

# Clean Air News

Clean Air Network Nepal Local Country Network of Clean Air Initiatives for Asian Cities  
(CAI-Asia Centre)

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To contribute articles, news items, or event announcements for the next issue, send an email with the complete details and URL source to [cen@mos.com.np](mailto:cen@mos.com.np) or [gopal.joshi@gmail.com](mailto:gopal.joshi@gmail.com)

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*CANN wishes all its valued readers, members and supporters a very happy new year 2011.*



Source: <http://www.ekantipur.com/kantipur/news/news->

## Road Discipline

Dec 28

Disobeying the Public notice published earlier, the motorcyclists using footpaths for travelling and other purposes have been punished by the traffic police. Similarly, punishment for the pedestrians disregarding the road discipline, have also been initiated and as the initial phase of punishment, more than 5 dozen pedestrians not using the Sky-bridge for road crossing have been taken into custody and made aware of the advantages of using sky bridges. This is all a part of the recent campaign of Traffic Police Management Office to aware people of the various Traffic rules and to bring the irresponsible motorcyclists under legal action. This is indeed a positive initiation, however the continuation and effectiveness of the effort is another challenge. The ever-increasing haphazard urbanization has been impacting

all the sectors of the capital and traffic management is no exception. But the point that all the city dwellers should understand and accept is that Traffic Management is not only the traffic police's duty but each and every driver, motor-cyclists and pedestrians are responsible. Hence, the citizens should realize their responsibility because traffic police and the rules are only present to facilitate and guide. Also, the street-vendors pose a great challenge to traffic management. In many places of the city, there are no footpaths and many other essential infrastructures such as zebra crossings, proper functioning traffic lights.

Disciplined and well maintained roads are a sign of civilized city. The state, along with awaring citizens and developing a set of disciplined road users and drivers, the state should also focus on the proper infrastructure development and maintenance of roads.

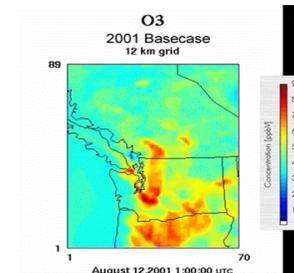
## Transboundary Air Pollution and Climate Change focused on Breathe Free Kathmandu

**After detailed introduction and analysis of Air Pollution with their solutions, Breathe-Free Kathmandu focused on wider impacts of Air Pollution.**

Breathe-Free Kathmandu, a radio program, aimed at voicing Kathmandu inhabitants struggle with Air pollution focused on the wider impacts of air pollution ie. Transboundary Air pollution and Climate Change this month. The first

episode of the December month aired a brief summary of all the previous episodes and the issues highlighted via the program which raised concerns about air quality of Kathmandu valley. The 2nd Episode of the month focused on Trans Boundary Air Pollution Issues and featured interview of the issue expert Mrs. Bidya Banmali Pradhan of ICMOD. The following episode focused on the relation between Air Pollution and Climate Change. The

episode featured interview of Mr. Manjeet Dhakal of Clean Energy Nepal/ Climate Change network Nepal where he elaborated how the air pollution affects the global scenario. This episode marked the ending of the first phase of Breathe Free Kathmandu Series.



## Solar Reserve Nevada solar power plant approved

**The U.S. Department of Interior has approved solar power developer Solar Reserve's proposed 110-megawatt Crescent Dunes solar thermal power plant capable of storing energy in Nevada.**

SolarReserve plans to start construction in the middle of 2011, the Santa Monica, California company said in a statement. It will take about 30 months to build the project at an estimated cost of \$650 million to \$750 million, with commercial operation in early 2013, a company spokesman said on Tuesday. This is one of many solar projects on which SolarReserve is working. Last week, California approved the company's proposed 150-MW Rice solar project and Arizona

advanced the permitting for the 150-MW Crossroads solar project. The company has said Crossroads would cost an estimated \$650 million. The company expects Crescent Dunes to create about 450 direct jobs and more than 4,000 indirect and induced jobs during construction, as well as 50 permanent operations and maintenance jobs once the facility is operating. SolarReserve estimated the project would have an operating budget of more than \$5 million and generate about \$40 million in sales and property tax revenues over its operating life. The company uses solar power and molten salt storage technology developed by Pratt & Whitney Rocketdyne, a subsidiary of United

Technologies Corp.

SolarReserve said the facility would be able to store enough energy to provide electricity for up to eight hours after sunset. Last December, SolarReserve signed a 25-year power purchase agreement with NV Energy for the sale of electricity from the project, which can power about 75,000 Nevada homes.



## Wind turbines may benefit crops

Wind turbines in Midwestern farm fields may be doing more than churning out electricity. The giant turbine blades that generate renewable energy might also help corn and soybean crops stay cooler and dryer, help them fend off fungal infestations and improve their ability to extract growth-enhancing carbon dioxide [CO<sub>2</sub>] from the air and soil. Speaking at the annual meeting of the American Geophysical Union, a scientific society, in San Francisco today, a researcher at the U.S. Department of Energy's Ames Laboratory and his co-researcher

from the University of Colorado announced the preliminary findings of a months-long research program aimed at studying how wind turbines on farmlands interact with surrounding crops. 'We've finished the first phase of our research, and we're confident that wind turbines do produce measurable effects on the microclimate near crops,' said Ames Laboratory associate and agricultural meteorology expert Gene Takle. According to Takle, who is also a professor of agricultural meteorology and director of the Climate Science Program

at Iowa State University, the slow-moving turbine blades that have become a familiar sight along Midwestern highways, channel air downwards, in effect bathing the crops below via the increased airflow they create. Both Takle and Lundquist stressed that their early findings have yet to definitively establish whether or not wind turbines are in fact beneficial to the health and yield potential of soybeans and corn planted nearby. However, their finding that the turbines increase airflow over surrounding crops, suggests this is a realistic possibility.



# Black Carbon: Impact on Climate Change and Health

Black carbon or soot is a part of a larger type of emissions, both natural and manmade, called aerosols. These aerosols are very small particles that are suspended in our atmosphere. They can originate from natural sources as well as can be anthropogenic.

The role that these aerosols play in our atmosphere is complex. They can enhance cloud formation and precipitation. This can have either a cooling or warming effect depending on a variety of other factors. For example, a large volcanic eruption can inject millions of tons of small light colored particles high into the atmosphere where they reflect sunlight back into space causing a cooling effect. This effect can be measured by a temperature drop on our planet's surface. Darker particles, however, directly absorb energy as any dark surface will do and therefore have a warming effect. White snow reflects about 90% of the incoming solar radiation while the dark water absorbs it. But the dirty ice surface absorbs a significant portion of the

sun's energy which will result in increased ice melt. This is also an example of a positive feedback effect. That is, the melting ice forms darker water, which absorbs more energy, which in turn melts more ice.

Most of this black carbon is of anthropogenic origin, that is, from the incomplete combustion of fossil fuel and biomass burning. Atmospheric and climate scientists are trying to improve their understanding of this effect since it is an important component of climate science, the development of climate models, and the warming we are experiencing today. According to the 2007 IPCC Fourth Assessment Report, p 163, emission estimates are approximately 8.1 megatons (8,100,000 tons) of carbon per year. Not only is the quantity of carbon particles important, but also their size and shape. Electron microscope images of these particles show complex shapes that change with age which in turn affects their size and their interaction with wavelengths of solar energy.

Characteristically, the larger ones settle out faster and the smaller ones remain suspended for longer periods of time. The size range of interest here is from ~0.1 to 1.0 microns where one micron is equal to one-millionth of a meter. A human hair is ~ 100 microns in diame-



## Hydrogen bus launched on London

The UK's first permanent hydrogen bus will be launched on a popular tourist route in London. Seven more hydrogen buses will be added to the RV1 route – which takes in Covent Garden, the Tower of London and the South Bank – by mid-2011. The UK's first permanent hydrogen bus will be launched on a popular tourist route in London today. Seven more hydrogen buses will be added to the RV1 route – which takes in Covent Garden, the Tower of London and the South Bank – by mid-2011.

The buses contain batteries that can store electricity generated by the hydrogen fuel cell – a device that combines hydrogen and oxygen to produce power and water as a by-product – in addition to energy generated during the braking process. As a result, they can travel much farther than the ones trialled in London. The new buses were designed by the consortium of businesses that furnished Vancouver with a fleet of 39 buses in 2009.

More than 4,300 deaths are caused in London by poor air quality every year, costing around £2bn a year. The new buses will go some way towards tackling this dire problem, says Hart. "All that comes out of these buses is water vapour, so you don't get all of the nasty nitrogen oxides, sulphur oxides and particulate matter that diesel buses pump out into the air." The buses may also reduce carbon emissions – but only if the hydrogen they run on is generated using renewable electricity, he said.

## City lighting 'boosts pollution'



**Bright city lights exacerbate air pollution, according to a study by US scientists.**

A recent study published in the American Geophysical Union Meeting in San Francisco, published that these lightening systems put a complex cocktail of chemicals into the air. From the tailpipes of cars to the chimneys of factories, it makes for a heady mix of molecules that nature then has to try to clean up. Nature uses a special form of nitrogen oxide, called the nitrate radical, to break down chemicals that would otherwise go on to form the smog and ozone that can make city air such an irritant on the chest. This cleansing normally occurs in the hours of dark-

ness because the radical is destroyed by sunlight; it only shows up at night. But new measurements taken from aircraft over Los Angeles indicate the energy from all the night-time light thrown out by this huge urban centre is also suppressing the radical. The lights may be 10,000 times dimmer than the Sun, but the effect is still significant. "Our first results indicate that city lights can slow down the night-time cleansing by up to 7% and they can also increase the starting chemicals for ozone pollution the next day by up to 5%," said Harald Stark from the US National Oceanic and Atmospheric Administration (Noaa). "More work needs to be done to really quantify the

next step which would be how much ozone could we actually have the next day. This work would be important to undertake because many cities are close to their regulatory limits in terms of ozone levels, so even a small effect such as this could be important." The major types of lighting in Los Angeles are high-pressure sodium lights and metal halide lights. But switching to different types would have limited effect, Dr Stark believes. The radical is less affected by red light, but the Noaa scientist doubts authorities would want to bathe the cityscape in red light. One approach that might help would be to point the lights to ground to stop the glare smearing out in sky.



The BRT should be implemented in full features just as it had been done in Ahmedabad."

## Look forward to cycle project, better bus

PUNE: For a city struggling to solve its traffic and transportation problems, there are several tasks and challenges in the new year. Transportation experts and activists say that 2010 has been a disappointing year for the city as nothing significant was done to improve the traffic situation. To tide over this slack, the Pune Municipal Corporation and the PMPML have plans for new projects aimed at improving public transport. These include the public bicycling scheme, taking up 100 km of Bus Rapid Transit System work, and completing the pilot project. The

PMPML's task is to start plying 500 new buses funded by the JNNURM, and developing depots and bus terminals. But on each front, whether it is completing the pilot BRT, improving public transport, holding meetings for the PMC development plan or the working of non-motorised transport cell, it has been a big disappointment. Patwardhan said that both public transport and the NMT have been neglected. There has been no proper budget provision or commitment. Jugal Rathi, president of the PMP Pravasi Sangh, said, "All the so-called

development works are focused on how vehicles can move speedily. There is little aimed at improving the quality of life of citizens. Improvement of public transport, providing facilities for pedestrians and bicycle-users are neglected" Rathi said. The PMP Pravasi Manch said public transport must be available free for citizens in the next ten years. Rathi said that the PMPML must roll back fare hikes and that if the PMPML does not improve its services, the city would suffer. "The BRTS should be implemented with full features just as it has been done in Ahmedabad," he said.



# Fracking for Natural Gas Is No Longer Obscure

A nonpartisan Massachusetts think-tank that advocates solutions to climate change, found that those who have heard of the process often called "fracking" are concerned that the process is not well regulated. "Americans now understand that, especially with the allure of gas production from unconventional gas plays, even 'getting it right' from a technical and regulatory point of view might still be wrong in terms of clean drinking water," said Cornell University engineering professor Anthony Ingraffea, a critic of the fracturing process. The survey (pdf) of 1,012 people conducted Nov. 26-28 by In-fogroup/Opinion Research Corp. found that among those who are "very aware" or "somewhat aware," 69 percent are very or somewhat concerned about water quality issues. The survey found such concern among members of both major political parties -- including 57 percent of Republicans, 74 percent of independents and 86 percent of Democrats. Industry groups said the poll's questions preordained the answers and established a

false choice between energy production and environmental protection. "Natural gas is a clean, abundant and domestic energy source that holds vast potential to improve air quality, grow local economies and enhance energy security in the United States and, increasingly, around the world." said Dan Whitten of America's Natural Gas Alliance. In the press call, Ingraffea and the institute's officials noted that in the public's mind, the specific process of "fracking" has become intertwined with drilling in general. "When we use the word 'fracking,' we don't mean the one hour that fracking is taking place far underground," Ingraffea said. "It's really a placeholder for the whole process." In fracturing, crews inject tank-loads of water and sand underground to blow apart the rock and release gas. A small fraction of that concoction is a mixture of chemicals as mundane as ice cream thickener and as toxic as benzene. When Congress exempted fracturing from the Safe Drinking Water Act in 2005, it attracted little attention because few had ever heard of it. But the increase in

drilling in the more densely populated Northeast has raised awareness. Improvements in fracturing technology have opened the vast shale formations in Pennsylvania and other states that were previously considered too difficult and expensive to tap. But the rapid expansion of drilling and fracturing has intensified fears that the toxins and carcinogens in fracturing fluid might contaminate drinking water. Environmentalists and congressional Democrats have pushed not only for public disclosure of fracturing chemicals but also for stricter federal regulation of the practice. Drilling companies, though, say fracturing is safe and existing state regulation is sufficient. They stress that the fracturing fluid is injected thousands of feet below drinking water aquifers and maintain that there has never been a proven case of groundwater contamination from the fracturing process. Still, one drilling group said it should do more to get its message to people who live amid the drilling boom.



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Building Partnership for Clean Air

**Clean Air Network Nepal (CANN) is a network of organizations and professionals involved in air quality management in Nepal. The goal of CANN is to increase the ability of professionals and other interested stakeholders to effectively address the problems of air pollution in Nepal. We encourage you to join hands with us to expand our campaign for clean and better Air.**

Clean Air News is a free email publication that features news, information and events related to clean air.

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