Services found seven more cases between 1990 and 1995, more than expected for a town of 9,600 residents. But since 1996, the town's reported childhood cancer cases have remained within the normal range, according to the state.

Overall, McFarland had 21 reported cases of childhood cancer from 1975 to 1995, according to the state.

All these cancers could be pure coincidence, or they could be caused by common factors that take many years to reveal themselves. For instance, thorough testing of common genetic or dietary factors still has not been done.

EPA officials also noted the problem could be linked to poor access to health care, or inadequate nutrition. Many of the victims are children of farmworkers, who generally have less access to good health care and nutrition than the general population.

"We're pretty much done from the perspective of looking at McFarland," said Catherine Brown, an EPA environmental scientist. "We think it's good news that we didn't find anything."

McFarland is now one of the most thoroughly studied communities in California in terms of environmental conditions. EPA officials say the wealth of information they collected in McFarland may help them understand health problems in many other rural towns.

Rodriguez called for a thorough study of disease in the McFarland population. Actor Ed Begley Jr., a longtime environmental activist, appeared at Monday's press conference to bolster Rodriguez's cause. They urged the EPA to turn over test results and all the background material that went into the studies.

EPA officials said they are welcome to it.

They also plan to provide all their research to state health officials, who may use it to launch further studies of the community.

"These families are abandoned and they need help," said Rodriguez. "How can we continue to ignore the ongoing deaths of these children?"

Kern oil lightens up

Process converts tar-like viscosity of area's crude
By ERIN WALDNER, Californian staff writer
Bakersfield Californian, Tuesday, Nov. 9, 2004

A one-of-a-kind petroleum facility is nearing completion in northwestern Kern County.

The facility is designed to convert heavy oil -- found in abundance in Kern County -- into lighter, more valuable oil.

Additionally, the plant produces thermal energy as a byproduct, which oil producers could use to generate steam or electricity. This would lessen their need to purchase natural gas, which can get expensive.

"This could enhance the lives of heavy oil fields in California," said local oilman David Kilpatrick, who has been instrumental in building the facility.

"It'll extend the lives of the oil fields because they will be more economical to produce," said Dave Martin, chairman of Ivanhoe Energy Inc.

Boston-based Ensyn Group Inc. built the plant and will operate it once it's up and running, probably in a few weeks.

The purpose of the commercial demonstration facility is to sell people on the conversion process and collect data.

"This is the step prior to commercialization," said Barry Freel, Ensyn's vice president of technology.

The plant is 60 feet high and sits on less than half an acre. It can process up to 1,000 barrels of heavy oil a day, or more, if that's what a buyer requests.

Tom Goff, a permit services manager at the San Joaquin Valley Air Pollution Control District, liked what he saw when he visited the plant.

"It's always exciting to see new technology and processes that we don't have in this area," Goff said.

Ensyn has a smaller version of this plant in Canada, but it's not commercial in size and it is not located in an oil field.

The local plant is in Belridge, a large oil field 45 miles outside Bakersfield. Oil producer Aera Energy LLC provided the space, and according to Kilpatrick, is interested in using the technology in its operations.

Aera spokeswoman Susan Hersberger said via e-mail that Aera has been working with Ensyn for two years and has encouraged the company to test the process "because we are interested in its potential as an alternative and less costly source of steam."

Here's how the facility works: It uses sand to rapidly transfer heat to the heavy stock -- the heavy oil -- that's being injected into the system.

"It's almost like a tornado effect," Freel said.

The oil coats the sand, which enables a very short reaction time.

"You're taking this heavy stuff and using thermal scissors, if you will, to surgically crack the heavy molecules into lighter ones," Freel said.

The process the facility uses is called Rapid Thermal Processing. Ensyn holds the patent on the process, which it first commercialized in the biomass, or wood industry, to produce various oils.

Now Ensyn wants to introduce the process to the petroleum industry, where it would produce "refinery-friendly oil," as Freel put it.

Light oil fetches more than heavy oil on the open market; lately, it's been grabbing about $13 a barrel more.

Heavy oil has a lesser value because it's thick, like molasses, so it costs more to produce and refine.

"The viscosity is the big problem," Kilpatrick said. "This knocks the viscosity down so much."

Therefore, a heavy oil producer that uses Ensyn's conversion process would receive more money for his lighter-grade oil, according to Freel.

A facility like this would also reduce a producer's energy costs, according to Freel.

Oil producer Ivanhoe Energy Inc. has a 15 percent stake in Ensyn Petroleum, the Ensyn subsidiary that's spearheading this project. Ivanhoe also holds exclusive agreements with Ensyn to use the rapid thermal processing technology in South America and the Middle East.

"We see a tremendous application in more remote parts of the world -- Canada, China, the Middle East, South America," Martin said.

"How do you put heavy oil in a pipeline that's going over the Andes? It doesn't flow. It's like tar."

Martin said some oil companies that operate in remote areas have big "coker" plants in their fields. The plants are used to upgrade heavy oil into light oil.

"The breakthrough on this is that it's scalable," Kilpatrick said. Ensyn will construct the facility to meet the customer's needs.

Kilpatrick said Ensyn's technology could be adapted just about anywhere there are heavy oil fields, including Kuwait, Iraq, Oman, Venezuela, Colombia, Ecuador, Peru, Canada and California. It's estimated that of the known oil deposits in the world, 70 percent is heavy.

"There's billions of barrels out there. You put this technology in the middle of the field and send a better product to the refinery," Kilpatrick said.

To demonstrate the conversion technology, Ensyn will initially operate the plant using oil from the Belridge field. Kilpatrick said the plant will eventually run test batches from all over the world. Companies will want to see how it handles their crude.

"We just had a guy here from Kuwait. We're headed back to Bakersfield and he says, 'When we can we send crude?'" Kilpatrick said.

Ensyn received an experimental research permit that exempts the company from the normal permitting process, according to Goff.

The company can operate the plant for a total of 180 days. At that point, if Ensyn wants to continue operations, it will have to apply for a permit to operate a larger facility.

Goff said the demonstration facility does not have a significant impact on air quality.

He added that one of the things Ensyn is doing in Belridge is tracking the demonstration plant's emissions and testing air pollution control measures.

Fresno Bee editorial, Tues., Nov. 9, 2004:

Policy vs. posturing

Valley air district board vote against funds for cleaner air is inexplicable.

The board that governs the Valley's air district had all sorts of people scratching their heads last week after it turned down a $2 fee on vehicles that would have helped clean up ag operations, school buses and maybe get some old, smoky clunkers off the road.

The fee would have raised some $5 million in the region for those laudable purposes, and it would have put the Valley district in line for another $12 million in matching state funds.

The fee failed on a 5-5 vote, partly along north-south lines in the eight-county district. The board asked its staff to provide more information on such fees, and voted unanimously to reconsider it in December.

Perhaps that will help, but it's still hard to explain why the board didn't just approve the fee the first time. The amount is small — less than the price of a gallon of gas, as many noted. It had the support of farm interests, oil companies, school districts and environmentalists. It is a precursor to a great deal of state funding.

The district board is made up entirely of elected county and city officials. Last year an effort to broaden the membership of the district's governing board to include public representatives failed to get anywhere in the state Legislature. Some observers have speculated — with reason — that this vote was little more than political posturing by elected leaders leery of being seen as approving a "car tax," a hot-button issue in California.

If that's the case, then we need to revisit the idea of an expanded board — and right away.

In the meantime, let's hope that the board comes to its collective senses next month and approves this tiny fee with a big payoff in cleaner air. That's public policy in the public interest.