Heating and Air Pollution

By Marcelo Mena, Director of the Center for Sustainability Research, Universidad Andres Bello
Huffington Post, Tuesday, Oct. 18, 2011

It’s been more than three centuries since John Evelyn wrote the essay "Fumifugium: or the inconvenience of the air and smoke of London Dissipated" in which he was trying to convince the King to regulate wood burning emissions due to the air pollution it was causing in London. A century later Percival Pott, a surgeon from England, linked cancer to wood burning. Yet the effects of wood burning are still quite large both in developed and developing countries. In developing countries it is more of an indoor air quality issue, as wood is used for both cooking and heating, and the carbon monoxide, particulate matter, and polycyclic aromatic hydrocarbons. In developed countries, where cleaner fuels and better combustion technologies are available, it is more of an outdoor air quality issue. Despite efforts in cleaning up industry, cars, trucks, buses, very few "romantic" users of wood burning are causing huge effects on air quality across many cities. In the U.S., for example, wood burning contributes to a surprising 33 percent of wintertime fine particles (PM2.5) in the Bay Area. In Denmark it is thought to contribute to 47 percent of all Danish PM2.5 emissions. In Santiago, Chile, wood burning accounts for 49 percent of primary wintertime PM2.5 emissions

Recently most Chileans were surprised with the fact that Santiago was not the most polluted city in Chile, but actually not even in the top 10. Many cities in Southern Chile, mostly only known to Chileans, have pollution levels that are 50 percent more than Santiago. This has led the government to prepare an ambitious program to overhaul old stoves, dry the wood, as this type of heating is saving the people thousands of dollars, but costing the government millions.

Despite worldwide efforts in implementing cleaner fuels, reducing emissions in the industrial sector, placing particulate filters in buses and trucks, switching to hybrid and natural gas buses, electric and hybrid cars, unless wood burning is addressed as a key contributor to air pollution, we'll be stuck with mediocre levels of air pollution. What's the point of spending money on all clean technology, when it is clearly more cost-effective to clean up residential wood burning?

Recently, the San Joaquín Air Pollution Control District (which manages the air quality for some of the most polluted cities in the United States) revised their wood burning ban rule 4901 to make it more stringent. The rule bans wood burning when PM2.5 is predicted to exceed 30ug/m3 (under the 35ug/m3 daily EPA standard). In the first year since it was implemented the results were remarkable, a 44 percent reduction in bad air days. In my years working in air pollution I've never seen a single measure with such effectiveness in reducing pollution.

What can we learn about experiences worldwide in reducing wood burning emissions? First off, that wood needs to be addressed officially as a fuel, and therefore regulated in its quality and sources. Green and wet wood both increased emissions, and reduces heating capacity. It also is linked to deforestation, as it is harvested as a heating source but not replenished. Changes need to occur in wood burning stove technologies, as more efficient stoves both burn cleaner, cause less indoor air pollution problems, and require less wood to generate the same amount of heat. And that in large cities, where a single stove can generate more than 1500 USD/year in environmental externalities, we should think about outright bans in wood burning. In Santiago 8 percent of the population uses wood burning stoves, yet contribute to 49 percent of the pollution. 71 percent of them are in the top 10 percent income bracket, since their large homes are too costly to heat due to their large size. Nighttime flow of emissions from the rich part of town causes this pollution to accumulate in the poor part of town, reaching over 120ug/m3 of 24h PM2.5 (almost 4 times the US standard). Indeed, wood burning is an environmental justice issue that can be solved easily with a ban of its use in Santiago.

Deal made over Altamont's bad air

By Alex Breitler
Stockton Record, Friday, Oct. 21, 2011

As anyone in Tracy knows, the wind blows east over the Altamont Pass. So does the pollution.

On Thursday, San Joaquin Valley air regulators approved a deal with the developer of a landfill power plant just a few miles over the hill, near Livermore.

Ameresco Vasco Road LLC will voluntarily pay the Valley air district about $200,000 to help cancel out the pollution created by its $13 million plant.

This kind of bargain is becoming more common, as power plants or other industrial facilities sprout in eastern Alameda County close to the San Joaquin County line. Pollution from those facilities mostly wafts into the Valley, while the Bay Area gets the property tax benefits.

"It's an ongoing problem for us, and it's not going to go away," said Leroy Ornellas, a San Joaquin County supervisor and board member of the San Joaquin Valley Air Pollution Control District. "They're going to continue to put these kinds of plants there, and we're going to have to deal with it."

The proposed landfill plant off Vasco Road won't be all bad for the environment.

Decomposition of landfill waste creates methane gas, a potent greenhouse gas traditionally burned off into the atmosphere.

The plant will instead capture that gas and use it to generate renewable energy, aiding the fight against climate change.

The plant's two large internal combustion engines, however, will generate air pollution, said the air district's Dave Warner.

Because the site is in Alameda County, the plant falls under the jurisdiction of Bay Area air regulators instead of Valley officials. And the Bay Area has less stringent rules about emissions, Warner said.

While the Valley district lacks the authority to regulate the plant, the district was able to strike a deal with the developer for about $200,000.

The money will be used to improve air quality on this side of the pass by upgrading farmers' diesel pumps or replacing trucks or tractors, among other possibilities.

In the end, Valley air won't get worse. But it won't get better, either. And that didn't sit right with some air board members Thursday.

"Those engines will be purchased and we get no gain out of it," said Kern County Supervisor Ray Watson. "I think we need to try to have as much influence as we can on what's going on outside the (Valley air) district."

The Valley, after all, is the second-worst air basin in the nation for hazy ozone pollution.

While much of the north Valley's pollution is created here at home, about 27 percent comes from the Bay Area, air officials estimate.

Winds over the Altamont blow east 77 percent of the time.

Around Tulare: Tulare Vice Mayor Barwick up for air pollution district board spot

Visalia Times-Delta and Tulare Advance-Register, Saturday, Oct. 22, 2011

Tulare Vice Mayor Skip Barwick says he really wants to be appointed to the San Joaquin Valley Air Pollution Control District board.

Barwick wants a spot on the board representing Tulare County cities with fewer than 100,000 people. Earlier this week, the Tulare City Council adopted a resolution to fully support Barwick's nomination.

"It's an important slot for me," Barwick said. "We're doing a great job keeping our air clean. I hope to be part of the process."

A meeting to select candidates for the vacant positions is set for Nov. 29.

Councilman Craig Vejvoda said the process to fill vacancies is complex, but the important thing is for the meeting to be well- attended.

Advertising campaign

Tulare's environmental-friendly projects could be featured in a print and Internet "Buildings that Work" advertising campaign.

San Diego-based Johnson Controls wants to highlight Tulare's solar-energy project at the city's wastewater treatment plant. Other projects include the installation of water meters and usage of cell fuels to produce part of the power needed to run the plant.

The print advertising will appear on trade and business media magazines and a feature for publication on a website. There's also the possibility of a commercial spot, city officials said.

Along with Tulare, the city of Fort Worth, the Empire State Building, Pioneers Memorial Hospital will be subjects on the campaign.

City Manager Don Dorman said Johnson Controls will contact Tulare officials with dates to arrange for possible future film dates.

Stockton CoGen owner fined $140K

Stockton Record, Thursday, Oct. 20, 2011

The Environmental Protection Agency has fined the Texas-based owner of the Stockton CoGen power plant more than $140,000 for failing to properly monitor its emissions, officials said.

Air Products Manufacturing Co. took over the Zephyr Street plant in November 2009, according to a settlement agreement released by the EPA.

On March 28, 2009, a system that tracked emissions at the plant stopped working. It was replaced May 13 that year. But air emissions were not continuously monitored during that roughly six-week gap, the EPA charged.

Air Products agreed to pay the fine to settle the EPA's claims, according to the agreement. In doing so, the company neither admitted nor denied the allegations.

California becomes first state to adopt cap-and-trade program

The California Air Resources Board, in a unanimous vote, adopts landmark regulations of greenhouse gas emissions to curb climate change and meet targets for reducing pollution.

By Julie Cart, staff writer
L.A. Times, Friday, Oct. 21, 2011

The California Air Resources Board on Thursday unanimously adopted the nation's first state-administered cap-and-trade regulations, a landmark set of air pollution controls to address climate change and help the state achieve its ambitious goals to reduce greenhouse gas emissions.

The complex market system for the first time puts a price on heat-trapping pollution by allowing California's dirtiest industries to trade carbon credits. The rules have been years in the making, overcoming legal challenges and an aggressive oil-industry sponsored ballot initiative.

The air board met in Sacramento for more than eight hours in a packed hearing room. Board members listened to sometimes scathing comments from union workers fearful of losing their jobs and a parade of industry representatives who likewise characterized the regulations as anti-business. Other speakers called the proposal historic and groundbreaking.

Late in the day, as the eight board members voted to approve the regulations, to scattered applause, Chairman Mary Nichols looked up and said, "We've done something important."

"Cap-and-trade is a new tool that for the first time allows us to reward companies for doing the right thing," she added.

Cap-and-trade is the centerpiece of AB 32, California's historic climate change law that mandates a reduction in carbon pollution to 1990 levels by 2020. Beginning in 2013 the state's largest carbon emitters will be required to meet the caps or buy credits if they cannot.

A second phase of compliance begins in 2015 and is expected to include 85% of California's emissions sources.

Former Gov. Arnold Schwarzenegger, a strong supporter of the original legislation, applauded the vote in a statement released Thursday evening.

"Today's adoption of a cap-and-trade program is a major milestone for California's continued leadership on reducing the world's greenhouse gases. As I said both when we signed the legislation in 2006, and when we fought to protect it last year when Texas oil companies attempted to overturn it with Proposition 23, the most critical phase in the fight against climate change is diligently, aggressively, and correctly implementing this law."

The vote was closely watched by other states and, if the program is deemed successful, it will likely serve as a model for future markets. The U.S. Congress has rejected a similar national program.

"If California gets it right, others will see it's possible to regulate greenhouse gas emissions while protecting its economy and while fostering a new green economy and industry," said Gary Gero, president of the L.A.-based Climate Action Reserve, a nonprofit that runs North America's largest carbon offset registry. "People watch what California does and do emulate it. Future cap-and-trade programs are going to pick up a lot of the design features we are implementing here. You'll see regional programs develop. They will put pressure on the federal government. It will send out ripples around the country."

Many of the details of the cap-and-trade mechanism have changed since the board adopted the plan in 2008.

Industry heavyweights sought to temper some of the policy's more stringent requirements and succeeded in some cases. In March a judge ordered the air board to more comprehensively analyze alternatives to the market-based trading system, such as a carbon tax or direct regulation. The board in August adopted a revised analysis.

Environmental justice groups oppose aspects of the program, arguing that cap-and-trade's market allows refineries, power plants and other large-scale facilities to continue polluting poor neighborhoods as long as they purchase credits or offsets.

Explaining California's cap-and-trade program

How does cap-and-trade work?

Emissions caps were established by collecting three years of emissions data from the state's largest industries. Those businesses were grouped into sectors and assigned an average emissions benchmark. Businesses are allowed to emit up to 90% of that amount in the first year. Companies that operate efficiently under the cap may sell their excess carbon allowance on the market; companies whose emissions are above the benchmark must either reduce their carbon output or purchase credits or offsets.

What are carbon offsets?

Offsets are a way of turning carbon "savings" into tradable equities. For instance, a forestry company may change its practices so that its forests store more carbon. That increase in carbon storage can be turned into a marketable credit. An independent entity would verify that the carbon savings are real. That additional storage must be maintained for at least 100 years. No carbon offsets may be purchased from non-U.S. sources.

Who will run the carbon trading market?

The California Air Resources Board will operate the market and hire an auction host and monitors. By 2016, about $10 billion in carbon allowances are expected to be traded through the California market, which will be the second-largest carbon market in the world behind the European Union.

What is leakage?

One meaning is leakage of jobs to other states should businesses find the new regulations onerous and shut down. Another meaning of leakage refers to pollution shifting out of state as refineries and other emitters move out of California.

What will this mean for consumers?

The cost of energy is expected to rise, although economists debate the magnitude. The Public Utilities Commission allowed investor-owned utilities to pass on the cost of compliance to customers. The Air Resources Board has a mechanism to protect consumers from price spikes by capping the auction price and releasing credits onto the market to drive down prices.

What effect will this have on California's economy?

The independent Legislative Analyst's Office concluded that jobs probably will be lost because businesses can move elsewhere. Other business leaders applaud the regulations, arguing that the plan gives industry some certainty and a mechanism to reduce carbon emissions. Proponents and the Air Resources Board say the increase in "green" jobs will outweigh short-term negative effects.

State's cap and trade program gets final approval

Wyatt Buchanan, Chronicle Sacramento Bureau
San Francisco Chronicle, Friday, October 21, 2011

Sacramento -- California's plan to cap greenhouse gas emissions and put a price on carbon is set to take effect on Jan. 1 after the Air Resources Board voted Thursday to make final adjustments in the regulation.

The state board first passed the cap-and-trade program last December. But the board, which normally allows its staff to finalize details, took the unusual step of personally tying up the loose ends of the nation's only comprehensive limit on greenhouse gases. It is the last major regulation the board considered to meet the requirements of AB32, California's greenhouse gas reduction law passed by the Legislature in 2006.

The law requires the state to reduce carbon dioxide emissions to 1990 levels by 2020. The cap-and-trade element covers about 20 percent of that goal, with the majority of the other reductions coming from limiting the amount of carbon in fuel and requiring more efficient vehicles, renewable energy mandates and energy efficiency requirements.

Model for the country

"When the nation is ready to address the growing danger of climate change, as I believe it must and will, California's climate program will serve as a model for a national program," said Mary Nichols, chairwoman of the California Air Resources Board.

Many environmentalists echoed that prediction, though any action in Congress appears unlikely in the near term. Business and industry groups stepped up their criticism of the program as the board neared Thursday's vote, predicting that it would lead to significant job losses and result in businesses leaving the state.

Under the regulation, there will be a limit on carbon emissions starting in 2012 for emitters that produce about 85 percent of the state's carbon emissions. That amounts to about 350 businesses at 600 locations, though it will be implemented first for electrical utilities and large industrial plants and later on fuel distributors. Enforcement will not begin until 2013.

The number of allowed metric tons of carbon dioxide emissions will be capped and then reduced every year until 2020. In all, the regulation is supposed to remove 273 million metric tons of carbon dioxide from the air by that year.

Free and paid credits

Businesses that emit more carbon dioxide than is allowed under the law will have to use "allowances" - or credits - to make up for the difference. The allowances will be mostly free when the program starts in a little more than two months, but eventually businesses will have to purchase credits in an auction - a sort of penalty for exceeding the limit. The board's major action on Thursday was to finalize how credits will be allocated.

The opposition from the industrial sectors, like glass manufacturers and oil refineries, strongly objected to the initial requirement that forces these businesses to pay for 10 percent of their credits. They said paying for the allowances - one previous idea was that they be free - will be crippling as businesses in other states and countries will have a competitive advantage.

Some businesses will remain at the 10 percent payment level - which means 90 percent of their allowances are free - while others will see their payment levels rise over time to about 70 percent. Thirty percent of the credits will remain free under certain conditions. In a letter to the board from the state's major industries and the California Chamber of Commerce, they called the 10 percent requirement an "unjustified, job-killing tax."

"By forcing trade-exposed industries to purchase up to 10 percent of what were to be free emissions allowances, CARB will be in effect imposing a new tax on regulated entities. In addition to being legally questionable, this tax will lead to dramatically higher energy costs that will harm virtually every sector of our economy," they wrote.

Higher water rates

Multiple representatives of water agencies, mainly in Southern California, also told the board that because the regulation covers their energy usage, water rates would increase.

The cost will be about $2.50 per year per household, said air board spokesman Stanley Young, explaining that utilities are covered by the law because of the electricity used in moving water from Northern California to Southern California.

Debra Man, chief operating officer for the Metropolitan Water District of Southern California, which provides water for 19 million people, asked the board for an exemption from the regulation.

She said cap and trade would result in "unnecessary and cumulative costs on our water rates."

Major concessions

But proponents hailed the final approval as another historic step by California to combat climate change and said the regulation is a compromise among many disparate interests and that environmentalists made major concessions.

"The petroleum industry has gotten most of what they've asked for," said Dan Kalb, California policy manager for the Union of Concerned Scientists.

In addition to the allowances, emitters also could meet up to 8 percent of their required reduction by "offsets," which are other actions, such as planting trees, to reduce the amount of carbon dioxide in the air.

Cap and trade has been the most controversial portion of the effort to meet the carbon emission limits required by AB32. A coalition of groups seeking to protect the poor from the impacts of pollution sued to stop it, contending the plan would have a negative impact on poor communities living near large polluters and arguing the board did not sufficiently consider alternatives as required by state environmental law.

A Superior Court judge in San Francisco agreed, though the work to finalize the regulation was allowed to go forward as staff at the board developed deeper analyses of options. The board also gave final approval to that change.

California board OKs cap and trade for carbon emissions

Rick Daysog and Dale Kasler, Sacramento Bee
In the Modesto Bee, Friday, Oct. 21, 2011

California approved one of the broadest and most controversial components of its landmark climate change law, pushing the state toward a low-carbon economy that relies less on imported foreign oil.

The California Air Resources Board on Thursday voted to adopt final rules that will regulate carbon emissions across a broad cross section of the state's economy, including oil and gas producers, utilities and transportation companies, farmers and the building industry.

"We will look back at this as an important date in California's transition to a clean energy economy," said Mary Nichols, the air board's chairwoman.

Dubbed the economic equivalent of "a moonshot" by its backers and a "job killer" by detractors, the "cap and trade" system adopted Thursday sets limits on the amount of carbon dioxide that can be produced by 350 of the state's largest industrial polluters starting in January 2013.

The state will issue a set number of "carbon allowances." Companies that pollute less than their limit can sell their unused allowances to companies that pollute heavily, creating market incentives to reduce emissions.

The program will create the nation's largest market for trading pollution allowances. Congress in 2009 rejected legislation that would have created a federal cap and trade system.

In California, 90 percent of the allowances will be given out free, but 10 percent will be sold on the open market, which some say could raise $500 million a year for the state's climate-change programs.

Proponents say cap and trade will not only reduce greenhouse gases but will spur innovation in the clean-technology sector.

Fred Krupp, president of the Environmental Defense Fund, said the vote is a historic event and shows that California can move in a big way toward cutting carbon pollution.

As the world's eighth largest economy, much of California's future growth will emerge from development of clean technologies, he said.

California adopts cap-and-trade

Central Valley News.com, Friday, Oct. 21, 2011

Permits to pollute the air could be traded on the open market under a “cap-and-trade” program adopted unanimously by the California Air Resources Board as part of the state’s efforts to combat global warming and actually lessen air pollution.

CARB says the cap-and-trade program should reduce smog-forming and toxic air pollutants and improve energy efficiency in homes and businesses.

“It sends the right policy signal to the market and guarantees that California will continue to attract the lion’s share of investment in clean technology,” says CARB Chairman Mary Nichols. “When the nation addresses the growing danger of climate change, as I believe it must and will, California’s climate plan will serve as the model for a national program.”

The regulation sets a statewide limit on sources responsible for 85 percent of California’s greenhouse gas emissions and establishes a price signal needed to drive long-term investment in cleaner fuels and more efficient use of energy. The program is designed to provide covered entities the flexibility to seek out and implement the lowest-cost options to reduce emissions, says CARB.

The regulation will cover 360 businesses representing 600 facilities and is divided into two phases: the first, beginning in 2013, will include all major industrial sources along with electricity utilities; the second, starting in 2015, brings in distributors of transportation fuels, natural gas and other fuels.

John Arensmeyer, CEO of the group Small Business Majority, predicts that approval of the cap-and-trade regulation will create “market certainty for all businesses and gives clean energy investors -- who pour hundreds of millions of dollars into our economy in support of local jobs -- confidence that California’s clean energy economy will continue to grow.”

Companies are not given a specific limit on their greenhouse gas emissions but must supply a sufficient number of allowances (each the equivalent of one ton of carbon dioxide) to cover their annual emissions. As the cap declines each year, the total number of allowances issued in the state drops, requiring companies to find the most cost-effective and efficient approaches to reducing their emissions.

By 2020 the state will reach the equivalent of the 1990-level of greenhouse emissions, as required under AB 32, California’s climate change law. This is a 15 percent reduction compared to what the emissions would be in 2020 without any programs in place -- the so-called “business-as-usual” level, CARB says.

To ensure a gradual transition, CARB says it will provide the majority of allowances to all industrial sources during the initial period (2013-2014), using a calculation that rewards the most efficient companies.

Those that need additional allowances to cover their emissions can purchase them at regular quarterly auctions CARB will conduct, or buy them on the market. The first auctions of allowances (for 2013 allowances) are slated for August and November 2012.

Electric utilities will also be given allowances to be sold at auction for the benefit of their ratepayers and to help achieve AB 32 goals.

Eight percent of a company’s emissions can be covered using credits from CARB-certified offset projects, “promoting the development of beneficial environmental projects in uncapped sectors such as forestry and agriculture,” the agency says.

The regulation includes rigorous oversight and enforcement provisions, and is designed so that California may link up with programs in other states or provinces within the Western Climate Initiative, including British Columbia, Ontario and Quebec.

Calif poised to finalize 'cap-and-trade' plan

From the Associated Press
In the Modesto Bee, Thursday, Oct. 20, 2011

California is poised to formally adopt the nation's most comprehensive so-called "cap-and-trade" system, designed to provide a financial incentive for polluters to reduce greenhouse gas emissions.

State officials hope other states and Washington D.C. will follow suit with similar plans.

"When Washington considers how to address climate change, as I think it will, California's climate plan will serve as a role model for the national program," said Stanley Young, the air board's spokesman.

The California Air Resources Board on Thursday is expected to approve the final draft of its plan, a key part of the state's landmark 2006 global warming law, AB 32, which seeks to reduce the emissions to 1990 levels by 2020.

Some businesses regulated under the program argue it will hurt job creation by raising the cost of doing business in the state, and increase the price of electricity for consumers. But the program's supporters expect cap and trade to spur economic recovery and innovation, by pushing business to invest in clean technologies.

Starting in 2013, the plan places emissions allowances on power plants and other of the worst polluting facilities, with others joining in 2015. In total, the plan will cover 85 percent of California's emissions.

In general, the program will require pollution producers like refineries and cement manufacturers to buy permits, called allowances, from the state. Each permit allows for a specified amount of greenhouse gases each year, and will decline over time.

The permits can then be sold in a marketplace by companies who cut emissions and have extra allowances; or bought by greenhouse gas emitters who need to purchase more allowances because they failed to cut emissions.

Polluters could even turn a profit if the marketplace sets a price above the initial cost of the permit.

Also, a company can meet up to 8 percent of its emissions reduction obligations by purchasing carbon "offsets," or investments in forestry or other projects that reduce greenhouse gases.

To help companies prepare for the program, 90 percent of the allowances would be free in the first years, providing time for equipment upgrades.

Some of the regulated industries see the 10 percent they will have to buy at first as a new tax, and oppose the board's current plan.

"We are very concerned about the negative impacts the policy may have on the state's economy, jobs picture and energy costs," said Catherine Reheis-Boyd, president of the Western State Petroleum Association, in a statement.

"This policy, if adopted, will amount to a new tax on refiners and other energy intensive industries that could total billions of dollars over several years."

Any electricity price increases would have to be pre-approved by the state.

The cap-and-trade plan has seen a number of changes since it was first adopted with fanfare in Sacramento last year. Work was briefly halted by a judge after environmental justice groups sued, arguing that cap and trade's market would allow polluters to buy the right to pollute more by purchasing more allowances. This, they argued, would affect mostly low-income neighborhoods located near governed facilities.

The California Supreme Court in September ruled to allow work to continue on the regulations.

In response to the concerns about localized pollution increases, the board will vote Thursday on whether to adopt a new management plan, under which the air quality near power plants and other regulated facilities will be monitored by the board to see if any more pollution results from cap-and-trade.

"If so, we will take action to respond to those changes," Young said.

California air board approves "historic" greenhouse gas rules

By Mike Taugher
Contra Costa Times & Tri-Valley Herald, Friday, Oct. 21, 2011

California became the first state to cap greenhouse gas emissions across its major industries Thursday when air regulators unanimously approved a plan to allow companies to sell pollution credits as a way to ratchet down heat-trapping gases.

The state Air Resources Board took the action almost a year after a nearly identical plan was approved, then delayed by environmentalists who demanded the board consider taxing carbon as an alternative to the cap-and-trade strategy.

By 2013, refineries, power plants and the rest of the state's top 600 industrial sources of greenhouse gases will have to cut emissions on average by 10 percent or pay to make up the difference.

"It's not an exaggeration to say this is a historic decision by the air board," said Dan Kalb, California policy manager for the Union of Concerned Scientists. "This is California. We have a history of taking action and others following our lead."

The plan was approved unanimously after an all-day hearing.

"For the first time, it puts a price on carbon," said air board spokesman Stanley Young. "This will continue to steer the economy toward clean sources of energy."

Among the 10 top sources of greenhouse gas emissions in California, four are Bay Area refineries, with the biggest last year being the Chevron refinery in Richmond, according to data the air board released this week.

An industry spokesman said refiners supported cap-and-trade over other strategies, such as a carbon tax, but said refiners have a major problem with details in the plan because it requires them to either cut pollution by 10 percent or buy credits in 2013. The industry expected a more gradual approach that might have included more free allowances in the beginning.

"That amounts to a potential multibillion-dollar tax on the industry right off the bat," said Western States Petroleum Association spokesman Tupper Hull.

"Increasing the cost of production certainly has the potential to increase the cost of the products," he added.

Air regulators said they would monitor the plan as it develops and recommend changes if needed.

For facilities covered by the new rules, the state will grant them credits for about 90 percent of their greenhouse gas emissions. They will have to come up with a plan for the other 10 percent, either by reducing emissions or buying credits. The rules also allow companies to offset some of their pollution by funding forestry projects.

Each year, the number of allowances will drop, requiring industries to either continue to reduce emissions or buy more credits. Industries that reduce emissions more than required will have allowances to sell.

In 2015, the rules will begin to also cover the carbon content of transportation and other fuels. About 85 percent of California's greenhouse gas emissions will eventually be covered under the plan.

In all, the cap-and-trade program is expected to achieve 20 percent of the reductions mandated by California's landmark 2006 greenhouse gas law, known as AB 32. That law requires the state to cut greenhouse gas emissions to 1990 levels by 2020, a reduction of about 15 percent.

Other strategies in place to meet the greenhouse gas targets are standards for renewable electricity, low-carbon fuels and more efficient appliances and cars.

The regulations being considered Thursday would be the first time a state has capped greenhouse gas emissions across industries and allowed for pollution credit tracings.

A similar strategy is under way in several Northeastern states, but that program applies only to power generators.

Fresno Bee Earth Blog, Thursday, Oct. 20, 2011:

Officials propose higher cleanup priority on some pollution

By Mark Grossi

A health study from Fresno State shows Valley asthmatics show up at emergency rooms and hospitals when soot, chemicals and other tiny debris spikes in the winter air.

So, local air officials are now asking which chemicals in the particles are causing the problems. And they're talking about launching pollution controls aimed at the offending chemicals.

Another study already is under way to figure out what is in the particle pollution when ER and hospital visits are on the rise. The results are expected by next May.

With those results, officials at the San Joaquin Valley Air Pollution Control District will push the U.S. Environmental Protection Agency to make the most dangerous chemicals a cleanup priority.

"Right now, we take a shotgun approach to control everything," said executive director Seyed Sadredin. "But some constituents are more harmful than others. For instance, diesel is more harmful than dust."

Sadredin calls it a "risk-based" approach. The U.S. Clean Air Act does not distinguish among particles of pollution, local air officials said. The law sets goals to reduce all of it.

I haven't spoken about this yet with environmentalists or community activists, but I know they have advocated broad air cleanup. In fact, their approach has been to control more gases and particles without emphasizing one over another.

I will either post their response to my inquiry, or I'll post their comments to this blog item.