

New pollution rule puts air pressure on area businesses

By Alex Breitler, Staff Writer

The Record, Sun., Dec. 20, 2009

Air quality police want you to slowly step out of your vehicle.

They've passed a new rule requiring more than 1,800 businesses across the San Joaquin Valley to promote ride-sharing, bicycling, telecommuting - whatever it takes to arrest the region's bad air.

The Valley Air Pollution Control District has long pushed these as voluntary measures. Now they've added teeth by forcing businesses to choose from a number of strategies aimed at changing the behavior of auto-addicted employees.

No, your bosses cannot order you to carpool or bike to work under the new rule. Nor will they be held accountable if you choose not to.

Employers could be fined, though, if they don't at least try, or if they fail to report their results to the district.

Some businesses object. How is a factory worker supposed to telecommute, for example? And how much will these strategies and all of the reporting requirements cost?

"We will not be forced to limit the freedom of travel our employees enjoy," Bakersfield-based Rain for Rent, which has offices in Stockton, told the district this fall in a comment letter.

Air district officials said employers will be able to choose only those options that work for them.

Some are pretty simple - such as putting up a bulletin board for a ride-sharing program, or offering mail delivery and stamps so employees won't drive to run errands during their lunch breaks.

Other options, such as shorter work weeks and working from home, may be more problematic.

The rule affects only businesses with 100 or more employees and is expected to cost each business \$3,000 to \$9,700 per year. Saved will be 400 tons per year of tailpipe emissions, the district says.

The Valley is under federal mandate to clean up its air.

"We want to convince the Environmental Protection Agency that even though we're taking a flexible approach, it will produce the results we're looking for," said district Executive Director Seyed Sadredin.

San Joaquin County Supervisor Leroy Ornellas, who sits on the board, was one of two members to vote against the rule on Thursday. Stockton Mayor Ann Johnston supported it.

Ornellas said he thought employers would be able to meet the target, but nevertheless wanted to make a "statement."

"If we don't work with the employers on this matter in any future vote, I won't vote for it," he said.

He called the regulation "one more impediment and one more bit of frustration" for Valley cities and counties that are trying to attract new businesses.

Most of the district's regulations to date have targeted "stationary sources" such as factories or farms. The district doesn't have the authority to directly regulate tailpipe emissions, which account

for most of the pollution problem.

And yet, the number of vehicle miles traveled is growing at an even faster rate than the Valley's population. Not only does the region have more people, but they're driving more.

"We are all victims of air pollution and we are all perpetrators," said Betsy Reifsnider, who heads an environmental justice program for the Catholic Diocese of Stockton. "We can't point fingers. ... Each resident must do their part."

The Associated Press and Mark Grossi of The Fresno Bee contributed to this report.

Air rules targeting lone rides to work

Modesto Bee, Thurs., Dec. 17, 2009

FRESNO — Businesses across the San Joaquin Valley soon will have to follow new rules to help their employees cut down on their daily commute.

As regulators try to improve air quality in the valley — where the most polluted air in the nation often is reported — the board of the San Joaquin Valley Air Pollution Control District approved a plan Thursday requiring companies to reduce the number of miles employees have to drive.

Options include posting a ride-share bulletin board, installing a lunchroom and even selling postage stamps on site.

Only companies with more than 100 employees will have to adopt the programs, which will be phased in over three years.

The air district covers eight counties — Stanislaus, Merced, San Joaquin, Madera, Fresno, Kings, Tulare and a portion of Kern.

Environmental activists say the valley's proposed rule is weak, and they oppose it.

Businesses aren't enthusiastic either, saying the rule — even with the weakened enforcement — would cost too much during hard economic times.

They also question whether it would accomplish the goal, said Jan Ennenga of the Modesto-based Manufacturers Council of the Central Valley, representing food processors, packaging manufacturers and power generators.

The rules encourage up to 5,000 companies and governmental agencies to help workers stop driving alone, including carpools, public transit and telecommuting.

Businesses that are unsuccessful at getting employees to reduce their commutes would not be fined. But eligible businesses that refuse to participate in the program at all could be fined under existing air-quality rules.

There are exemptions in the commute-reduction rule. For instance, employees who do not go to work between 6 and 10 a.m. would not be counted toward the 100 eligible workers.

The valley averages about 1.1 people per vehicle during commute hours, officials say. The goal of the rule is to raise that number to 1.4 or 1.5 over the next four years.

That would trim more than half a ton per day of ozone-making emissions and a half a ton of tiny particle pollution, called PM-2.5.

District officials say they would like to change the work culture among larger firms and public agencies. They say this commute-reduction program already has worked for air district employees, about half of whom have made changes to reduce driving to their jobs.

"We believe the changes will improve employee morale and productivity, and save a lot of money in gas costs and vehicle maintenance," district Executive Director Seyed Sadredin.

The South Coast district in the Los Angeles area gives large businesses the choice between entering the trip-reduction program or paying \$60 per employee to avoid the program. Penalties are assessed if there is not a good-faith effort to reach program goals.

Liability feared

But valley air officials said the fines create possible legal problems and costs for employers. If there was an accident, the employer could be held liable for requiring the employee to share a ride with another employee, Sadredin said. The employee driving also would be entitled to be paid for the trip, he said.

"We did not want to add liability and labor costs to businesses," Sadredin said.

Business owners will have lists of options they can choose from to reduce reliance on vehicles.

The Manufacturers Council estimates the annual cost would be nearly \$2 million spread out among its 236 members, or a cost of about \$60,000 per ton of air pollution reduced — roughly five times the air district's estimate.

Commute plan approved by SJ Valley air board

By Associated Press

The Modesto Bee and other papers, Thurs., Dec. 17, 2009

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Tough new air rules aimed at Valley businesses

Staff Reports

The Record, Thurs., Dec. 17, 2009

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No, your bosses cannot order you to carpool or bike to work under the new rule. Nor will they be held accountable if you ignore their coaxing.

Employers could be fined, though, if they fail to report their efforts to the district or if they don't try at all.

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Avenal power plant gains OK despite environmental concerns

By Eiji Yamashita, staff writer

Hanford Sentinel, Sat., Dec. 19, 2009

Despite concerns from nearby residents and environmental justice groups, a new power plant proposed in Avenal received state approval this week.

A California regulatory board on Wednesday unanimously gave its final approval for a \$530 million natural gas-fired power plant being developed in Kings County's far southwest corner. The California Energy Commission adopted the presiding members' recommendation to license the 600-megawatt facility. The decision comes nearly a month after the recommendation was issued.

In his proposed decision last month, California Energy Commission member Jeffrey Byron wrote that the project would meet all regulations and standards and have no significant negative impact on the environment once mitigation measures are taken. Wednesday's commission action ratifies that assessment.

Project owner Avenal Power Center, LLC -- a subsidiary of Macquarie Energy North America Trading, Inc. of Houston, Texas -- plans to build the plant on 34 acres of a 148-acre industrial site just south of the Fresno County line and two miles east of Interstate 5. The project is six miles from Avenal's residential and commercial areas.

Construction of the project could begin in April 2010, with commercial operation expected by June 2012, according to the state commission. But that will still be contingent upon a federal permit. The project awaits a decision by the U.S. Environmental Protection Agency, which is expected in

January.

Meanwhile, project opponents have vowed to fight the permit process. If the EPA approves the project, a lawsuit will follow, said Bradley Angel, executive director of San Francisco-based Greenaction.

The power plant is one of two industrial projects that residents of Kettleman City and activists like Angel are fighting. They are also opposing the hazardous landfill expansion proposed by Waste Management at its Kettleman Hills Facility.

Angel argues that people are worried that polluting projects like the power plant would add to the health burden they already face in the area.

"Kings County and the San Joaquin Valley already have terrible air quality. The proposed Avenal power plant would be the second largest air polluter in the South Valley, in an air basin that's already contaminated," Angel said. "Secondly, the last thing Kettleman City needs is more pollution, especially in light of the birth defects and infant deaths.

"Also, the whole world is focused on climate change in Copenhagen," Angel said. "Adding a gigantic fossil fuel power plant at a time we should be building solar farms and wind power is contributing to a global environmental crisis."

DA alleges Kern Oil and Refining Co. broke business, safety laws

By Steve Swenson, staff writer
Bakersfield Californian, Sat., Dec. 19, 2009

A trial is set to begin in February on a lawsuit filed by the Kern County District Attorney's staff against Kern Oil and Refining Co., the scene of four fires, a high pressure steam release and two chemical spills in a four-year span.

One employee died and six others were injured in the mishaps.

The district attorney has alleged the company violated business and safety laws and those violations led to the death, injuries and environmental problems.

The company has denied the allegations in the lawsuit, which was filed in January 2008. A company human resources representative said Kern Oil had no comment.

The suit is seeking at least \$1.5 million -- \$1 million for alleged unfair business practice allegations and \$500,000 for health and safety violations. It also seeks a prohibition on any further violations.

The allegations of unfair business practices are that Kern Oil saved money by failing to comply with laws, giving it an advantage over companies that do comply with the laws.

The refinery, first built in 1934, operates at 7724 E. Panama Lane. The independent company employs about 110 people, according to its website. Its primary products are California approved diesel fuel and gasoline, jet fuel, fuel oil and aliphatic solvents.

The worst of the incidents associated with the lawsuit was an explosion Jan. 19, 2005, that killed one man, left first- and second-degree burns on the back of another, and first-degree burns on the face of a third man.

The explosion was during a maintenance operation when part of a pipeline broke, setting off a quick flash fire.

Another flash fire occurred June 3, 2004, causing severe burns to the face, chest and arm of an employee.

A third fire happened July 11, 2006, at the diesel hydrotreating unit, and the last fire was Dec. 20, 2007, at a similar unit where one employee suffered a back injury and another smoke inhalation.

A high pressure release of hot crude and steam happened June 22, 2006, when an employee suffered severe burns to his lower body, the lawsuit says.

Two relatively small spills were also reported in the lawsuit, kerosene on June 9, 2005, and sodium hydroxide in March 2006.

The suit says the company's "noncompliance (with laws) caused significant damage to individual persons and the environment."

Caltrans confirms number of new but idle vehicles

By Andrew McIntosh, Staff Writer
Sacramento Bee, Sat., Dec. 19, 2009

More than 12 percent of the 2,667 new vehicles that Caltrans has bought since 2007 are sitting unused and gathering dust on state lots, according to newly released data confirmed by the department.

Caltrans officials say that after they buy new vehicles and trucks, their department takes up to three years to assemble various components for their custom-designed light- and heavy-duty trucks in Sacramento before they actually hit the road.

The department also says state-mandated furloughs have cut the staff's ability to complete orders at the Sacramento assembly plant by 15 percent.

The new data, which emerged during a legislative hearing this week, stunned some lawmakers.

"It's insanity. It's all cost and no benefit," said Assemblyman Bob Blumenfield, D-San Fernando Valley, whose Assembly budget committee on transportation unearthed the information.

Blumenfield's Assembly Budget subcommittee on transportation looked into how Caltrans buys and manages its large fleet of cars, trucks and accessories after a Bee investigative report this fall.

The Bee told how Caltrans had spent more than \$4 million on vehicles that were parked and undeployed for months, and in some cases, years, while lawmakers slashed state workers' pay and eliminated key public services to erase deficits after tax revenue plunged.

Blumenfield cited taxpayer outrage as the reason his committee decided to dig further into the Caltrans deals, saying it's part of a new push by legislators to increase their oversight of key state departments, programs and spending of public money.

He and Republican legislators used the vehicle data to grill Caltrans Director Randell Iwasaki about his department's vehicle purchases – and conference spending at glamorous resorts – at a Wednesday hearing.

"The broad image is that Caltrans is a bit schizophrenic when it comes to fleet management," Blumenfield told Iwasaki. "It just seems like sometimes you're in this auto consumption mode."

A report prepared by Blumenfield's committee revealed that 319 of the 2,667 vehicles Caltrans has bought since 2007 are waiting to be assembled. Another 5 percent are assembled and

waiting to be deployed.

Caltrans media relations manager Matt Rocco said the figures are accurate. He declined to comment further.

Iwasaki described a multiyear delay in assembling big Caltrans tow trucks that work on Bay Area bridges, saying the delays were now "resolved."

The Bee probe found that the problems went well beyond tow trucks, however.

Using Caltrans purchasing and vehicle registration records, The Bee found three new Ford pickup trucks sitting on a Caltrans lot that were delivered in April 2008. Three more identical trucks were bought in May 2009, while the 2008 vehicles sat unused.

Blumenfield said he was outraged, vowing legislators will address such spending in the next state budget.

"How does that jibe with the realities of today's economy and how do you sit there (at the committee meeting) with a straight face? Yet they did," he added.

Blumenfield told Iwasaki that the report about millions of dollars' worth of parked trucks, which was picked up by ABC News, and a separate CBS News 13 exposé about \$82,000 spent on a conference at a desert golf resort, have left taxpayers with legitimate questions about oversight of the department's budget.

Caltrans is unique in state government because it has authority to purchase vehicles for its own fleet, which includes more than 13,000 vehicles and other pieces of equipment. Other departments must buy their cars through the Department of General Services.

Iwasaki – a veteran engineer who took Caltrans' top job on Aug. 1 – said his department has faced several challenges on the fleet management front, including the furloughs and new state Air Resources Board emissions regulations for trucks that carry a Dec. 31 deadline.

Iwasaki said vehicle assembly work has been delayed while the department rushes to retrofit trucks with pollution-control devices to comply with the new air regulations or risk fines of \$1,000 a day.

"We're racing to meet the deadline," Iwasaki said.

Under questioning by Assemblyman Kevin Jeffries, R-Lake Elsinore, vice chairman of the Assembly's Transportation Committee, Iwasaki acknowledged that Caltrans' budget had been boosted by the Schwarzenegger administration to help meet the new air requirements.

But Mike Miles, Caltrans deputy director of maintenance and operations, told legislators that while his budget was larger, his work force wasn't. An attempt by Caltrans to use that cash to contract out work was blocked by union objections, Miles said.

Iwasaki also was pressed to explain why, given the state's terrible finances, Caltrans paid \$82,000 to send 52 staff members to a transportation conference at a desert resort.

Blumenfield said Caltrans gets taxpayer dollars to maintain and fix the state's highway network, not to host or attend conferences at resorts.

Iwasaki defended the expense, saying Caltrans agreed to host the event three years ago and it cut the cost with private sponsorships. Iwasaki added that Caltrans used half the number of state workers that Connecticut and Wisconsin used to host the same conference in prior years. He said

state workers learn much and make good contacts at the event.

Still, he accepted the criticism. "Would we do it again? Maybe not," he said, adding that the department has a new system to better screen participation in conferences.

Global shipping line first in Oakland to cut dangerous diesel emissions

By Cecily Burt, Oakland Tribune

In the Contra Costa Times & Tri-Valley Herald, Fri., Dec. 18, 2009

Each time the 960-foot-long APL Korea glides into the Port of Oakland to deliver goods from around the globe, the container ship also brings with it something nobody wants: a half-ton of dangerous pollutants that foul the air and cause serious health problems for some West Oakland residents.

But by this time next year, the massive vessel and four others owned by APL will be the first to turn off their diesel generators while berthed in Oakland and instead plug in to clean electrical power.

APL's \$11 million project will outfit five vessels — half of its Oakland fleet — to accept plug-in electric power and bring compatible electrical systems to two berths at APL's Global Gateway Central marine terminal, three years ahead of a state law requiring the change. The cost is being partially funded by \$4.8 million in grants from the Bay Area Air Quality Management District.

John Bowe, president of APL Americas, said the project makes sense from a business standpoint and a good neighbor standpoint. Trade and cargo is expected to grow in the years ahead, and this project will "blunt the impact of the growth," he said.

"We hope others will follow in our footsteps," Bowe said.

Although most people think exhaust from cars and diesel trucks is the primary source of dangerous emissions, shipping operations are also big contributors. The state is phasing in a number of laws that require significant reductions in diesel emissions from trucks, buses, construction equipment and ships.

By January 2014 the rest of APL's fleet and all vessels berthed at California's ports must provide electric alternatives to the current use of diesel engines to power the ships' systems, known in the industry as "cold-ironing."

According to the air district, the eventual powering by electricity of all ships calling at the Port of Oakland will cut more than 50,000 pounds of smog-producing nitrogen oxide emissions and 1,500 pounds of dangerous diesel particulate matter every year. Microscopic particulates generated by diesel engines can lodge in the lungs and cause serious health problems such as asthma and other life-threatening diseases, said Jack Broadbent, executive officer of the air district, who commended APL for its plan.

A recent health risk study determined that the residents of West Oakland are exposed to pollution concentrations three times greater than the rest of the Bay Area. The community is surrounded by freeways, rail lines and the Port of Oakland's marine terminals, which are served daily by thousands of diesel cargo trucks.

Brian Beveridge, co-director of the West Oakland Environmental Indicators Project and a West Oakland resident, was pleased to learn of APL's plans.

"Ships at the dock produce about 30 percent of our local diesel pollution, and (electric) grid power is the 'gold standard' for shore power in our ports. It's great to see a major player, like APL, taking a leadership position in Oakland to clean up this primary source of port pollution," Beveridge said.

"If other Oakland terminals follow APL's lead, the residents of my neighborhood will finally see a reduction in the amount of soot we breath in every day."

The \$4.8 million grant consists of \$2.8 million available to the air district from the Goods Movement Emission Reduction Program to reduce pollution and health risks from freight movement operations.

The rest is being funded from the Carl Moyer Program, which pays to retrofit heavy duty vehicles, including ships, to reduce particulate emissions.

EPA, USDA push farmers to use coal waste on fields

By Rick Callahan, Staff Writer

Modesto Bee, Mon., Dec. 21, 2009

INDIANAPOLIS -- The federal government is encouraging farmers to spread a chalky waste from coal-fired power plants on their fields to loosen and fertilize soil even as it considers regulating coal wastes for the first time.

The material is produced by power plant "scrubbers" that remove acid rain causing sulfur dioxide from plant emissions. A synthetic form of the mineral gypsum, it also contains mercury, arsenic, lead and other heavy metals.

The U.S. Environmental Protection Agency says those toxic metals occur in only tiny amounts that pose no threat to crops, surface water or humans. But some environmentalists say too little is known about how the material affects crops, and ultimately human health, for the government to suggest that farmers use it on their land.

"Basically this is a leap into the unknown," said Jeff Ruch, executive director of Public Employees for Environmental Responsibility. "This stuff has materials in it that we're trying to prevent entering the environment from coal-fired power plants and then to turn around and smear it across ag lands raises some real questions."

With coal wastes piling up around the coal-fired plants that produce half the nation's power, the EPA and U.S. Department of Agriculture began promoting what they call the wastes' "beneficial uses" during the Bush administration.

Part of that push is to expand use of synthetic gypsum - a whitish, calcium-rich material known as flue gas desulfurization gypsum, or FGD gypsum.

The Obama administration has continued promoting FGD gypsum's use in farming even as it drafts a coal waste rule in response to a spill from a coal ash pond near Knoxville, Tenn., one year ago Tuesday. Ash and water flooded 300 acres, damaging homes and killing fish in nearby rivers. The cleanup is expected to cost about \$1 billion.

The EPA is expected to announce its proposals for regulation early next year, setting the first federal standards for storage and disposal of coal wastes.

EPA officials declined to talk about the agency's promotion of FGD gypsum before then and wouldn't say whether the draft rule would cover it.

Instead, the agency released a statement saying the heavy metals in the material are far less than the amount considered a threat to human health. Field studies have shown that mercury, the main heavy metal of concern because it can damage development of the human nervous system, doesn't accumulate in crops or run off fields in surface water at "significant" levels, it said.

"EPA believes that the use of FGD gypsum in agriculture is safe in appropriate soil and

hydrogeologic conditions," the statement said.

Eric Schaeffer, executive director of the Environmental Integrity Project, which advocates for more effective enforcement of environmental laws, said he's not overly worried about FGD gypsum's use on fields because research shows it contains only tiny amounts of heavy metals. But he said federal limits on the amounts of heavy metals in FGD gypsum sold to farmers would help allay concerns.

"That would give them assurance that they've got clean FGD gypsum," he said. "The farmers don't want to get a bad batch."

Since the EPA/USDA partnership began in 2001, farmers' use of the material has more than tripled, from about 78,000 tons spread on fields in 2002 to nearly 279,000 tons last year, according to the American Coal Ash Association, a utility industry group.

About half of the 17.7 million tons of FGD gypsum produced in the U.S. last year was used to make drywall, said Thomas Adams, the association's executive director. But he said it's important to find new uses for it and other coal wastes because the nation is likely to remain reliant on coal-fired power plants for decades to come.

"If we can find safe ways to recycle those materials, we're a lot better off doing that than we are creating a whole bunch of new landfills," Adams said.

Darrell Norton, a USDA soil scientist, said a predecessor of FGD gypsum produced about 25 years ago often had high levels of heavy metals because it had been mixed with coal fly ash. But FGD gypsum has no fly ash and is "environmentally clean," he said.

FGD gypsum is widely used in the South as a less expensive alternative to mined gypsum, said Glen Harris, a soil scientist at the University of Georgia in Tifton, Ga. Farmers in states such as Georgia, Alabama and the Carolinas have long spread mined gypsum on their fields, where its calcium spurs the growth of peanuts.

Clay McDaniel, 47, who farms about 4,000 acres of peanuts and corn near the southern Georgia town of Newton, has used synthetic gypsum on his peanut fields for more than 20 years. He and other farmers call both FGD and mined gypsum "land plaster." He said he's never worried about the safety of the synthetic version.

"If we buy a chemical that's toxic, it's got a skull and crossbones on it," he said. "But this does not come with any such warning. It's just a calcium source."

NM officials reach settlement over air emissions

By Associated Press

In Merced Sun-Star, Contra Costa Times and other papers, Fri., Dec. 18, 2009

SANTA FE, N.M. -- The New Mexico Environment Department has reached a settlement with Marathon Oil Corp. under which the Houston company will pay \$5.1 million in environmental projects and penalties to resolve air quality violations alleged by the state at Marathon's Indian Basin Gas Plant near Carlsbad.

The settlement includes environmental projects totaling \$4.5 million plus a civil penalty of \$610,560.

The environmental projects include \$3.75 million to build and maintain new pollution controls to reduce sulfur dioxide emissions and \$750,000 for an algae-to-biofuels project in Carlsbad.

Marathon also will install a smokeless flare and a vapor recovery system.

The Environment Department says the measures will bring the plant into compliance.

Marathon spokeswoman Lee Warren says it sold the Indian Basin plant earlier this year, but will implement the projects called for by the settlement.

Gas could be the cavalry in global warming fight

By Mark Williams, AP Energy Writer

In the Modesto Bee, Mon., Dec. 21, 2009

An unlikely source of energy has emerged to meet international demands that the United States do more to fight global warming: It's cleaner than coal, cheaper than oil and a 90-year supply is under our feet.

It's natural gas, the same fossil fuel that was in such short supply a decade ago that it was deemed unreliable. It's now being uncovered at such a rapid pace that its price is near a seven-year low. Long used to heat half the nation's homes, it's becoming the fuel of choice when building new power plants. Someday, it may win wider acceptance as a replacement for gasoline in our cars and trucks.

Natural gas' abundance and low price come as governments around the world debate how to curtail carbon dioxide and other pollution that contribute to global warming. The likely outcome is a tax on companies that spew excessive greenhouse gases. Utilities and other companies see natural gas as a way to lower emissions - and their costs. Yet politicians aren't stumping for it.

In June, President Barack Obama lumped natural gas with oil and coal as energy sources the nation must move away from. He touts alternative sources - solar, wind and biofuels derived from corn and other plants. In Congress, the energy debate has focused on finding cleaner coal and saving thousands of mining jobs from West Virginia to Wyoming.

Utilities in the U.S. aren't waiting for Washington to jump on the gas bandwagon. Looming climate legislation has altered the calculus that they use to determine the cheapest way to deliver power. Coal may still be cheaper, but natural gas emits half as much carbon when burned to generate the same amount of electricity.

Today, about 27 percent of the nation's carbon dioxide emissions come from coal-fired power plants, which generate 44 percent of the electricity used in the U.S. Just under 25 percent of power comes from burning natural gas, more than double its share a decade ago but still with room to grow.

But the fuel has to be plentiful and its price stable - and that has not always been the case with natural gas. In the 1990s, factories that wanted to burn gas instead of coal had to install equipment that did both because the gas supply was uncertain and wild price swings were common. In some states, because of feared shortages, homebuilders were told new gas hookups were banned.

It's a different story today. Energy experts believe that the huge volume of supply now will ease price swings and supply worries.

Gas now trades on futures markets for about \$5.50 per 1,000 cubic feet. While that's up from a recent low of \$2.41 in September as the recession reduced demand and storage caverns filled to overflowing, it's less than half what it was in the summer of 2008 when oil prices surged close to \$150 a barrel.

Oil and gas prices trends have since diverged, due to the recession and the growing realization of just how much gas has been discovered in the last three years. That's thanks to the introduction

of horizontal drilling technology that has unlocked stunning amounts of gas in what were before off-limits shale formations. Estimates of total gas reserves have jumped 58 percent from 2004 to 2008, giving the U.S. a 90-year supply at the current usage rate of about 23 trillion cubic feet per year.

The only question is whether enough gas can be delivered at affordable enough prices for these trends to accelerate.

The world's largest oil company, Exxon Mobil Corp., gave its answer last Monday when it announced a \$30 billion deal to acquire XTO Energy Inc. The move will make it the country's No. 1 producer of natural gas.

Exxon expects to be able to dramatically boost natural gas sales to electric utilities. In fact, CEO Rex Tillerson says that's why the deal is such a smart investment.

Tillerson says he sees demand for natural gas growing 50 percent by 2030, much of it for electricity generation and running factories. Decisions being made by executives at power companies lend credence to that forecast.

Consider Progress Energy Inc., which scrapped a \$2 billion plan this month to add scrubbers needed to reduce sulfur emissions at 4 older coal-fired power plants in North Carolina. Instead, it will phase out those plants and redirect a portion of those funds toward cleaner burning gas-fired plants.

Lloyd Yates, CEO of Progress Energy Carolina, says planners were 99 percent certain that retrofitting plants made sense when they began a review late last year. But then gas prices began falling and the recession prompted gas-turbine makers to slash prices just as global warming pressures intensified.

"Everyone saw it pretty quickly," he says. Out went coal, in comes gas. "The environmental component of coal is where we see instability."

Nevada power company NV Energy Inc. canceled plans for a \$5 billion coal-fired plant early this year. That came after its homestate senator, Majority Leader Harry Reid, made it clear he would fight to block its approval, and executives' fears mounted about the costs of meeting future environmental rules.

"It was obvious to us that Congress or the EPA or both were going to act to reduce carbon emissions," said CEO Michael Yackira, whose utility already gets two-thirds of its electricity from gas-fired units. "Without understanding the economic ramifications, it would have been foolish for us to go forward."

Even with an expected jump in demand from utilities, gas prices won't rise much beyond \$6.50 per 1,000 cubic feet for years to come, says Ken Medlock, an energy fellow at the James A. Baker III Institute for Public Policy at Rice University in Houston. That tracks an Energy Department estimate made last week.

Such forecasts are based in part on a belief that the recent spurt in gas discoveries may only be the start of a golden age for gas drillers - one that creates wealth that rivals the so-called Gusher Age of the early 20th century, when strikes in Texas created a new class of oil barons.

XTO, the company that Exxon is buying, was one of the pioneers in developing new drilling technologies that allow a single well to descend 9,000 feet and then bore horizontally through shale formations up to 1 1/2 miles away. Water, sand and chemical additives are pumped through these pipes to unlock trillions of cubic feet of natural gas that until recently had been judged unobtainable.

Even with the big increases in reserves they were logging, expansion plans by XTO and its rivals were limited by the debt they took on to finance these projects that can cost as much as \$3 million apiece.

Under Exxon, which earned \$45.2 billion last year, that barrier has been obliterated.

The wells still capture only about a quarter of the gas locked in the shale formations. Future improvements could double that recovery rate. Bottom line: this new source of gas supply in Texas, Louisiana, Pennsylvania, North Dakota, New York and other states holds out the promise of as much as 2,000 trillion cubic feet of supplies. It is estimated that the U.S. sits on 83 percent more recoverable natural gas than was thought in 1990.

"The question now is how does this change the energy discussion in the U.S. and by how much?" says Daniel Yergin, a Pulitzer Prize winning author and chairman of IHS CERA, an energy consultancy. "This is domestic energy ... it's low carbon, it's low cost and it's abundant. When you add it up, it's revolutionary."

Climate summit hopes less is more

The Copenhagen talks' mandate is muddled, but some wonder whether markets won't save the day.

By Jim Tankersley, staff writer
L.A. Times, Sun., Dec. 20, 2009

Reporting from Copenhagen - When two weeks of climate negotiations finally wound to an overtime finish in Copenhagen, the goal of a new binding treaty to combat global warming still looked elusively far away. And, even for climate activists, the question was: "Is that so bad?"

The summit officially ended Saturday with a gentlemen's agreement among the world's largest economies to take steps to curb greenhouse gas emissions, but no formal consensus on the part of the 193 nations present -- and no prescription for what comes next in the global negotiating process that is nearly 20 years old.

It was a muddled mandate from a conference originally intended to produce a successor to the 1997 Kyoto Protocol. And it left the impression that any success in humankind's efforts to avert the worst effects of climate change may be less an outcome of formal bargaining than of domestic politics, scientific innovation and, above all, the power of the emerging global market in low-emitting sources of energy.

The most celebrated aspects of the so-called Copenhagen Accord, at least initially, were a batch of provisions that will boost the likelihood of major emitters acting on their own to reduce carbon pollution and will send clear signals to clean-energy investors and inventors.

Nations joining the accord will, by Jan. 31, list their pledges for long-term emissions control. Developed nations will declare cuts, fast-developing nations will sign up for reductions as a share of their overall economy.

Other key provisions included forest protection, transparency on levels of emissions and a massive financial aid package for developing nations, along with the most formalized commitments yet that economic powerhouses China, India and the United States will take steps to move away from fossil fuels.

Each of those decisions affects a market. For example, winning Chinese and Indian commitments to emission limits, and verifying that those limits are put in place, gives confidence to American manufacturers who worried that domestic emission reductions would boost their energy prices and undercut competitiveness.

The forestry provision helps solidify a chunk of the carbon market, where companies can invest in protecting trees to offset industrial emissions. The financial aid fund, ramping up to \$100 billion annually by 2020, will help developing countries adapt to climate change and make the transition to low-emission fuels.

Those decisions taken together could help unlock an investment flow that will help reduce emissions around the world by spurring cheaper, better, more widely available low-carbon energy sources.

"A market is an engine," said Peter Goldmark, who directs the climate and air program for the Environmental Defense Fund. "A treaty -- or, more broadly, public policy, decisions and rules made in the public space -- [is] the rails."

The climate accord's limitations, meanwhile, were clear to advocates and critics alike. It is not legally binding. It does not cut emissions aggressively enough to avoid a level of warming that scientists warn could prove catastrophic. It includes no measure to enforce nations' emissions pledges, other than international peer pressure, and no deadline to turn the accord into a treaty to be ratified.

President Obama acknowledged each of those points when he announced the deal Friday evening, after negotiating for hours to pull the talks from the brink of collapse. He said he wanted to achieve a legally binding agreement but suggested that it would be out of reach until major emitters build trust and band together informally to reduce emissions.

"Because of the differing views between developing countries and developed countries," Obama said, "in terms of future obligations, the most important thing I think we can do at this point -- and that we began to accomplish but are not finished with -- is to build some trust between the developing and the developed countries to break down some of the logjams."

The president predicted that energy innovation, driven by economic opportunity, would spur far greater reductions than what nations were prepared to commit themselves to in the accord.

He also downplayed the necessity of treaty enforcement, saying, "There are going to be a lot of people who immediately say, the science says you got to do X, Y, Z; in the absence of some sort of legal enforcement, it's not going to happen. Well, we don't have international government, and even treaties, as we saw in Kyoto, are only as strong as the countries' commitments to participate."

The countries negotiating in Copenhagen were bedeviled from the start by matters of process. Officials shut down sessions to quell objections from poor countries, which were angry about the level of emission reductions being offered by wealthy nations.

Major emitters such as the U.S., China and Europe huddled in unofficial side talks -- only to rouse accusations of dealing in secret and silencing the voices of nations most vulnerable to climate change.

On Saturday morning, a few nations, including Venezuela, Cuba and Nicaragua, blocked the conference from adopting the Copenhagen Accord, which stemmed from an eleventh-hour deal cut Friday evening between Obama and leaders of four fast-growing nations. Later, the agreement was blessed by a group of countries that the United Nations said included "the biggest and the richest, and the smallest and most vulnerable."

The procedural frustrations of the conference boiled over early Saturday during a negotiating marathon that featured surreal twists of rhetoric, including a representative from the genocide-racked nation of Sudan comparing the Copenhagen Accord to the Holocaust -- a move that

appeared to galvanize smaller nations to speak up for the agreement.

When the conference ended with an acknowledged, but not approved, accord, even climate policy veterans were puzzled.

The World Wildlife Fund's Keya Chatterjee compared the summit's aftermath to the confusion following the 2000 U.S. presidential election, when lawyers descended on Florida for recounts and the Supreme Court eventually intervened.

"It's going to take a while to figure out what just happened" to the negotiating process, she said. "I follow this process pretty closely, and I don't really know what happened. I don't think anyone at this point knows what happened."

Even Obama, at his triumphant news conference, confessed that he wasn't sure whether the U.S. would physically sign the agreement.

Conference leaders praised the accord warily, even as they warned of its faults.

"We now have a package to work with and begin immediate action," Yvo de Boer, the U.N.'s top climate official, said in a news release. "However, we need to be clear that it is a letter of intent and is not precise about what needs to be done in legal terms. So the challenge is now to turn what we have agreed politically in Copenhagen into something real, measurable and verifiable,"

In closing, the news release noted that negotiators across the globe will meet in Germany next spring and again in Mexico City for a major conference near the end of 2010.

When, presumably, they will do it all over again.

Sweden makes U-turn on nuclear power

Faced with global warming, the argument across Europe goes, the energy source may be the lesser of two evils.

By Henry Chu, staff writer

L.A. Times, Sun., Dec. 20, 2009

Reporting from Stockholm - For nearly 30 years, no nukes were good nukes in this Scandinavian nation. Spooked by the meltdown at Three Mile Island, Swedes voted decisively in 1980 to ban expansion of nuclear power, and lawmakers pledged to close down all of Sweden's reactors by 2010.

Many here were therefore stunned this year when the government announced a sudden U-turn in energy policy. Not only should the country's 10 nuclear power stations stay open, officials said, but the plants should be allowed to buy new reactors to replace the old ones if necessary.

Enabling legislation is to be introduced in the Swedish parliament within months, part of a remarkable renaissance underway across Europe for a technology that was unloved and criticized for years.

The comeback is the result of the continent's struggle to meet rising energy demands while reducing carbon emissions. With fossil fuels such as coal falling into disrepute, policymakers say nuclear power must be part of the formula for keeping the lights on.

In Finland, the world's largest nuclear power station is under construction. Poland wants to install two on the shores of the Baltic Sea, with the first on line by the end of 2020. Italy, the only major industrialized nation without a nuclear plant, says it will start building one or more by 2013.

In Britain, the government has approved 10 sites for nuclear stations. And Germany wants to extend the life of its plants rather than phase them out, as promised.

New realities have scrambled traditional lines of debate. Some environmental activists who were once dead set against nuclear energy have moderated their position to one of grudging acceptance, viewing it as the lesser of two evils in light of global warming.

Opposition among the general public, which peaked after the accidents at Three Mile Island in 1979 and Chernobyl in 1986, has also declined in many European countries as memories of the disasters recede, safety improves, and electricity consumption gallops along.

Whether all the planned stations will get built, though, is another story. New plants are extremely expensive and take at least 10 years to construct.

In Finland, it hasn't. Major delays and cost overruns have plagued the highly touted next-generation reactor being built for the new plant.

And there are still plenty of detractors who say that the problem of storing nuclear waste -- which remains radioactive for tens of thousands of years -- has yet to be adequately solved. Critics say officials have fallen back too quickly on nuclear power when they should be investing more money and effort in developing renewable-energy sources, smart grids and electricity-maximizing measures.

"You have to get energy use in focus -- to decrease energy dependence as much as possible and increase energy efficiency," said Per Bolund, a Green Party member of the Swedish parliament. The Swedish government has opted instead to "think of nuclear as the easy answer."

About half of Sweden's electricity supply comes from 10 nuclear stations strung along the southern coast. Ola Altera, deputy energy minister, said the goal of the about-face isn't to increase that proportion but rather to keep nuclear power in the mix as alternative energy sources come online.

"The idea is not to get more dependent on nuclear," Altera said. "To the contrary: It's to make us more diversified."

Altera's Center Party was instrumental in enabling the policy reversal in February.

A member of the ruling coalition, the Center Party had historically been staunchly antinuclear and helped spark the national debate that eventually led to the 1980 referendum. But some party leaders began shifting their stance a few years ago, arguing that combating climate change was more important than decommissioning nuclear reactors.

Even so, the abandonment of the party's previous opposition shocked many observers.

"I'm doing this for the sake of my children and grandchildren," the Center Party leader, Maud Olofsson, said in February. "I can live with the fact that nuclear power will be part of our electricity supply system for the foreseeable future."

Altera said polls have shown that a majority of Swedes now accept nuclear power as a fact of their country's energy supply.

Ludvig Tillman, a researcher on nuclear issues with Greenpeace, doesn't dispute that. But such a statement tells only part of the story, he said. When people are asked which energy sources they prefer, the vast majority pick renewable sources such as wind, solar and biofuels; the nuclear option scores extremely low.

Moreover, the threat of disaster still hangs over the nuclear industry.

In 2006, the power went out at a plant in Forsmark, and two of the plant's backup generators failed to kick in. Had the remaining pair of backups also failed, the plant's cooling system would have stalled, and a disastrous core meltdown could have resulted.

"It's basically luck that we did not have a very serious accident," Tillman said. "I don't think anyone sees nuclear as a true sustainable power source. It's just something we need to have in between."

The choice set up by some politicians -- nuclear power versus more carbon emissions -- is a false one, Tillman said. Sweden has virtually eliminated the use of fossil fuels for electricity; nuclear energy, hydropower and, to a smaller extent, wind power account for the entire power supply.

Fossil fuels do contribute to heating, but only about 10%, and that is supposed to be eased out by 2020, Altera said. No one is seriously advocating the construction of coal-fired plants.

Environmentalists say that if any country should be exploiting the potential of renewable energy, it's Sweden.

Blessed with rivers for hydropower, plenty of gusty areas for harnessing the wind and vast expanses of forest for biomass, Sweden could gradually close down its nuclear plants and make up for their loss purely through alternative energy sources, activists say.

That, along with increased investment in improving energy efficiency, would make a nuclear-free Sweden an achievable goal.

"We have potential for producing large amounts of renewable energy which can't be produced anywhere else," said Bolund, the member of parliament. "Right now, we have to decide what energy future we want in Sweden, whether we want to be dependent on nuclear power or use the fantastic potential for renewable power we have."

Obama helps broker limited climate pact

By Juliet Eilperin and Anthony Faiola, Washington Post
In the S.F. Chronicle and other papers, Saturday, Dec. 19, 2009

Copenhagen - -- President Obama helped broker a climate deal with a group of leading nations that provides for monitoring domestic emission cuts but sets no overall global target for cutting greenhouse gases and no deadline for reaching a formal international treaty.

The deal falls far short of even some low expectations for the summit and leaves a comprehensive global battle plan for fighting climate change potentially years away. Although the agreement included some major players- China, India, Brazil and South Africa - it was not universally agreed upon by the 193 nations attending the summit, which some leaders left early Friday in apparent frustration.

For the Obama administration, the focus of the climate debate now shifts from the global stage to the domestic one. Though Obama voiced hopes for greater results from Copenhagen, the modest agreement may actually help the administration as it presses Congress to pass landmark climate change legislation. By not committing the United States to new standards and insisting on monitoring cuts made by other nations, the administration can argue that passage of domestic legislation would not put the United States at a competitive disadvantage with other nations, particularly China.

In announcing the deal, even Obama conceded its limitations. "Today we made a meaningful and unprecedented breakthrough here in Copenhagen," he said. But "it is going to be very hard, and

it's going to take some time" to get a legally binding treaty. That, he said, "was not achievable at this conference."

In the deal, each country needs only to list its domestic pledges for emissions reductions and promise to allow monitoring of their progress. The agreement also outlines steps to help poor countries go green and prepare for the impact of a warming Earth.

'Big step forward'

European nations privately bemoaned the deal cut by Obama as less than ambitious, but British Prime Minister Gordon Brown, for one, publicly embraced it as "a big step forward."

While countries will outline their specific targets in the next few weeks, Brown said he is confident the European Union, at least, would commit to the more ambitious goal of reducing its emissions 30 percent from 1990 levels.

In fact, there was almost no deal in Copenhagen at all. The contentious talks appeared to break down at several points over recent days, with rich and poor countries at odds over nearly every issue.

After delivering public remarks in the morning, Obama met for nearly an hour with Chinese Premier Wen Jiabao, whose nation, other leaders have said, poses the greatest challenge to forging a global pact. The deal began to come together after the two talked about specifics of a compromise agreement in a bid to salvage the talks. China had strongly resisted proposals for independent monitoring of each country's claimed emissions cuts, while the United States has said such scrutiny is integral to a meaningful deal.

A White House official called their discussion constructive and said that the two men touched on the monitoring issue, as well as how to elicit commitments from all key countries to cut emissions and how to establish financing from richer nations to help poorer ones cope with global warming.

"They took a step forward and made progress," the official, who spoke on condition of anonymity, told reporters.

Following his one-on-one meeting with Wen, Obama surprisingly joined a private meeting with leaders of China, India and South Africa, where the final stages of the agreement came together, sources close to the talks said. Brazil, another major participant, also signed on.

Unspecified action

Both the United States and the major developing nations agreed to list their pledges to fight climate change and promised unspecified action to prevent the Earth's temperature from rising by more than 2 degrees

Celsius (3.6 degrees Fahrenheit). In addition, they will provide information on their progress, which would be subject to international consultations and analysis.

To seal the deal, however, the United States had to sacrifice its goal of setting a global target of cutting greenhouse emissions in half by 2050 - something developing countries, concerned about the impact it would have on their economies, were reluctant to embrace.

Copenhagen accord Emissions

The deal does not commit any nation to emissions cuts beyond general outlines agreed to in July, when leading nations pledged to limit the global temperature rise to 2 degrees Celsius - 3.6

degrees Fahrenheit - by 2050.

These cuts, to be made by 2020, fall far short of what is needed to avoid potentially dangerous effects:

U.S.: 17 percent reduction from 2005 levels (3 to 4 percent from 1990 levels).

China: 40 to 45 percent below "business as usual," judged against 2005 figures for energy used versus economic output.

India: 20 to 25 percent cut from 2005 levels.

European Union: 20 percent cut from 1990, and possibly 30 percent.

Japan: 25 percent cut from 1990.

Funding

-- Wealthy nations will raise \$100 billion a year by 2020 to help poorer nations cope with the effects of climate change.

-- Short-term funding of roughly \$30 billion over three years beginning in 2010 to help developing countries adapt.

Copenhagen climate deal shows new world order may be led by U.S., China

By Anthony Faiola, Juliet Eilperin and John Pomfret
The Washington Post, Sun., Dec. 20, 2009

COPENHAGEN -- If the talks that resulted in an imperfect deal to combat global warming provided anything, it was a glimpse into a new world order in which international diplomacy will increasingly be shaped by the United States and emerging powers, most notably China.

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Friday's agreement, sources involved in the talks said, boiled down to President Obama and Chinese Premier Wen Jiabao personally hammering out a pact both could live with, even if many other leaders could not. Wen even squelched his own negotiator's protests.

What Obama heralded as a "breakthrough" -- after getting India and other rising powers to sign on -- was decried by some nations as too little, too late. The leaders of Europe, Japan and other countries at the summit were largely left to rubber-stamp the deal. The Swedish prime minister's office dubbed it "a disaster."

Ever since the concept of a G2 was proposed this year by former U.S. national security adviser Zbigniew Brzezinski, the idea that the United States and China together are going to solve all the world's problems has been pooh-poohed by both American and Chinese officials. China hated the notion because it put too much responsibility on a country that has done very well rising in the shadows. Many U.S. officials opposed the idea on the grounds that the best way to influence China was through multinational partnerships.

So, more than anything else, critics said, Friday's climate agreement reflected the domestic political realities in Washington and Beijing. Both nations, the two biggest emitters of greenhouse gases, remain more cautious than, say, the governments of Europe about establishing a strict set of international rules to combat global warming. Not coincidentally, the agreement allows nations

to set their own emission reduction targets and provides no deadline for signing a binding international accord.

A shifting relationship

As such, the deal may portend how issues from world trade to nuclear proliferation will be negotiated in the years ahead, with China leading a caucus [of rising powers on one side and the United States on the other.](http://projects.washingtonpost.com/politicsglossary/Congressional/caucus/)

"The mark is being stamped on a new political world," said Duncan Marsh, who directs international climate policy for the Nature Conservancy. Said Jake Schmidt, international climate policy director for the Natural Resources Defense Fund: "Coming into this conference, it was about 193 countries, and coming out of it, it clearly came down to a conversation between the leaders of those two superpowers."

Orville Schell, a longtime China watcher who is director of the Center on U.S.-China Relations at the Asia Society, said the erratic dance between China and the United States is another example of how the bilateral relationship is at a tipping point. China is becoming a major player, albeit reluctantly; the United States, with similar unease, is making room for China at the table of world leaders.

"We're not exactly partners, but we're much more equals," Schell said. "The Chinese miss the idea that there's some grander, stronger authority. They are not used to this role of actually helping to fashion and form things."

Indeed, the events at the summit showed how the U.S.-China relationship remains stormy and complex, constructive and adversarial. At one point in Friday's tense talks, for instance, China's top climate change negotiator exploded in rage at U.S. pressure after Obama walked in on the Chinese while they were holding talks with the Indians, South Africans and Brazilians. After Obama asked whether the Chinese could commit to listing their climate targets in an international registry, Xie Zhenhua launched into a tirade, pointing his finger at the U.S. president.

A compromise from China

The United States had made any deal contingent on international verification of emission cuts made by nations, seeing it as key to winning over skeptical lawmakers on Capitol Hill who are still resistant to sweeping climate change legislation at home. But there was no way China would agree to international verification, Xie told the Americans.

It was a position that China had held to closely over months of negotiations with the United States and other countries. China's vice minister of foreign affairs, He Yafei, had reiterated it just hours earlier.

But this time, something different happened, according to Chinese and Western sources close to the talks. Wen instructed his Chinese interpreter not to translate Xie's fiery remarks. When Xie erupted again, Wen, who was chairing the meeting, ignored him. After Wen handed Obama a draft text of an agreement that included verification language Obama couldn't abide by, the two men led a lengthy debate that ended in a working compromise, sources said.

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China has a long history of opposing verification, seeing it as a violation of its sovereignty. It has also used the sovereignty argument as a way to cover up for failures or weaknesses. When

China tracked air pollution in Beijing in the run-up to the 2008 Summer Olympics, for instance, authorities in the capital moved monitoring stations into areas with less congestion to get positive ratings. When the U.S. Embassy in Beijing established an air-quality monitoring site on its grounds -- and began sending pollution readings out on Twitter -- the Chinese took umbrage and implied that the action was an interference in their country's internal affairs. Twitter later was blocked nationwide.

But on Friday, Wen ultimately agreed to stronger verification language. By the nature of the agreement, however, China's participation will be voluntary.

The fate of any future global climate change treaty will now effectively rest in the hands of the two largest emitters. For at least the next several years, the lack of a binding international treaty may result in a piecemeal response to the problem, with action being taken largely on a national and regional level.

Yet proponents of the Copenhagen agreement stress that the Obama administration is taking unprecedented action at home, pushing for a national switch to green energy and for a cap-and-trade system that could help dramatically curb emissions.

Wen, according to several Americans who have interacted with him on this issue, is also passionate about climate change. He chairs a high-level Communist Party group on climate change, which sets policy and makes major decisions.

In addition, Ken Lieberthal, a former senior director for Asia at the National Security Council who is now a China expert at the Brookings Institution, said that for China to even tentatively agree on an international verification regime and on the necessity of registering its climate goals marks substantive movement.

"Of course you could say, 'It's just words; they won't do anything,' " Lieberthal said. "But words matter internationally. You can hold people to their words and shame them if they don't comply."

Climate reality: Voluntary efforts not enough

By Seth Borenstein, The Associated Press

In the Washington Post and other papers, Sat., Dec. 19, 2009

COPENHAGEN -- Around the world, countries and capitalism are already working to curb global warming on their own, with or without a global treaty.

In Brazil more rainforests are being saved, and in Chicago there's a voluntary carbon pollution trading system. People recycle, buy smaller and newer cars, and change lightbulbs.

But the impact of such piecemeal, voluntary efforts is small. Experts say it will never be enough without the kind of strong global agreement that eluded negotiators at the U.N. summit this past week in Copenhagen.

Emissions of greenhouse gases keep rising and so do global temperatures.

Dozens of countries - including the top two carbon polluters, China and the United States - came to the climate talks with proposals to ratchet down pollution levels.

But analysis by the United Nations and outside management systems experts show that those voluntary reductions will not keep temperatures from increasing by more than 1.3 degrees Celsius (2.3 degrees Fahrenheit) compared with now. That's the level that scientists, the United Nations, the European Union and the Obama administration have said the world cannot afford.

Good intentions aren't enough. The deal forged by President Barack Obama with China and

several other countries sets up the first major program of climate aid to poorer nations to help them deal with climate change. But it offers few specifics and goes no farther than emissions curbs already pledged. More negotiations are planned for next year.

"It just underlines the heroic effort here that the science says needs to be done; it's not easy," said Alden Meyer, policy director at the Union of Concerned Scientists. "If it were easy, it would have been done. This is a daunting effort."

And no one knew that more than a weary Obama, who 14 hours after arriving in Copenhagen, unveiled the political agreement by saying "more aggressive" emission cuts were needed and so were still-unseen scientific breakthroughs.

"But this is going to be hard," Obama said in a news conference late Friday. "This is hard within countries; it's going to be even harder between countries."

"Hard stuff ... requires going ahead and making the best of the situation that you're in at this point, and then continually trying to improve and make progress from there," Obama added.

Upon announcement of the deal, a team of experts led by an MIT professor made quick calculations: The average global temperature is likely to rise 3.2 degrees Celsius (5.7 degrees F.) above current temperatures.

So the response from many, but not all, environmental activists and poorer nations was "not enough."

That's not for lack of trying.

The U.S. private sector already has invested hundreds of billions of dollars to cut emissions, and that is probably just the beginning no matter what happened in Copenhagen.

Between 2007 and 2008, energy-related carbon dioxide emissions in the U.S. fell 2.8 percent, though part of that was related to the recession.

A study this year by McGraw Hill Construction said between \$36 billion and \$49 billion of eco-friendly buildings are under development. That figure is expected to triple by 2013.

The owners of New York's Empire State building spent \$13.2 million on environmental retrofits to draw new tenants.

Wal-Mart Stores Inc. retrofitted about 500 buildings this year. Part of the project included installing skylights with the goal of cutting up to 75 percent of the energy used to light stores.

In Chicago, a company started a voluntary commodities market to trade credits for reducing carbon pollution. It has reduced carbon dioxide pollution by the equivalent of 400 million metric tons in the six years since 2003. That sounds like a lot, but the U.S. emitted 7.05 billion metric tons of carbon dioxide equivalent last year alone.

But the broad range of voluntary carbon reductions falls far short of what's needed to address climate change, energy experts emphasize. To approach anything near the 17 percent reduction in emissions by 2020 that the Obama administration has targeted, a price must be put on carbon emissions, most energy expert acknowledge.

"If there was an easy answer, the countries could agree on it," said Gregg Marland who keeps track of worldwide carbon dioxide emissions at the Oak Ridge National Lab. "There is no easy answer. And there is not a cheap answer. I don't see people going very far voluntarily without incentives to do it, and that comes from government."

In much of the developing world, the biggest carbon problem is destruction of forests. Brazil, a top 10 carbon dioxide polluter, is also one of the leading countries in losing forests, which suck carbon dioxide out of the air.

Mostly by slowing deforestation, Brazil has already pledged to reduce carbon emissions by about 36 to 39 percent by 2020. Last month, Brazil reported its biggest annual decline in deforestation in two decades.

The problem, Obama said, is that "the science compels us to move as rapidly as we can."

That's where 450 parts per million of carbon dioxide comes in. The United States and European Union are aiming not to exceed that level - which corresponds with the projected temperature rise - because it's too dangerous. Some scientists point to 350 ppm as a safer level. This year the world pushed beyond 390 ppm for the first time.

Going above 450 parts per million "will change everything," said NASA climate impacts researcher Cynthia Rosenzweig.

"It's not just one or two things," Rosenzweig said. "There will be changes in water, food, ecosystems, health, and those changes also interact with each other."

At that point, among other things, millions of people would be subject to regular coastal flooding, droughts would cause food shortages, coral reefs would dramatically die off affecting the ocean food chain, and about 20 percent of the world's known species would be significantly endangered, according to Rosenzweig and other climate scientists.

Systems dynamics experts John Sterman of MIT and Andrew Jones of the Sustainability Institute in Vermont compare our carbon problem to a bathtub. Each year we pump carbon dioxide into the atmosphere, much of it remains there. It lasts for about a century, although about half of the carbon dioxide produced is removed each year by forests and oceans.

Sterman and Jones figure the world can afford to churn out another 920 billion metric tons of carbon dioxide between now and 2050. Holding emissions to that level offers a better than even chance at keeping the world under 450 parts per million and avoiding a crucial temperature rise.

But that will be a challenge. Forty years of pumping emissions at the level we have now would exceed the safe level by more than 50 percent. And that doesn't even account for future levels of greenhouse gases from booming economies like those in China and India.

Ideally, the world should produce 80 percent less in greenhouse gases than we do now, Jones said.

Technically, the delay of at least one year in implementing strict emissions limits - thanks to the nonbinding deal in Copenhagen - may not hurt. But it's a momentum issue and a compounding interest issue, said Achim Steiner, head of the United Nations Environment Program. It's like debt on a credit card: Every time a person puts off paying the balance, it grows bigger and harder to resolve.

Every year of delay means the chance of achieving a stable and healthy climate "is getting smaller and smaller," said Yvo de Boer, head of U.N. Framework Convention on Climate Change, which ran the Copenhagen negotiations.

But as difficult as changing the momentum of atmospheric physics, the political challenge may be worse.

Think of it this way: More than 110 world leaders, an unprecedented number, convened here, with roughly two dozen crafting a weak agreement in less than a day. And yet that deal, the Copenhagen Accord, is the basis for next year's effort which will try again to reach more concrete and dramatic steps, de Boer said.

"We should be conscious of the huge challenge that lies ahead of us," de Boer said. He doesn't expect the hands-on help of world leaders next year.

Yet de Boer is optimistic.

"I think science will drive it," de Boer said. "I think business will drive it. I think society will drive it."

AP writers Dina Cappiello, Joseph Hebert and Steven Manning in Washington, Frank Bajak in Bogota, and Chris Kahn and Anne D'Innocenzio in New York contributed to this report.

Obama raced clock, chaos, comedy for climate deal

By Charles Babington and Jennifer Loven, Associated Press
In the Washington Post, Sat., Dec. 19, 2009

WASHINGTON -- It was almost unthinkable. The president of the United States walked into a meeting of fellow world leaders and there wasn't a chair for him, a sure sign he was not expected, maybe not even wanted.

Barack Obama didn't pause, however. "I'm going to sit by my friend Lula," he said, moving toward Brazilian President Luiz Inacio Lula da Silva.

A Brazilian aide gave the U.S. president his chair, and Obama spent the next 80 minutes helping craft new requirements for disclosing efforts to fight global warming. Along with India, South Africa and Brazil, the key member in the room was China, which recently surpassed the U.S. as the world's top emitter of heat-trapping gasses.

At the table this time for China was Premier Wen Jiabao, not an underling as before. Obama was bent on striking a deal before flying home to snowbound Washington.

He would later hail the achievement as a breakthrough. But even Obama said there was much more to do, and climate authorities called Copenhagen's results a modest step in the global bid to curb greenhouse gasses that threaten to melt glaciers and flood coastlines.

Obama's 15-hour, seat-of-the-pants dash through Copenhagen was marked by doggedness, confusion and semi-comedy. Constrained by partisan [politics at home](http://projects.washingtonpost.com/politicsglossary/party-affiliated/partisan/), and quarrels between rich and poor nations abroad, he was determined to come home with a victory, no matter how imperfect.

Experts and activists may debate its significance for years. Some, like Jeremy Symons, who watched the talks for the National Wildlife Federation, said it was "high drama and true grit on the part of the president that delivered the deal."

Others were far less kind. The Copenhagen agreements are "merely the repackaging of old and toothless promises," said Asher Miller, executive director of the Post Carbon Institute.

Even though a weary, bleary-eyed Obama had added six hours to his planned nine-hour visit, he was back in Washington by the time delegates at the 193-nation summit approved the U.S.-brokered compromises on Saturday. The agreements will give billions of dollars in climate aid to poor nations, but they do not require the world's major polluters to make deeper cuts in their greenhouse gas emissions.

This account of Obama's hectic day is based on dozens of interviews and statements by key players from numerous countries.

Obama was thrown off schedule almost from the moment he landed Friday morning in Copenhagen, where the summit's final-day talks seemed to be collapsing.

Instead of attending a planned meeting with Denmark's prime minister, he plunged into an emergency session of about 20 nations, big and small, wealthy and poor. Right away there was a troubling sign.

China was the only nation to send a second-tier official: vice foreign minister He Yafei instead of Premier Wen, who was in the building. The snub baffled and annoyed delegates.

For months, Obama had been pressing China to put into writing its promises to reduce greenhouse gas emissions.

Obama later seemed unusually animated when he alluded indirectly to China in a short, late-morning speech to the full conference.

"I don't know how you have an international agreement where we all are not sharing information and ensuring that we are meeting our commitments," he said. "That doesn't make sense."

Things then appeared to turn for the better, as Obama and Wen met privately, as scheduled, for 55 minutes. A U.S. official said they took a step forward as they discussed emissions targets, financing and transparency.

The two leaders directed aides to work on mutual language, and Obama's team proposed specific wording meant to solidify China's promise to be more forthcoming about its anti-pollution efforts.

A short time later, however, the U.S. team was more baffled and irked than before. At a follow-up session of the morning's big meeting, the Chinese sent an even lower-ranking envoy in Wen's place.

An irritated Obama told his staff, "I don't want to mess around with this anymore, I want to just talk with Premier Wen," according to a senior administration official who spoke on background to discuss sensitive diplomatic issues.

By now night had fallen, and it was clear Obama would be late getting home. He kept an appointment to discuss arms control with Russian President Dmitry Medvedev. Meanwhile he asked aides to try to set up a final one-on-one meeting with Wen, and a separate meeting with leaders of India, Brazil and South Africa. He hoped these fast-growing nations, which had been loosely aligned with China on many of the key issues, might influence the Chinese.

Confusion reigned. Chinese officials said Wen was at his hotel and his staff was at the airport. The same was said of top Indian officials, but nothing was clear.

South African President Jacob Zuma agreed to meet with Obama, then canceled when he heard the Indian leader was away, and Brazil would attend only if India did.

The Chinese said Wen could meet with Obama at 6:15 p.m., then changed it to 7 p.m. Obama used the time to talk strategy with the leaders of France, Germany and Great Britain.

Meanwhile, a four-nation negotiating team known as BASIC gathered. The modified acronym reflected its members: Brazil, South Africa, India and China.

Obama was unaware, however, thinking he was going to meet alone with Wen. After some confusion about who had access to the room, White House aides told the president that Wen was inside with the leaders of the three other countries, apparently working on strategy.

"Good," Obama said as he walked through the door. "Mr. Premier, are you ready to see me?" he called out. "Are you ready?"

Inside he found startled leaders and no chair to sit in.

U.S. officials denied that Obama crashed the party, saying he simply showed up for his 7 p.m. meeting with Wen and found the others there.

Whatever the meeting's original purpose, Obama used it to help strike an agreement on ways to verify developing nations' reductions of carbon dioxide and other heat-trapping gases, a good U.S. ending to their talks with the Chinese.

Other agreements that came from Copenhagen were a mixed bag, with some environmentalists keenly disappointed, and probably no nation entirely pleased.

Rich countries vowed to provide \$30 billion in emergency climate aid to poor nations in the next three years, and set a goal of eventually channeling \$100 billion a year to them by 2020.

The summit's final document said carbon emissions should be reduced enough to keep the increase in average global temperatures below 2 degrees C (3.6 degrees F) since preindustrial times. But average temperatures already have risen 0.7 degrees C (1.3 degrees F) since then.

The nations most vulnerable to climate change, including low-lying islands, say the 2 degree C figure is already too high.

It was just after 1 a.m. EST Saturday when Air Force One landed outside Washington on the flight from Copenhagen. With a steady snow falling, Obama headed for the White House. It would be 3 1/2 more hours before the 193 nations, with a few objections, would agree to the deal brokered by the American president. A short time later the conference adjourned.

Later Saturday, Obama put the best face possible on the results.

"This breakthrough lays the foundation for international action in the years to come," he said from the White House Diplomatic Reception Room.

But he got no plaudits in the Chinese press.

The English-language China Daily newspaper called Obama's Copenhagen speech "grandstanding," and said it left non-governmental organizations at the summit disappointed.

Chinese environmental group wins 2 cases

By Associated Press

In the S.F. Chronicle and other papers, Fri., Dec. 18, 2009

BEIJING, China (AP) --An environmental group backed by the government said Friday it had won two lawsuits on behalf of residents threatened by pollution, marking the first time such an organization has been allowed to file a public interest case.

Chinese courts have historically barred groups like the All China Environment Federation from bringing such suits as plaintiffs, said Lu Keqin, the organization's head, but lawsuits filed by individual citizens are often unsuccessful because they lack resources and money. The

federation, however, can call on the support of 44 law firms and some 115 attorneys who donate their time, Lu said.

The legal victories pave the way for the group to file lawsuits in the future in cases involving environmental public interest, he said. Though it is affiliated with the Ministry of Environmental Protection and its staff includes government leaders, the federation is considered a nongovernment organization in China.

The first case occurred in eastern Jiangsu province, where residents complained pollution caused by the Jiangyin Port Shipping Containers Company affected the surrounding air and their drinking water.

Residents contacted the federation in May this year and a group of volunteer lawyers who went to investigate found iron-ore dust was illegally released into the air and wastewater, which went into the Yangtze River.

They filed suit against the company to stop the pollution.

The second case was in Guizhou province, where the federation alleged the local Land Resources Bureau had struck an improper deal to allow development on land that would have compromised water safety for local residents.

[Sacramento Bee editorial, Sun., Dec. 20, 2009](#)

Through the Lens: Climate Change Conference

Two weeks of intensive climate talks – and two years of international negotiations – essentially boiled down to two countries: the United States and China.

Many delegates at the climate talks in Copenhagen had been looking toward China and the United States – the world's two largest carbon polluters – to deepen their pledges to cut their emissions.

China was criticized for resisting international monitoring of its actions on carbon emissions. The United States also got its share of blame. The conference was plagued by growing distrust between rich and poor nations. Each side blamed the other for failing to take ambitious actions to tackle climate change.

Nations gathered in Copenhagen all but abandoned hope of working out a major global warming treaty to replace the 1997 Kyoto Protocol, which the United States never ratified.

On Friday, the United States, China and several other countries reached an "unprecedented breakthrough" to curb greenhouse gas emissions – including a mechanism to verify compliance. The agreement, which also includes the developing nations of India, South Africa and Brazil, requires each country to list the actions they will take to cut global warming pollution by specific amounts.

[Letter to the Fresno Bee, Sun., Dec. 20, 2009:](#)

Not snake oil science

I would like to comment on the Dec. 13 from Gregory L. Bacchetti where he attempts to debunk global warming as snake oil science. Mr. Bacchetti never once addresses how he knows this is so. He only pontificates as one who is in the know.

His argument would have much more merit if he cited specific scientists who agree with him.

I believe that if we don't act now, we may not have another chance to ensure a safe world for our children of future generations. If you don't believe that global warming exists, just ask an Australian about their record drought, blinding sand storms in Sydney and mammoth ice bergs

floating toward the coast of western Australia as I write this.

These must merely be pure coincidences according to Mr. Bacchetti. However, I don't agree and neither do most Australians.

Alan Coles, Fresno

[Letter to the Fresno Bee, Sat., Dec. 19, 2009:](#)

Manipulating data

I fully understand the conservative furor over the alleged “manipulation” of data regarding global warming. If global warming was their issue, that’s exactly what they would do. It certainly worked to get us into Iraq.

Sam Taylor, Fresno

[Letter to the Fresno Bee, Friday, Dec. 18, 2009:](#)

Wood burning is natural

Fresno recently experienced a cold week. To make things even colder, there were six consecutive “no-burn” days. From Dec. 1 to 6, wood burning was prohibited, except for those who have natural gas, or have no other source of heat.

I realize that one may use natural gas or electricity to heat their home, but let’s face it: Who wants to pay that monstrous PG&E bill after heating their home for six days with gas or electricity?

To make matters worse, and to add insult to injury, for each of these six days, I watched the air quality index gradually get worse; it seems as though wood burning has no impact on the air quality.

Who makes these decisions on behalf of the average person, anyway? The highly restrictive California Air Resources Board? Or perhaps the same scientists involved in the “global warming” madness?

Either way, this is just another example of a form of socialism: a government agency trying to control a private aspect of a citizen’s life.

This “carbon footprint” awareness is getting ridiculous, and worse every year. Wood burning is a natural process with a natural product; let us heat our homes naturally and end this nonsense.

D.J. Lantis, Fresno

[Letter to the Fresno Bee, Thursday, Dec. 17, 2009:](#)

More on Climategate Contentious debate

Climategate shines a spotlight on the bad data produced by Climate Research Unit. Forget the e-mails, it’s the data files that are so damning.

Michael Mann, through the Climate Research Unit, produced a graph in the late 1990s that shows unprecedented warming in the past 100 years, greater than any seen in the last 1,000 years. This shape was said to look like a “hockey stick” and was very contentious.

What makes the debate over the “hockey stick” so contentious? The keystone for the “alarmists” theory for human-caused global warming relies on the “hockey stick” being a valid hypothesis.

It's no surprise that physicist Michael Mann is at the center of the controversy over e-mails suggesting that scientists trumpeting anthropogenic global warming falsified data and attempted to censor dissenting views. Mann was the author of the now discredited "hockey stick" graph, which purported to show a sudden, anomalous warming trend in the latter 20th century.

In 2006, Dr. Edward Wegman and other respected statisticians, at the request of Congress, examined Mann's paper and found his data and methods seriously flawed. Their conclusion: "... the assessments that the decade of the 1990s was the hottest in a millennium cannot be supported."

Mann averred that though his data may have been inaccurate, his conclusions were correct. Solid science that!

Now we have the Environmental Protection Agency declaring that CO₂, a natural product of human respiration and a primary nutrient of trees and green plants, is a "pollutant and a danger to human health" because of its influence on climate change — this despite the likelihood that the science supporting such a conclusion is flawed and possibly dishonest.

Like Mann, the Obama administration will never let facts get in the way of its goal of forcing its radical leftist world view down our throats.

Michael Freeman, Sanger