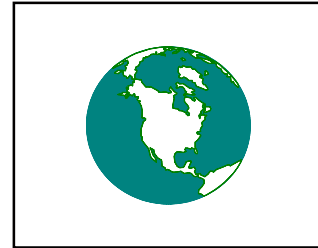


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# CAR LINES

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## EUROPE

### 1. Amsterdam's LEZ Has Cut Pollution, Research Shows

Restrictions preventing the most polluting trucks from entering Amsterdam have cut levels of traffic-related pollution by between 5% and 13%, new research has found. The work, led by scientists at Amsterdam's municipal health service department of air quality, bolsters the evidence base for low emission zones (LEZs), which are seen as an important weapon against urban air pollution.

The Amsterdam low emission zone has banned older heavy-duty vehicles meeting Euro emissions standards 0, I and II since January 2009.

The researchers measured pollution at a busy urban roadside and a control site in the city for two years before and two years after the LEZ was implemented. The traffic contribution to levels of NOx and coarse particulates (PM10) both fell by 6%, and its contribution to soot – measured using two proxies – fell by 8-13%.

The research at first appears to contradict 2012 work from some of the same authors showing no significant air quality improvements in five Dutch LEZs. The difference in findings arises for several reasons, says lead author Pavlos Panteliadis:

1. Most importantly, the new work was based on long term monitoring.
2. Unlike the other Dutch LEZs, compliance with the Amsterdam LEZ is also close to 100% because it is enforced by traffic cameras.
3. Finally, the two studies used different methodologies. The 2012 study compared city center and suburban control sites before and after implementation of the low emission zones. The latest research compared a busy roadside location with a quieter street also in the LEZ. The difference in pollution levels was attributed to traffic emissions.

### 2. Parliament Sends 2020 Carbon Cap for Light Vans to EU Council for Finalization

Carbon dioxide emissions from light vans sold in the European Union starting in 2020 would be capped at 147 grams per kilometer (g/km, or 237 grams per mile), under a regulation approved by the European Parliament on January 14<sup>th</sup>. Members of the Parliament approved the regulation by a vote of 552-110 with 12 abstentions. The 147 g/km cap represents a cut of about 18.5 percent compared to current average van emissions of 180.2 g/km. The regulation will only be finalized, however, when formally adopted by the EU Council.

The regulation which would apply to "light commercial vehicles" (defined as vehicles that can carry loads of up to 3.5 metric tons) succeeds a current law (Regulation (EU) 510/2011) under which van emissions must be limited to 175 g/km by 2017.

The regulation would also require the European Commission to assess the feasibility of a tighter emissions cap for vans of between 105 g/km and 120 g/km to be achieved by 2025.

It also would require the EU to implement by 2017 the United Nations World Light Duty Test Procedure for assessing in test conditions the emissions and fuel consumption of cars and vans.

The European Parliament said in a statement that this is necessary because there are “loopholes in the current environmental performance test protocol, which manufacturers have exploited to produce consumption and emission figures that are almost impossible to achieve under normal daily driving conditions.”

In the first 11 months of 2013, about 1.25 million new vans were registered in the European Union.

The European Parliament's approval of the 2020 emissions cap for vans was a formality following an informal agreement with the EU Council in June 2013. The European Parliament Environment Committee confirmed the deal with the EU Council in November.

### **3. Azerbaijan's Transition to Euro-4 Standard Announced**

Azerbaijani Prime Minister Arthur Rasizade has signed a decree on the country's transition to the Euro-4 ecological standard beginning April 1, 2014. The Prime Minister's decision has been published in the official press. The Euro-4 ecological standard will be applied from April 1, 2014 to the vehicles imported and manufactured in Azerbaijan to reduce the emission of vehicle pollutants into the atmosphere and improve the environmental situation in the country, according to the decision.

### **4. European Commission Proposes Binding EU 40% Greenhouse Gas Cut by 2030**

The European Union's member states and the European Parliament should agree by the end of 2014 on a binding 40 percent greenhouse gas emissions reduction target to be achieved by 2030, the European Commission said in a strategy document published on January 22<sup>nd</sup>. The target would build on a current mandatory cut of 20 percent by 2020 compared to 1990 levels, put the EU on track for a minimum 80 percent greenhouse gas reduction by 2050, contribute to an international deal to tackle global warming, and benefit the EU economy by reducing dependence on imported fossil fuels and promoting technological development, the commission said. The target was part of a package of measures that would establish the framework for EU climate and energy policies through 2030.

The commission published the proposals ahead of a summit of EU leaders March 20-21, which will consider climate and energy issues and could decide to endorse the 40 percent reduction target. European Commission President José Manuel Barroso, speaking to reporters, said the EU should agree on a position on the target ahead of a September 23<sup>rd</sup> world leaders' climate summit in New York to be hosted by UN Secretary-General Ban Ki-moon.

In an impact assessment accompanying the proposals, the commission said the cost of measures to achieve the 40 percent cut would be equivalent to 0.15 percent of EU gross domestic product in 2030. The commission added that the 40 percent cut would be a reduction in the EU's own greenhouse gas emissions and would not include reductions in non-EU emissions used as offsets.

Under the UN Framework Convention on Climate Change process, negotiators are planning to conclude an agreement in 2015 on a post-2020 climate change mitigation regime.

Under the commission's proposal, to secure the 40 percent emissions reduction, companies that participate in the EU ETS would be required collectively to cut their emissions by 43 percent compared to 2005 levels and non-ETS emissions would need to be cut by 30 percent relative to

2005 levels. The ETS covers power generation; industrial sectors such as steelmaking, cement, chemicals and paper; and some aviation activities.

The commission said the ETS cut would be achieved by reducing the market emissions cap by 2.2 percent each year between 2021 and 2030. During the current ETS phase (2013-2020), the overall cap is reduced by 1.74 percent each year. The ETS covers about 11,000 industrial plants, which are responsible for about 41 percent of the EU's total greenhouse gas emissions.

The commission strategy document said EU countries would be required to prepare national plans showing how they would secure emission reductions from non-ETS sectors such as transport and households, and taking into account factors such as renewables and energy efficiency. Each country's plan would have to be agreed on in a peer-review process with the commission and other member states, the commission said.

The commission added that, from 2020-2030, EU emission cuts would be driven more by member state decisions expressed in national plans and less by EU-level regulation. In particular, EU rules on fuel quality that require emission cuts through 2020 by reducing the carbon intensity of transport fuels, including through the introduction of biofuels, would not be continued after 2020, the commission said.

The Commission' 2030 strategy statement reflects a new sense of pragmatism at a time when European growth is slow and the EU's biggest trading partners, including the United States, Japan and Canada, have scaled back their climate commitments.

Beyond the headline goal, the Commission also scaled back its demands on member states when it comes to adopting renewable sources of energy such as solar and wind power. Current national targets require countries to ensure renewables account for 20 percent of total EU energy use by 2020. But after that date, binding national targets will be scrapped. Instead, the Commission is recommending an EU-wide goal of "at least 27 percent" renewables, a higher level but without the hard and fast national targets currently in force. That would allow Britain and others to meet their emissions targets by building nuclear power plants, which are carbon-free but not renewable. Generous government subsidies designed to meet the 20 percent renewables target have been blamed for pushing up energy costs.

Conscious of how far Europe now lags the United States when it comes to shale gas, the Commission also decided not to put obstacles in the way of shale exploration. That could allow Poland and others to reduce their reliance on coal, which emits around twice as much carbon as gas. The U.S. shale boom has resulted in gas prices of about a third of those in Europe.

EU leaders are due to debate the 2030 goals at summits in March and June, ahead of formal legislative proposals expected early next year. These would still require lengthy debate by EU governments and the European Parliament before becoming law, and Barroso warned that agreement on the Commission's proposed targets was far from assured.

## **5. Brussels Seeks To Scrap Law on Fuel CO2 Intensity**

The EU's GHG reduction target for transport fuels could apply for just one year, after the European Commission proposed scrapping it in 2021. The 6% reduction target set in the Fuel Quality Directive (FQD) must be implemented by 31 December 2020 and will be met through blending biofuels into conventional fuels. But the Commission said that it "does not think it appropriate" to establish further targets in this area.

The FQD requires suppliers to “reduce as gradually as possible life cycle greenhouse gas emissions per unit of energy”. Member states can set interim targets of 2% in 2014 and 4% in 2017 but it is not compulsory to do so.

Both the advanced and conventional biofuels sectors have condemned the Commission’s plan to also do away with renewable energy sub-targets for transport, currently set at 10%. This is mostly met using first-generation biofuels. The Commission said first-generation biofuels should have a “limited role” in the future, with new policies instead focusing on “improving the efficiency of the transport system, further development and deployment of electric vehicles, second and third generation biofuels and other alternative, sustainable fuels”.

The 10% renewables target has become politically toxic for the EU due to the acrimonious debates about land-use change emissions and the impact of the biofuels industry on food production in developing countries.

## **6. Swiss Say Emission-Reduction Goals Achievable Through Existing Policies**

Switzerland can achieve its greenhouse gas emission reduction goals by continuing and strengthening existing policy measures, according to the Swiss government. In a report released on January 22<sup>nd</sup>, the Federal Council said the legally mandated target of reducing greenhouse gas emissions by 20 percent from 1990 levels by 2020 can be met through the “targeted reinforcement” of measures already in place, including further increases in Switzerland's existing carbon tax on fuels.

These emissions can be further reduced by 45 percent from 2010 levels by 2050 if these policies are carried forward, added the Federal Council, the Swiss government's executive arm.

The biggest potential for emission cuts exist in the transportation and building sectors, where a reduction of more than 3 million metric tons of carbon dioxide-equivalent emissions can be achieved in each sector by 2020. These cuts are achievable due to advances in efficient energy use and renewable or low-emission energy sources.

In order to achieve this scenario, an “ambitious” policy reinforcing existing measures would need to be in place from 2015, including raising further the existing carbon tax on fossil fuels other than gasoline and diesel fuel for vehicles to 96 Swiss francs (\$105) per ton of carbon dioxide-equivalent by 2018. The carbon tax was recently hiked from 36 francs (\$40) per ton to 60 francs (\$66) per ton starting Jan. 1. The increase corresponds to a hike of 0.095 franc per liter (1 cent) of light heating fuel and 0.05 francs per cubic meter of natural gas. Increases in the carbon tax are already programmed to take effect in 2016 and 2018 if Switzerland fails to meet its intermediate targets for reducing greenhouse gas emissions.

The scenario also foresees reducing emission limits for passenger cars to 130 grams of CO<sub>2</sub> per kilometer starting in 2015—a reduction already set out in an ordinance adopted by the Swiss government in December 2012—and then further reducing the limits to 95 grams of CO<sub>2</sub>/km starting in 2020 .

## **7. EU Parliament Sets Up Clash Over Aviation Emissions**

European Union negotiators face a clash with member states over whether to make all airlines using EU airports pay for their emissions after a parliamentary body backed compromise plans to

charge carriers for part of their journeys. Some of Europe's most powerful countries and international airlines strongly oppose the proposals, which they say are likely to reignite tensions with trading partners such as China and the United States.

The European Parliament's environment committee voted to regulate emissions in EU airspace for all flights via the bloc's Emissions Trading System (ETS) and teed up a fast-track negotiation process with national governments. The pressure is on to get agreement from all sides before the end of April, otherwise earlier legislation that provoked threats of a trade war from countries including India, China and Russia would automatically reapply. That law would have charged all flights in and out of EU airports for emissions over their entire journeys.

As a compromise, the European Commission - the EU's executive arm - proposed charging just for European airspace, cutting the amount of regulated emissions by around two-thirds.

Despite opposition from other parliamentary committees, the 68-strong cross-party environment committee backed a modified version of the Commission's proposal.

Concern about angering trading partners has prompted major EU powers, including Britain, France and Germany, to seek to maintain the current practice of regulating emissions from intra-EU flights only.

The major international airlines objected strongly to the original EU law charging them for emissions over the length of their flights and also to limiting the charge to EU airspace. Low-cost airlines, however, whose flights are almost exclusively European, have taken a different view. They say the Commission should not have caved into pressure and suspended its original law. At present, they say they suffer a competitive disadvantage because internal EU flights are still paying for emissions.

The Commission, meanwhile, is seeking to strengthen the EU Emissions Trading System and eventually extend its scope. To this end, the environment committee voted in support of monitoring ships' emissions of carbon dioxide and nitrogen oxide. EU president Greece has said getting agreement on the shipping emission law is a priority for its six months at the helm of EU policymaking.

## **8. EU Parliament Backs Tougher Car Emissions Limits**

Members of the European Parliament have voted through the world's toughest carbon dioxide standards for new cars. The new rules set a limit of 95 grams of carbon dioxide per kilometer (g/km) as an average across all new cars sold in the EU, compared with an existing limit of 130 g/km.

The European Commission proposed the target should apply from 2020, but full implementation has been delayed for a year following months of negotiation.

Germany, on behalf of its luxury car makers, such as Daimler and BMW, campaigned hard for more time to implement the legislation, which its car industry says will still be extremely challenging. In a reference to German lobbying, EU Climate Commissioner Connie Hedegaard commented in German: "Ende gut, alles gut." (All's well that ends well.)



"I'm glad that a deal was sealed that maintains ambition," she said in a statement. She added that the industry needed planning certainty and the Commission would be working over the coming months on "ideas for a post-2020 target".

Environmental campaigners said the phase-in meant only 95 percent of new cars would meet the 95 g/km target in 2020, equating to a 3 g/km weakening of the target, but Tuesday's vote was still progress.

EU officials said they expected member states to give final endorsement over the coming weeks.

## **9. Spain Renews Cash for Clunkers to Boost Industry, Cut Emissions**

In what it called an employment-generating boost to the auto industry that will incidentally reduce carbon dioxide emissions, the Spanish government has approved the fifth version of its subsidized vehicle acquisition program. Royal Decree 35/2014, which the government approved on January 24<sup>th</sup> regulates the direct concession of 175 million euros (\$239 million) in vehicle subsidies under the "Efficient Vehicle Incentives Program" (PIVE-5).

Vice President Soraya Sáenz de Santamaría said the new plan is essentially the same as the PIVE-4 approved in October 2013. Individuals and small and medium-sized companies that decommission up to one vehicle can receive a government subsidy of 1,000 euros (\$1,366) to be applied to the purchase of a new, more fuel-efficient vehicle. A matching manufacturer or retailer discount of at least 1,000 euros will be available at participating dealerships. Large families and drivers with disabilities will be eligible for at least 3,000 euros in discounts (a 1,500 euro government subsidy plus a matching dealer discount of at least that much).

The subsidies will be available for 12 months or until funds run out. The maximum retail price of subsidized vehicles is 25,000 euros (\$34,140), or 30,000 euros (\$40,970) in the case of disabled drivers.

As with past versions, the plan is open to participating international automakers, including those from the U.S. According to Sáenz de Santamaría, 60 percent of vehicles purchased under the program to date have been manufactured in Spain.

The subsidies will be incompatible with past PIVE plans and the Plans to Promote the Environment ("PIMA Aire"), but will be compatible with Industry Ministry subsidies for the purchase of electric vehicles.

According to the government, the PIVE-5 will help save 60 million liters (15.85 million gallons) of fuel and 125,000 metric tons of carbon dioxide emissions annually.

## **10. Six Norwegian Cruise Line Ships to Get Exhaust Scrubbers**

Norwegian Cruise Line has contracted with Green Tech Marine to install scrubbers on six ships. The scrubbers enable ship operators to reduce sulfur emissions while continuing to use heavy fuel oil for power. Scrubbers are a less expensive option than switching to low-sulfur diesel fuel.

Norway-based Green Tech Marine will install the scrubbers on the Breakaway, Dawn, Jewel, Gem, Pearl and Sun, starting this spring and continuing through 2016. The scrubbers will replace the ships' exhaust silencers.

Green Tech Marine installed scrubbers on the Hawaii-based Pride of America last year and will supply them for Norwegian's Breakaway Plus ships, the Escape and the Bliss, due to enter service in 2015 and 2017, respectively.

## **11. EU Parliament Calls For Three Binding 2030 Targets**

The European Parliament has called for a binding EU-wide renewable energy target of 30% for 2030 and added that the current system of binding national targets should continue. In a non-legislative resolution adopted in Strasbourg, MEPs also called for a binding EU energy efficiency target of 40% and endorsed the de-carbonization effort proposed by the European Commission in its paper on climate and energy policies.

The resolution was adopted by 341 votes to 263, with 26 abstentions.

A 40% energy efficiency target is "in line with research on cost-effective energy saving potential", the resolution stated. As with renewables, the efficiency target should be implemented through binding national targets, the MEPs said.

The Parliament also called for the continuation of the Fuel Quality Directive on reducing fuels' greenhouse gas emissions, a measure the Commission wants to scrap.

Polish MEP Konrad Szymański (ECR group), one of two rapporteurs for the resolution, withdrew his name from it before it was adopted. "Adopting these objectives before the 2015 Paris [climate] talks is a mistake," Mr. Szymański said, adding that Europe should not "show all its cards" before other countries table commitments. Binding renewables and energy efficiency targets are too inflexible given member states' and sectors' "different capacities", he added. But co-rapporteur Anne Delvaux (EPP) said a three-target system would create jobs and encourage technological innovation.

In its policy paper published on 22 January, the Commission proposed a binding EU renewables target of 27% but said this should not be broken down into binding national targets. It has not yet tabled proposals on energy efficiency.

It will be difficult for EU heads of state and government to reach agreement on the proposed 40% CO2 reduction target for 2030 when they meet on 21 March, the UK's energy and climate minister, Ed Davey told an audience in London. Poland, Czech Republic, Slovakia, Hungary, Romania and Bulgaria are "not keen" on the 40% goal, Mr. Davey said, based on meetings he has held in recent weeks. These six countries co-ordinate their positions, including on climate, through the Visegrád alliance.<sup>1</sup>

Poland has been particularly vocal in its view that Europe should align its ambition with that shown by other major economies. "Otherwise, we will repeat the failure of Copenhagen, where unilateral measures taken by Europe did not meet with any response from others," Polish climate minister Marcin Korolec said following a Visegrád group meeting.

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<sup>1</sup> The Visegrád Group is an alliance of four Central European states – Czech Republic, Hungary, Poland and Slovakia – for the purposes of cooperation and furthering their European integration. The Group originated in a summit meeting of the heads of state or government of Czechoslovakia, Hungary and Poland held in the Hungarian castle town of Visegrád on 15 February 1991. The Czech Republic and Slovakia became members after the dissolution of Czechoslovakia in 1993. All four members of the Visegrád Group became part of the European Union on 1 May 2004.

Member states are also likely to disagree on the issue of renewables targets, Mr. Davey predicted. The UK supports the European Commission's proposal to do away with binding national targets, as well as the proposed 40% CO2 reduction target.

## **12. EU Talks on Alternative Fuels Making Progress**

MEPs could still reach a deal with member state representatives over measures to support the uptake of cleaner transport fuels before the European elections, says an aide to the European Parliament rapporteur Carlo Fidanza. Discussions between the Parliament and Council of Ministers began in December with the two sides in very different positions. Now after two sets of formal triologue talks most of the text of the proposed directive has reportedly been agreed.

But the refusal of most member states to accept quantitative targets for installing refueling and recharging points remains a problem for MEPs. In its original proposal, the European Commission included national and EU-targets for the electric, hydrogen and natural gas charging points for road vehicles and ships to be installed by 2020 and 2025. MEPs in the transport committee extended this principle to all forms of transport, albeit with some changes.

The other major sticking point is over the dates by which any targets should be met. The Council's original position was that member states should come up with their own national goals which would apply from 2030. Parliament negotiators have already given a significant amount of ground, Mr. Fidanza's aide said. There is no way they would accept 2030. However, he was hopeful member states could be persuaded to accept some kind of wording that still commits them to significant improvements.

The next triologue will be in March. Any deal will have to be agreed before the last plenary in mid-April if it is to be approved by the outgoing Parliament.

## **13. Oppose NOx Control Delays at IMO, EU States Told**

An International Maritime Organization (IMO) proposal to delay the introduction of stricter NOx standards would undermine the EU's air quality goals and should be opposed, the European Commission has told member states. In a draft decision on the EU's position ahead of a meeting of the IMO's environment committee in April, the Commission said Europe should oppose the postponement of NOx emission control areas (NECAs) as proposed by the committee.

Poland, Estonia and Latvia supported Russia's proposal for a delay at a committee meeting in May 2013, while Denmark, Germany, Finland and Sweden opposed it. Countries pushing for a delay have expressed concern about the cost and effectiveness of the available NOx abatement technologies.

NOx from maritime shipping is not regulated under the EU's emissions control ceilings because such emissions fall within the IMO's purview.

The immediate impact of the IMO proposal in Europe would be to severely delay the implementation of a planned NECA in the Baltic Sea. Countries in the region have agreed in principle through the HELCOM forum to establish a NECA although they have not yet made a formal proposal to the IMO.

In a memorandum to member states, the Commission noted that "NOx emissions from shipping are a direct contributor to eutrophication of inland and marine waters and terrestrial habitats, and

to the formation of secondary particulate matter affecting health". Failing to limit maritime NOx emissions would "impair the possibility" for Baltic and North Sea countries to protect ecosystems by limiting eutrophication, an objective set out in several environmental directives. It would also make it more difficult to meet PM10 and PM2.5 limit values for air quality, the Commission said.

#### **14. MEPs Struggle to Find Compromise on Mega-Lorries**

The European Parliament's transport committee is set for another month of tough debate on the proposal to allow extra-long 'mega-lorries' to cross EU borders. The European Commission appended the proposal to draft legislation it tabled last year on making lorries more aerodynamic to save fuel. It had previously tried to clarify the legality of driving mega-lorries across borders by issuing an 'interpretation' of the 1996 directive on vehicle dimensions and weights.

A transport committee vote on the changes was delayed until 18 March to allow more time to reach a position on mega-lorries.

The S&D and Green groups are broadly against the Commission proposal on mega-lorries, on the basis that it could inhibit a shift of freight from road to rail, while the EPP and ALDE are broadly in favor, according to reports.

The easiest solution would be to allow cross-border traffic between member states such as Finland and Sweden that already allow mega-lorries on their roads. But the Parliament's legal service has warned that such a derogation is not permissible unless it is limited in time. Some MEPs do not support the inclusion of such a review clause because it would create uncertainty.

The transport committee is likely to back proposals to make lorries more aerodynamic, which have proved relatively uncontroversial.

#### **15. EU Executive Proposes NO<sub>2</sub> Limits For Cars and Vans**

The European Commission has proposed setting NO<sub>2</sub> emission limits for passenger cars and light commercial vehicles. Modern diesel vehicles "emit high and increasing amounts of NO<sub>2</sub> as a share of the total NOx emissions", which was not anticipated when type approval rules were adopted, the Commission explained in a preamble to the new proposal.

Manufacturers should be required to count vehicles' methane emissions, expressed as the equivalent mass of CO<sub>2</sub> emissions, when drawing up certificates of conformity under the 2007 framework directive on the approval of road vehicles. But methane emissions should no longer be regulated under type approval rules, the Commission says. Total hydrocarbon (THC) emission limits, under which methane is currently restricted, should either be increased or abolished, it said. According to an accompanying impact assessment, this would help bringing natural gas vehicles to the market as their exhaust emissions contain some uncombusted methane, making it difficult for them to meet THC limits.

The proposal would also establish low temperature emissions limits for NOx and NO<sub>2</sub>. Existing limits for carbon monoxide and THC emissions should be revised to take account of technological progress, the Commission said.

It also proposes widening the application of type approval rules in terms of vehicle mass. This would reduce the administrative burden for manufacturers of vehicles that fall within both light-duty and heavy-duty categories, it said.

## **16. France Takes Steps to Support Transport Mobility**

The French government has announced measures to support the development of intelligent transport systems (ITS) in France. ITS technologies help increase mobility, reduce congestion and cut greenhouse gas emissions.

One of the initiatives includes the creation of a tool that calculates the best itinerary for long distance travel, using a combination of transport modes. The aim is to encourage greater use of public transport. This involves opening up access to road, traffic and travel data, in line with the 2010 directive on ITS deployment. A national debate on this issue will be launched soon and recommendations will be submitted in October.

A group of key stakeholders in the industrial sector, public service organizations and research community will also be established in March to identify the regulatory changes needed to help support ITS developers and training requirements.

In addition, a nationwide experiment will be conducted at five or six pilot sites to test a system of communication between vehicles and the road network they use.

## **NORTH AMERICA**

### **17. Environmental Groups File Court Motion Seeking EPA Action on Ozone Standard**

Several public health and environmental groups have filed a motion in federal court in an attempt to force the Environmental Protection Agency to propose delayed standards for ozone. If honored, the move would establish a December 2014 deadline for the EPA to propose a standard and October 2015 date to finalize it.

The American Lung Association, Environmental Defense Fund, Natural Resources Defense Council and Sierra Club, all of which were represented by Earthjustice, filed the motion of summary judgment in the U.S. District Court for the Northern District of California. It follows a request for an injunction from those groups in the same court in June.

Federal law requires the EPA to review standards for ozone pollution every five years. The most recent revision came in March 2008, when former President George W. Bush set the standard at 0.75 parts per million. President Obama pulled back on issuing a new standard in September 2011 following lobbying from industry groups and opposition from Republicans, who argued that tightening ozone restrictions would harm a fragile economy.

The agency's outside experts recommended lowering to between 0.60 and 0.70 parts per million, which it included in a preliminary 2010 proposal.

"The stakes are high for those most at risk from unhealthy levels of ozone. Children and people with lung diseases such as asthma are especially vulnerable. Even healthy adults who work or exercise outdoors may be harmed," the American Lung Association said in a statement.

### **18. Testing Verifies Emission Reductions from Heavy-Duty Diesel Trucks in California**

Measurements on truck-dominated freeways in southern California have offered a unique opportunity to track emission changes that have occurred due to the implementation of local and

state regulations affecting heavy-duty diesel trucks. These regulations have accelerated fleet turnover to cleaner and newer trucks. In this study, a mobile platform was used to measure nitrogen oxides (NOX), black carbon (BC), and ultrafine particles (UFPs) on diesel-dominated southern California freeways<sup>2</sup>. Fleet-averaged fuel-based emission factors were calculated for diesel trucks and the results showed NOX and BC emissions were reduced by 40% or more between 2009 and 2011, but there were no statistically significant reductions for UFP. Technologies associated with these new trucks, mainly diesel particulate filters, have changed the physical characteristics of diesel particulate, shifting the size distribution of such particles to smaller modes (10–20 nm). In addition, integration of 2007 MY trucks into the fleet was also observed in on-road ratios of nitrogen dioxide (NO<sub>2</sub>) and NOX. NO<sub>2</sub>/NOX ratios steadily increased from 0.23 ± 0.06 in 2009 to 0.30 ± 0.03 in 2010 but plateaued and declined in 2011.

### **19. Changes for Obama Climate Goals Do Not Need Congressional OK: Report**

A group of business leaders, energy experts and former government leaders believes that the Obama administration could tackle climate change by taking measures that do not require congressional approval, according to a recent report. The 207-page report contained about 200 recommendations on how President Barack Obama can use executive authority to advance the climate change action plan he announced in June. It was released by former Colorado Governor Bill Ritter, who briefed U.S. cabinet officials and senior policy staff focused on energy and climate policy.

The recommendations focus on five areas: doubling energy efficiency; financing renewable energy; producing natural gas more responsibly; developing alternative fuels and vehicles; and helping utilities adapt to the country's changed energy landscape.

They highlight measures that every federal agency can take, said Heather Zichal, a former energy and climate policy adviser to Obama who helped coordinate the report. "The president is going to put pressure on his agencies to identify areas of opportunity" to help the country meet its goal of slashing carbon emissions 17 percent below 2005 levels by 2020, said Zichal, who left the White House in late 2013.

The report was inspired by a meeting last March between Obama and 14 corporate and private sector leaders to discuss ideas to reshape energy policy. It was produced by the Center for the New Energy Economy (CNEE) at Colorado State University, with contributions from more than 100 business leaders, academics, energy experts and government leaders.

One of the recommendations called on federal agencies to work with electric utilities and regulators across the country to update regulations that have created barriers for new clean energy technologies.

Another idea was for the Internal Revenue Service to reform the tax code to level the playing field for private investors who want to bankroll clean energy technologies.

The report also calls for a federal process to develop methods to account for the full costs of various energy choices, including healthcare costs associated with air pollution. By calculating those costs, the administration would have more information and choices to develop a "best of

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<sup>2</sup> Kathleen H. Kozawa, Seong Suk Park, Steven L. Mara, and Jorn D. Herner, California Air Resources Board, Environ. Sci. Technol., DOI: 10.1021/es4044177, Publication Date (Web): January 5, 2014.

the above" energy strategy. That's in contrast to the "all of the above" strategy often cited by the administration.

## **20. Senators Look to Revive Climate Debate in U.S. Congress**

Two of the U.S. Senate's biggest environmental boosters have launched a drive to revive the issue of climate change in Congress and defend President Barack Obama's climate action plan against opposition from Republicans. Democratic senators Barbara Boxer of California and Sheldon Whitehouse of Rhode Island told reporters they would launch a new climate action task force with more than a dozen members and the full support of Senate Majority Leader Harry Reid.

The task force is likely to introduce a number of small-scale bills and will push for increased discussion on climate topics in the full Senate. The task force will also consult with officials at the White House, including John Podesta, the president's newly appointed adviser specializing in energy and environmental matters.

Among the smaller-scale bills being mulled is one to protect the government's renewable fuel standard proposal, and one to improve energy efficiency in federal buildings, she said.

Whitehouse, who has delivered a weekly address on climate change on the Senate floor for more than a year, said the timing is right for the task force, noting a shift in public support and backing of his party's leadership. He pointed to recent polling by the independent Pew Research Center that shows that 71 percent of Americans have said they've seen the effects of global warming, as well as a survey by the League of Conservation Voters that found that 53 percent of Republicans under the age of 35 describe those skeptical of climate change "ignorant," "out of touch" or "crazy."

## **Ford Unveils New, Lightweight F-150 Pick-Up**

Ford introduced the all-new Ford F-150 at the North American International Auto Show in Detroit. Ford engineers increased the use of high-strength steel in the frame from 23 percent to 77 percent to create a pickup frame that is stronger, more durable and structurally more rigid than the current F-150, while saving up to 60 pounds of weight. Thanks to its innovative, high-strength, military-grade, aluminum-alloy body coupled with the high-strength steel frame, the all-new F-150 is nearly 700 pounds lighter, resulting in increased towing and hauling capability and even better efficiency.

"Our objective was to find materials that allowed us to design the truck to be as tough – or tougher – than the current model, yet could help it be hundreds of pounds lighter for better capability and fuel economy," said Pete Friedman, manager, Ford manufacturing research. "Out of all the materials we tested, we carefully selected only certain grades of aluminum that met our high performance standards in all of our tests, while allowing us to trim hundreds of pounds from the truck."

Adding to these benefits, aluminum alloys will not rust and are resistant to corrosion, helping enhance vehicle life. Particular attention was paid to the new body panels and how they are fastened to the frame. One test simulated six years of use in six weeks. After a complete teardown and inspection, the team developed new ways to prevent scratching the e-coat corrosion protection on the frame and eliminated spots where water could settle.

## **21. Canadian Departments Propose Designating Four Petroleum, Refinery Gases as Toxic**

The Canadian government has proposed designating four industry-restricted petroleum and refinery gases as toxic and developing a regulation to reduce the risk the substances pose to human health. The substances were identified as priorities through the Petroleum Sector Stream Approach under the broader Chemicals Management Plan. Screening assessments found that they present a high hazard to human health due to their carcinogenicity and therefore meet toxicity criteria under Section 64 of the Canadian Environmental Protection Act, Environment Canada and Health Canada said in a notice published in the January 18<sup>th</sup> issue of the Canada Gazette, Part I.

The departments also proposed, in a draft risk management approach, development of a regulation to reduce fugitive emissions of the four gases from petroleum facilities through new practices or technologies or better implementation of existing requirements. The same regulation would address the management of risks posed by 40 site-restricted petroleum and refinery gases, which were proposed for toxic designation in June 2013.

The substances are C3-C4 gases (petroleum), C3-C4 isobutane-rich gases (petroleum), C4-rich gases (petroleum), and C1-C4 hydrocarbons, debutanizer fraction. They are a category of saturated and unsaturated light hydrocarbons whose composition is variable depending on the source of the crude oil, bitumen or natural gas being processed, the processing conditions and the equipment being used.

The departments noted that while the four petroleum and refinery gases do not generally pose a risk of ecological harm, they can contain ethene, which is considered to have significant acute toxicity effects on organisms. Ethene is being addressed separately to ensure that its release from industrial operations is considered on its own rather than through its linkage to the petroleum and refinery gases, the departments said.

## **22. U.S. EPA to Reconsider 2013 Cellulosic Ethanol Target**

The U.S. Environmental Protection Agency has informed oil industry groups that it would reconsider the 2013 target for advanced ethanol made from grasses and trees as producers struggle to make the fuel.

The American Fuel & Petrochemical Manufacturers and the American Petroleum Institute had petitioned the EPA to reconsider the target. Producers were on track to make only about 1 million gallons of cellulosic last year, well short of the mandate of 6 million gallons.

"We have determined that your petition demonstrates that the statutory criteria for granting a petition for reconsideration are satisfied," Gina McCarthy, the administrator of the EPA, said in a letter to the groups.

## **23. NY City Greenhouse Gas Emissions Drop 19% Since 2005**

New York City's greenhouse gas emissions have dropped by 19 percent since 2005, outgoing Mayor Michael Bloomberg said, putting the city nearly two-thirds of the way to meeting the goal that Bloomberg set five years ago. Bloomberg announced the progress report as he prepared to leave the mayor's office after 12 years in office.

In the comprehensive climate change blueprint he launched in 2007, called PlaNYC 2030, Bloomberg set a goal to slash citywide emissions 30 percent by 2030 through a number of



initiatives, such as requiring hybrid taxi cabs and retrofitting municipal buildings to make them more energy efficient.

Sergej Mahnovski, director of the city's office of long-term planning and sustainability, said that New York's air is the cleanest it has been in 50 years and that the city is on track to make even deeper emissions cuts. "The key message is that local governments can work together with utilities, regulators, environmental partners, developers and communities to test-bed new concepts and sharply reduce emissions with state-of-the art analytics, financial products and technical resources," he said.

Bloomberg has taken a high-profile stance on combating climate change that went beyond the city limits. He has been a strong advocate for national climate change legislation and leader of an international group of mayors dedicated to reducing greenhouse gas emissions.

In the wake of Superstorm Sandy in October 2012, Bloomberg made an unexpected endorsement of President Barack Obama for re-election, who he felt would take stronger action against climate change than Republican opponent Mitt Romney. The toll Superstorm Sandy took on New York also led Bloomberg to announce a \$20 billion plan in June to prepare the city for rising sea levels and hotter summers. The plan included 250 recommendations, ranging from the installation of floodwalls and storm barriers to upgrades of power and telecommunications infrastructures.

Bloomberg told reporters earlier this month that he will continue to focus on promoting climate action in his private life through his philanthropic work. He said climate change remains one of his key causes, in addition to gun control and immigration.

#### **24. Mexico's Highly Polluting States Team Up to Boost Air Quality Improvements**

Mexico's most polluting states have teamed up to improve air quality through a series of actions, including investment in new monitoring stations and efforts to even out their vehicle verification policies. On January 20<sup>th</sup>, in its first meeting, the fledgling Megalopolis Environmental Commission (CAME) representing six highly polluting states agreed to invest 120 million pesos (\$8.9 million), of which 50 million will be used to set up 11 new air monitoring stations. Three stations will be installed in Mexico City, three in Puebla, three in Morelos and two in Tlaxcala, the Environment Secretariat (Semarnat) said in a statement. The new equipment is necessary to obtain greater and more real-time air-quality information from key cities in these states, CAME's executive coordinator, Francisco Barnes, said in the statement.

He added another 70 million pesos will be used to improve an unspecified number of existing monitoring stations in Mexico City, which has the country's highest vehicle pollution rates.

Barnes said vehicle verification and other regulations must be strengthened and evened out across the states. He added CAME also analyzed the possibility of introducing "green" incentives to encourage the purchase of environmentally friendly vehicles in the region. Semarnat spokesman Mario Robles Saldana said the incentives may include a green tag that will be handed to drivers using low-emission vehicles or those with good inspection records.

#### **25. U.S.-Russia Commission Says Black Carbon, Energy Efficiency, Cleanups Are Priorities**

According to the 2013 U.S.-Russia Bilateral Presidential Commission Joint Report, an energy working group under the chairmanship of U.S. Energy Secretary Ernest Moniz and Russian

Minister of Energy Alexander Novak will continue to pursue pilot programs and knowledge sharing opportunities in hopes of driving innovations in energy efficiency, black carbon reductions and cleanup initiatives, among other priorities.

The U.S.-Russia Bilateral Presidential Commission consists of 21 working groups between more than 60 offices and agencies in the two countries. Ongoing joint research projects between the two nations include those related to nanotechnology, fuel cells, reactor materials, hydrogen storage and biofuels. Both the energy and environmental working groups will continue to pursue reductions in black carbon emissions, especially in the Arctic, according to the report.

The Energy Department identified areas with high emissions of black carbon and worked throughout 2013 to create a demonstration project in Murmansk that could identify ways to reduce black carbon emissions. The Environmental Protection Agency continues to work with a Russian research institution on ways to measure and reduce black carbon emissions from diesel sources, according to the report. According to the EPA, black carbon is the “most strongly light-absorbing component of particulate matter (PM), and is formed by the incomplete combustion of fossil fuels, biofuels, and biomass.”

## **26. EPA Adopts Tier 3 Requirements for Cleaner Fuels and Cars**

On March 3<sup>rd</sup>, the U.S. Environmental Protection Agency (EPA) finalized emission standards for vehicles and gasoline that will significantly reduce harmful pollution and prevent thousands of premature deaths and illnesses, while also enabling efficiency improvements. Once fully in place, the standards will help avoid up to 2,000 premature deaths per year and 50,000 cases of respiratory ailments in children.

The final standards will cut harmful soot, smog and toxic emissions from cars and trucks, reducing standards for smog-forming volatile organic compounds and nitrogen oxides by 80 percent, establishing a 70 percent tighter particulate matter standard and virtually eliminating fuel vapor emissions. These standards will also reduce vehicle emissions of toxic air pollutants, such as benzene by up to 30 percent.

The final fuel standards will reduce gasoline sulfur levels by more than 60 percent – down from 30 to 10 parts per million (ppm) in 2017. Reducing sulfur in gasoline enables vehicle emission control technologies to perform more efficiently. New low-sulfur gas will provide significant and immediate health benefits because every gas-powered vehicle on the road built prior to these standards will run cleaner – cutting smog-forming NOx emissions by 260,000 tons in 2018.

Total health-related benefits in 2030 will be between \$6.7 and \$19 billion annually, providing up to 13 dollars in health benefits for every dollar spent to meet the standards. The sulfur standards will cost less than a penny per gallon of gasoline on average once the standards are fully in place. The vehicle standards will have an average cost of about \$72 per vehicle in 2025.

The standards support efforts by states to reduce harmful levels of smog and soot and aids their ability to attain and maintain science-based national ambient air quality standards to protect public health, while also providing flexibilities for small businesses, including hardship provisions and additional lead time for compliance.

The final standards will work together with California’s clean cars and fuels program to create a harmonized nationwide vehicle emissions program that enables automakers to sell the same vehicles in all 50 states. The standards are designed to be implemented over the same timeframe

as the next phase of EPA’s national program to reduce greenhouse gas (GHG) emissions from cars and light trucks beginning in model year 2017. Together, the federal and California standards will maximize reductions in GHGs, air pollutants and air toxics from cars and light trucks while providing automakers regulatory certainty, streamlining compliance, and reducing costs to consumers.

To meet the cleaner gasoline standards, the agency has built in flexibility and adequate time for refiners to comply. For those refineries that may need it, the program would provide nearly six years to meet the standards. To provide a smooth transition for refiners to produce cleaner gasoline, the program is structured in a way that allows the industry to plan any additional investments needed. In addition, the agency is giving special considerations to small refiners, while offering provisions for compliance assistance in the case of extreme hardship or unforeseen circumstances.

Further details of the Rule are summarized below.

**Tailpipe Standards for Light-Duty Vehicle (LDV), Light-Duty Truck (LDT), and Medium-Duty Passenger Vehicle (MDPV) Tailpipe Emissions**

EPA is establishing a comprehensive program that includes new fleet-average standards for the sum of NMOG and NOX tailpipe emissions (presented as NMOG+NOX) as well as new per-vehicle standards for PM. These standards, when applied in conjunction with reduced gasoline sulfur content, will result in very significant improvements in vehicle emissions from the levels of the Tier 2 program. For these pollutants, the standards are measured on test procedures that represent a range of vehicle operation, including the Federal Test Procedure (or FTP, simulating typical driving) and the Supplemental Federal Test Procedure (or SFTP, a composite test simulating higher ambient temperatures, higher vehicle speeds, and quicker accelerations). In addition to the standards, EPA is extending the regulatory useful life period during which the standards apply and making test fuel more representative of expected real-world fuel. The final standards are in most cases identical to those of California’s LEVIII program, which provides the 50-state harmonization strongly supported by the auto industry.

The Tier 3 FTP and SFTP NMOG+NOX standards are fleet-average standards, meaning that a manufacturer calculates the average emissions of the vehicles it sells in each model year and compares that average to the applicable standard for that model year. The manufacturer certifies each of its vehicles to a per-vehicle “bin” standard and sales-weights these values to calculate its fleet-average NMOG+NOX emissions for each model year. Table I-1 summarizes the fleet average standards for NMOG+NOX evaluated over the FTP. Table I-1A summarizes the per vehicle bins. The standards for light-duty vehicles begin in MY 2017 at a level representing a 46 percent reduction from the Tier 2 requirements. For the light-duty fleet over 6000 lbs GVWR, and MDPVs, the standards apply beginning in MY 2018. As shown, these fleet-average standards decline during the first several years of the program, becoming increasingly stringent until ultimately reaching an 81 percent reduction when the transition is complete. The FTP NMOG+NOX program includes two separate sets of declining fleet-average standards, with LDVs and small light trucks in one grouping and heavier light trucks and MDPVs in a second grouping, that converge at 30 milligrams per mile (mg/mi) in MY 2025 and later. EPA is also providing alternative percent phase-in schedules for this and the other light-duty standards.

**Table I-1 Tier 3 LDV, LDT, and MDPV Fleet Average FTP NMOG+NOX Standards (mg/mi)**

Model Year	2017 <sup>a</sup>	2018	2019	2020	2021	2022	2023	2024	2025 and later
LDV/LDT1 <sup>b</sup>	86	79	72	65	58	51	44	37	30

LDT2,3,4 and MDPV	101	92	83	74	65	56	47	38	30
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- a. For LDV and LDTs above 6000 lbs GVWR and MDPVs, the fleet average standards apply beginning in MY 2018.
- b. These standards apply for a 150,000 mile useful life. Manufacturers can choose to certify some or all of their LDVs and LDT1s to a useful life of 120,000 miles. If a vehicle model is certified to the shorter useful life, a proportionally lower numerical fleet-average standard applies, calculated by multiplying the respective 150,000 mile standard by 0.85 and rounding to the nearest mg.

**Table I-1A Tier 3 FTP Standards for LDVs, LDTs and MDPVs (mg/mi)**

Bin	NMOG+ NOX (mg/mi)	PM <sup>a</sup> (mg/mi)	CO (g/mi)	HCHO (mg/mi)
Bin 160	160	3	4.2	4
Bin 125	125	3	2.1	4
Bin 70	70	3	1.7	4
Bin 50	50	3	1.7	4
Bin 30	30	3	1.0	4
Bin 20	20	3	1.0	4
Bin 0	0	0	0	0

- a. In MYs 2017-20, the PM standard applies only to that segment of a manufacturer's vehicles covered by the percent of sales phase-in for that model year.

Similarly, the NMOG+NOX standards measured over the SFTP are fleet-average standards, declining from MY 2017 until MY 2025, as shown in Table I-2. In this case, the same standards apply to both lighter and heavier vehicles in the light-duty fleet. In MY 2025, the SFTP NMOG+NOX standard reaches its final fleet average level of 50 mg/mi.

**Table I-2 Tier 3 LDV, LDT, and MDPV Fleet Average SFTP NMOG+NOX Standards (mg/mi)**

Model Year	2017 <sup>a</sup>	2018	2019	2020	2021	2022	2023	2024	2025 and later
<b>NMOG + NOX</b>	103	97	90	83	77	70	63	57	50

- a. For LDVs and LDTs above 6000 lbs GVWR and MDPVs, the fleet average standards apply beginning in MY 2018.

Manufacturers can also earn credits if their fleet average NMOG+NOX performance is better than the applicable standard in any model year. Credits that have been previously banked or obtained from other manufacturers can be used, or credits can be traded to other manufacturers. Manufacturers will also be allowed to carry forward deficits in their credit balance.

EPA is also establishing PM standards as part of the Tier 3 program, for both the FTP and US06 cycles (US06 is a component of the SFTP test).

Research has demonstrated that the level of PM from gasoline light-duty vehicles is more significant than previously thought.<sup>3</sup> Although many vehicles today are performing at or near the

<sup>3</sup> Nam, E.; Fulper, C.; Warila, J.; Somers, J.; Michaels, H.; Baldauf, R.; Rykowski, R.; and Scarbro, C. (2008). Analysis of Particulate Matter Emissions from Light-Duty Gasoline Vehicles in Kansas City, EPA420-R-08-010. Assessment and Standards Division Office of Transportation and Air Quality U.S. Environmental Protection Agency Ann Arbor, MI, April 2008.

levels of the new standards, the data indicate that improvements, especially in high-load fuel control and in the durability of engine components, are possible.

Under typical driving, as simulated by the FTP, the PM emissions of most current-technology gasoline vehicles are fairly low at certification and in use, well below the Tier 2 PM standards. At the same time EPA sees considerable variation in PM emissions among vehicles of various makes, models, and designs. As a result, EPA is setting the new FTP PM standard at a level that will ensure that all new vehicles perform at the level already being achieved by well-designed Tier 2 vehicles. The PM standards apply to each vehicle separately (i.e., not as a fleet average). Also, in contrast to the declining NMOG+NOX standards, the PM standard on the FTP for certification testing is 3 mg/mi for all vehicles and for all model years. As for the NMOG+NOX standards, for vehicles over 6000 lbs GVWR, the FTP PM standard applies beginning in MY 2018. Manufacturers can phase in their vehicle models as a percent of U.S. sales through MY 2022. Most vehicles are already performing at this stringent PM level, and the primary intent of the standard is to bring all light-duty vehicles to the typical level of PM performance being demonstrated by many of today's vehicles.

The Tier 3 program also includes a temporary in-use FTP PM standard of 6 mg/mi for the testing of in-use vehicles that applies during the percent phase-in period only. This in-use standard will address the in-use variability and durability uncertainties that accompany the introduction of new technologies. Table I-3 presents the FTP certification and in-use PM standards and the phase-in percentages.

**Table I-3 Phase-In for Tier 3 FTP PM Standards**

	2017 <sup>a</sup>	2018	2019	2020	2021	2022 and later
Phase-In (percent of U.S. sales)	20 <sup>b</sup>	20	40	70	100	100
Certification Standard (mg/mi)	3	3	3	3	3	3
In-Use Standard (mg/mi)	6	6	6	6	6	3

a. For LDVs and LDTs above 6000 lbs GVWR and MDPVs, the FTP PM standards apply beginning in MY 2018.

b. Manufacturers comply in MY 2017 with 20 percent of their LDV and LDT fleet under 6,000 lbs GVWR, or alternatively with 10 percent of their total LDV, LDT, and MDPV fleet.

Finally, the Tier 3 program includes PM standards evaluated over the US06 driving cycle (the US06 is one part of the SFTP procedure) of 10 mg/mi through MY 2018 and of 6 mg/mi for 2019 and later model years, for light-duty vehicles. As in the case of the FTP PM standards, the intent of the US06 PM standard is to bring the emission performance of all vehicles to that already being demonstrated by many vehicles in the current light-duty fleet.

### **Heavy-Duty Vehicle Tailpipe Emissions Standards**

EPA is setting Tier 3 exhaust emissions standards for complete heavy-duty vehicles (HDVs) between 8,501 and 14,000 lbs GVWR. Vehicles in this GVWR range are often referred to as Class 2b (8,501-10,000 lbs) and Class 3 (10,001-14,000 lbs) vehicles, and are typically heavy-duty pickup trucks and work or shuttle vans. Most are built by companies with even larger light-duty truck markets, and as such they frequently share major design characteristics and emissions control technologies with their LDT counterparts. However, in contrast to the largely gasoline-

fueled LDT fleet, roughly half of the heavy-duty pickup and van fleet in the U.S. is diesel-fueled. This is an important consideration in setting emissions standards, as diesel engine emissions control strategies differ from those of gasoline engines.

The key elements of the Tier 3 program for HDVs parallel those being adopted for passenger cars and LDTs, with adjustments in standard levels, emission test requirements, and implementation schedules appropriate to this sector. These key elements include combined NMOG+NOX declining fleet average standards, a phase-in of PM standards, adoption of a new emissions test fuel for gasoline-fueled vehicles, extension of the regulatory useful life to 150,000 miles or 15 years (whichever occurs first), and a first-ever requirement for HDVs to meet standards over an SFTP drive cycle that addresses real-world driving modes not well-represented by the FTP cycles.

EPA is adopting the Class 2b and Class 3 fleet average NMOG+NOX standards shown in Table I-4. The standards become more stringent in successive model years from 2018 to 2022, with voluntary standards made available in 2016 and 2017, all of which are set at levels that match those of California’s LEV III program for these classes of vehicles. Each covered HDV sold by a manufacturer in each model year contributes to this fleet average based on the mg/mi NMOG+NOX standard level of the “bin” declared for it by the manufacturer, who chooses from a set of seven discrete Tier 3 bins specified in the regulations. (Table I-4A summarizes the available bin categories for HDVs.) These bin standards then become the compliance standards for the vehicle over its useful life, with some adjustment provided for in-use testing in the early model years of the program.

Manufacturers can also earn credits for fleet average NMOG+NOX levels below the standard in any model year. Tier 3 credits that were previously banked, obtained from other manufacturers, or transferred across the Class 2b/Class 3 categories can be used to help demonstrate compliance. Unused credits expire after 5 model years.

Manufacturers will also be allowed to carry forward deficits in their credit balance for up to 3 model years.

**Table I-4 Tier 3 HDV Fleet Average FTP NMOG+NOX Standards (mg/mi)**

	Voluntary		Required Program				
Model Year	2016	2017	2018	2019	2020	2021	2022 and later
Class 2b	333	310	278	253	228	203	178
Class 3	548	508	451	400	349	298	247

**Table I-4A FTP Standard Bins for HDVs**

	NMOG+NOX( mg/mi)	PM(mg/mi)	CO(g/mi)	Formaldehyd e(mg/mi)
<b>Class 2b (8501-10,000 lbs GVWR):</b>				
Bin 395 (interim)	395	8	6.4	6
Bin 340 (interim)	340	8	6.4	6
Bin 250	250	8	6.4	6
Bin 200	200	8	4.2	6
Bin 170	170	8	4.2	6
Bin 150	150	8	3.2	6
Bin 0	0	0	0	0
<b>Class 3 (10,001-14,000 lbs GVWR):</b>				
Bin 630 (interim)	630	10	7.3	6

Bin 570 (interim)	570	10	7.3	6
Bin 400	400	10	7.3	6
Bin 270	270	10	4.2	6
Bin 230	230	10	4.2	6
Bin 200	200	10	3.7	6
Bin 0	0	0	0	0

EPA is adopting the FTP PM standards of 8 mg/mi and 10 mg/mi for Class 2b and Class 3 HDVs, respectively, phasing in as an increasing percentage of a manufacturer’s sales per year. EPA is adopting the same phase-in schedule as for the light-duty sector during model years 2018-2019-2020-2021: 20-40-70-100 percent, respectively, and a more flexible but equivalent alternative PM phase-in is also being adopted. Tier 3 HDVs will also be subject to CO and formaldehyde exhaust emissions standards that are more stringent than the existing standards.

Finally, EPA is setting first-ever nationwide SFTP standards for HDVs to ensure a robust overall control program that precludes high off-FTP cycle emissions by having vehicle designers consider them in their choice of compliance strategies. As for light-duty vehicles, EPA is requiring that SFTP compliance be based on a weighted composite of measured emissions from testing over the FTP cycle, the SC03 cycle, and an aggressive driving cycle, with the latter tailored to various HDV sub-categories: the US06 cycle for most HDVs, the highway portion of the US06 cycle for low power-to-weight Class 2b HDVs, and the LA-92 (or “Unified”) cycle for Class 3 HDVs. The SFTP standards are the same as those adopted for California LEV III vehicles, and apply to NMOG+NOX, PM, and CO emissions.

The HDV program outlined above is substantially what EPA proposed. Commenters generally supported the scope, stringency, and implementation phase-in of this program. However, some industry commenters requested changes to some specific provisions of the proposal, and the program EPA is adopting reflects improvements EPA has made in response. These are: (1) a limited allowance for engine certification of Class 3 complete diesel vehicles to avoid a potential need for dual chassis- and engine-based certification and to better harmonize with LEV III, (2) relaxed interim in-use testing standards to facilitate a smooth transition to the Tier 3 standards and to better harmonize with LEV III, (3) adoption of combined NMOG+NOx standards for the two highest (interim) bins, with a restriction placed on NOx levels in certification testing, to enhance the utility of these bins and to better harmonize with LEV III, and (4) a provision in the percent-of-sales phase-in alternative to allow manufacturers to exclude vehicle models that begin their 2019 model year production early in 2018, in order to provide four years of lead time. Commenters also requested relaxed standards for testing at high altitudes and changes to the credits program structure for generation of early credits and use of LEV III-based “vehicle emission credits”, but EPA did not adopt these.

Overall, EPA expects the Tier 3 program EPA is adopting for HDVs will result in substantial reductions in harmful emissions from this large fleet of work trucks and vans. The fully-phased in Tier 3 standards levels for NMOG+NOX and PM are on the order of 60 percent lower than the current standards that took full effect in the 2009 model year.

### **Evaporative Emission Standards**

Gasoline vapor emissions from vehicle fuel systems occur when a vehicle is in operation, when it is parked, and when it is being refueled. These evaporative emissions, which occur on a daily basis from gasoline-powered vehicles, are primarily functions of temperature, fuel vapor pressure,

and activity. EPA first instituted evaporative emission standards in the early 1970s to address emissions when vehicles are parked after being driven. These are commonly referred to as hot soak plus diurnal emissions. Over the subsequent years the test procedures have been modified and improved and the standards have become more numerically stringent. EPA has addressed emissions which arose from new fuel system designs by putting in place new requirements such as running loss emission standards and test procedure provisions to address permeation emissions. Subsequently standards were put in place to control refueling emissions from all classes of gasoline-powered motor vehicles up to 10,000 lbs GVWR. Evaporative and refueling emission control systems have been in place for most of these vehicles for many years. These controls have led to significant reductions, but evaporative and refueling emissions still constitute 30-40 percent of the summer on-highway mobile source hydrocarbon inventory. These fuel vapor emissions are ozone and PM precursors, and also contain air toxics such as benzene.

To control evaporative emissions, EPA is establishing more stringent standards that will require covered vehicles to have essentially zero fuel vapor emissions in use. These include more stringent evaporative emissions standards, new test procedures, and a new fuel/evaporative system leak emission standard. The program also includes refueling emission standards for all complete heavy-duty gasoline vehicles (HDGVs) over 10,000 lbs GVWR. EPA is including phase-in flexibilities as well as credit and allowance programs. The standards, harmonized with California's "zero evap" standards, are designed to allow for a use of common technology in vehicle models sold throughout the U.S. The level of the standard remains above zero to account for nonfuel background emissions from the vehicle hardware.

Requirements to meet the Tier 3 evaporative emission regulations phase in over a six model year period. EPA is finalizing three options for the 2017 model year, but after that the sales percentage requirements are 60 percent for MYs 2018 and 2019, 80 percent for model years 2020 and 2021, and 100 percent for model years 2022 and later. In Table I-5 EPA presents the Tier 3 evaporative hot soak plus diurnal emission standards by vehicle class. The standards are approximately a 50 percent reduction from the existing standards. To enhance flexibility and reduce costs, EPA is finalizing provisions that allow manufacturers to generate allowances through early certifications (basically before the 2017 model year) and to demonstrate compliance using averaging concepts. Manufacturers may comply on average within each of the four vehicle categories, but not across these categories. EPA is not making any changes to the existing light-duty running loss or refueling emission standards, with the exception of the certification test fuel requirement discussed below.

**Table I-5 Tier 3 Evaporative Emission Standards (g/test)**

Vehicle Class	Highest Hot Soak + Diurnal Level (Over both 2-day and 3-day diurnal tests)
LDV, LDT1	0.300
LDT2	0.400
LDT3, LDT4, MDPV	0.500
HDGVs	0.600

Flexible Fuel Vehicles (FFVs) must meet the same evaporative emission standards as non-FFVs using Tier 3 emissions certification test fuel. However, FFVs must meet the refueling emission standards using 10 psi RVP fuel to account for emissions resulting from commingling with non-E85 blends that may be in the vehicle's fuel tank.



EPA is establishing the canister bleed emission test procedure and emission standard to help ensure fuel vapor emissions are eliminated. Under this provision, manufacturers are required to measure diurnal emissions over the 2-day diurnal test procedure from just the fuel tank and the evaporative emission canister and comply with a 0.020 gram per test (g/test) standard for all LDVs, LDTs, and MDPVs, without averaging. The corresponding canister bleed test standard for HDGVs is 0.030 g/test. The Tier 3 evaporative emission standards will be phased in over a period of six model years between MY 2017 and MY 2022, with the leak test phasing in beginning in 2018.

Data from in-use evaporative emissions testing indicates that vapor leaks from vehicle fuel/evaporative systems are found in the fleet and that even very small leaks have the potential to make significant contributions to the mobile source VOC inventory. To help address this issue, EPA is also adding a new standard and test procedure to control vapor leaks from vehicle fuel and vapor control systems. The standard will prohibit leaks with a cumulative equivalent diameter of 0.02 inches or greater. EPA is adding this simple and inexpensive test and emission standard to help ensure vehicles maintain zero fuel vapor emissions over their full useful life. New LDV, LDT, MDPV, and HDGV equal to or less than 14,000 lbs GVWR meeting the Tier 3 evaporative emission regulations are also required to meet the leak standard beginning in the 2018 model year. Manufacturers must comply with the leak standard phase-in on the same percentage of sales schedule as that for the Tier 3 evaporative emission standards. Manufacturers will comply with the leak emission standard during certification and in use. The leak emission standard does not apply to HDGVs above 14,000 lbs GVWR.

EPA is also establishing new refueling emission control requirements for all complete HDGVs equal to or less than 14,000 lbs GVWR (i.e., Class 2b/3 HDGVs), starting in the 2018 model year, and for all larger complete HDGVs by the 2022 model year. The existing refueling emission control requirements apply to complete Class 2b HDGVs, and EPA is extending those requirements to other complete HDGVs, since the fuel and evaporative control systems on these vehicles are very similar to those on their lighter-weight Class 2b counterparts.

### **Onboard Diagnostic Systems (OBD)**

EPA and CARB both have OBD regulations applicable to the vehicle classes covered by the Tier 3 emission standards. In the past the requirements have been very similar, so most manufacturers have met CARB OBD requirements and, as permitted in EPA regulations, EPA has generally accepted compliance with CARB's OBD requirements as satisfying EPA's OBD requirements. Over the past several years CARB has upgraded its requirements to help improve the effectiveness of OBD in ensuring good in-use exhaust and evaporative system emissions performance. EPA has reviewed these provisions and agree with CARB that these revisions will help to improve in-use emissions performance, while at the same time harmonizing with the CARB program. Toward that end, EPA is adopting and incorporating by reference the current CARB OBD regulations, effective for the 2017 MY, with a few minor differences including phase-in flexibility provisions and specific additions to enhance the implementation of the leak standard. EPA is retaining the provision that certifying with CARB's program would permit manufacturers to seek a separate EPA certificate on that basis.

### **Emissions Test Fuel**

After reassessing market trends and considering comments, EPA is finalizing E10 as the ethanol blend level in emissions test gasoline for Tier 3 light-duty and heavy-duty gasoline vehicles. EPA will continue to monitor the in-use gasoline supply and based on such review may initiate

rulemaking action to revise the specifications for emissions test fuel to include a higher ethanol blend level. EPA is also making additional changes that are consistent with CARB's LEV III emissions test fuel specifications, including new specifications for octane, distillation temperatures, aromatics, olefins, sulfur and benzene.

EPA is requiring certification of all Tier 3 light-duty and chassis-certified heavy-duty gasoline vehicles on federal E10 test fuel. The new test fuel specifications will apply to new vehicle certification, assembly line, and in-use testing.

With a change in the ethanol content of the test fuel, EPA also needed to consider whether a change is warranted in the volatility of the test fuel, typically expressed as pounds per square inch (psi) Reid Vapor Pressure (RVP). After considering several technical and policy implications as well as stakeholder comments, EPA has concluded that the most appropriate approach is to maintain an RVP of 9 psi for the E10 certification fuel at this time.

In addition to finalizing a new E10 emissions test fuel, EPA is also finalizing detailed specifications for the E85 emissions test fuel used for flexible fuel vehicle (FFV) certification.<sup>4</sup> This will resolve uncertainty and confusion in the certification of FFVs designed to operate on ethanol levels up to 83 percent. Furthermore, EPA allows vehicle manufacturers to request approval for an alternative certification fuel such as a high-octane 30 percent ethanol by volume blend (E30) for vehicles that may be optimized for such fuel.

### **Fuel Standards**

Under the Tier 3 fuel program, gasoline must contain no more than 10 ppm sulfur on an annual average basis beginning January 1, 2017. Similar to the Tier 2 gasoline program, the Tier 3 program will apply to gasoline in the U.S. and the U.S. territories of Puerto Rico and the Virgin Islands, excluding California. The program will result in gasoline that contains, on average, two-thirds less sulfur than it does today. In addition, following discussions with numerous refiners and other segments of the fuel market (e.g., pipelines, terminals, marketers, ethanol industry representatives, transmix processors, additive manufacturers, etc.), the Tier 3 fuel program contains considerable flexibility to ease both initial and long-term implementation of the program. The program that EPA is finalizing includes an averaging, banking, and trading (ABT) program that allows refiners and importers to spread out their investments over nearly a 6 year period through the use of an early credit program and then rely on ongoing nationwide averaging to meet the 10 ppm sulfur standard. In addition there is a three-year delay for small refiners and "small volume refineries". As a result of the early credit program, EPA anticipates considerable reductions in gasoline sulfur levels prior to 2017, with a complete transition to the 10 ppm average occurring by January 1, 2020.

Under the Tier 3 gasoline sulfur program, EPA is maintaining the current 80 ppm refinery gate and 95 ppm downstream per-gallon caps. EPA also evaluated and sought comment on the potential of lowering the per-gallon caps. While there are advantages and disadvantages with each of the sulfur cap options that EPA proposed, EPA believes that retaining the current Tier 2 sulfur caps is prudent at this time. Further, the stringency of the 10 ppm annual average standard will result in reduced gasoline sulfur levels nationwide. The program requires that manufacturers of gasoline additives that are used downstream of the refinery at less than 1 volume percent must

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<sup>4</sup> Flexible fuel vehicles are currently required to meet emissions certification requirements using both E0 and E85 test fuels. However, there were no detailed regulatory specifications regarding the composition of E85 test fuels before those finalized today.

limit the sulfur contribution to the finished gasoline from the use of their additive to less than 3 ppm when the additive is used at the maximum recommended treatment rate. This requirement will preclude the unnecessary use of high sulfur content additives in gasoline.

The Tier 3 vehicle emissions standards are fuel-neutral (i.e., they are applicable regardless of the type of fuel that the vehicle is designed to use). There currently are no sulfur standards for the fuel used in compressed natural gas (CNG) and liquid propane gas (LPG) vehicles. EPA requested comment on whether it is necessary for EPA to establish sulfur standards for CNG and LPG to enable them meeting more stringent vehicle emissions standards. EPA is deferring finalizing in-use sulfur requirements for CNG/LPG in this final rule to provide additional time to work with stakeholders to collect data on current CNG/LPG sulfur content, to determine whether additional control of in-use CNG/LPG sulfur content is needed, and to evaluate the feasibility and costs associated with potential additional sulfur controls. Given that the information provided suggests that CNG/LPG sulfur levels tend to be low already, the vehicle emissions standards will apply to CNG/LPG vehicles in addition to vehicles fueled on gasoline, diesel fuel, or any other fuel. The sulfur content of highway diesel fuel is already required to meet a 15 ppm sulfur cap, which is sufficient for diesel fuel vehicles to meet the Tier 3 emissions standards.

As the number of flex-fuel vehicles (FFVs) in the in-use fleet increases, it is becoming increasingly important that all fuels used in FFVs, not just gasoline, meet fuel quality standards. A lack of clarity regarding the standards that apply to fuels used in FFVs could also act to impede the further expansion of ethanol blended fuels with concentrations greater than 15 volume percent, which is important to satisfying the requirements of the renewable fuel standard (RFS2) program. Hence, EPA sought comment on appropriate regulatory mechanisms to implement in-use quality standards for E15-E16 and E15-E16.5 in the Tier 3 proposal. Additional work is needed on some issues that could not be accommodated within the timeline for this Tier 3 final rule. Therefore, EPA is choosing not to finalize these provisions at this time. EPA intends to finalize in-use fuel quality standards for E15-E16 and perhaps E15-E16.5 as well in a follow-up final rule.

### **Regulatory Streamlining and Technical Amendments**

Tier 3 also includes a number of items to help streamline the in-use fuels regulations. The majority of these items involve clarifying vague or inconsistent language, removal or updating of outdated provisions, and decreasing in frequency and/or volume of reporting burden where data are no longer needed or are redundant with other EPA fuels programs. In general, EPA believes that these changes will reduce the burden on industry and allow the standards and resulting environmental benefits to be achieved as early as possible with no expected loss in environmental control. In some cases, these regulatory streamlining items are non-substantive amendments that correct minor errors or inconsistencies in the regulations.

The regulatory streamlining items that EPA is finalizing for the in-use fuels regulations are changes that EPA believes are straightforward and should be made quickly.

Tier 3 also includes a variety of technical amendments to certification-related requirements for engine and vehicle emission standards; adjusting the fuel economy label provisions to correspond to the new Tier 3 standards, removing obsolete regulatory text, and making several minor corrections and clarifications.

## **27. Fearing Stricter Air Limits, Industries Fault EPA Data on NOx**

Industry groups are faulting draft EPA data suggesting nitrogen oxides (NO<sub>x</sub>) emissions might be more harmful to human health than previously thought, seeking to preempt any claims by agency staff or environmentalists that the data show a need to tighten NO<sub>x</sub> air standards and impose stricter pollution controls on industry to reduce NO<sub>x</sub>.

The information provided in the draft Integrated Science Assessment (ISA) for NO<sub>x</sub> -- a significant early document that informs EPA's review of the national ambient air quality standard (NAAQS) for the pollutant -- "does not support EPA's conclusions" of greater health risks from NO<sub>x</sub> emissions, the American Petroleum Institute (API) warns. Similarly, the Alliance of Automobile Manufacturers (Auto Alliance) says in its written comments that although the agency's new epidemiological studies included in the draft ISA tend to show associations between NO<sub>x</sub> and health effects, the available evidence from controlled human exposure studies has not shown such a trend and EPA's reliance on potentially flawed epidemiological studies to strengthen causality determinations is therefore misplaced.

And the Utility Air Regulatory Group (UARG) -- a non-profit group representing electric utilities -- outlines a host of concerns about EPA's ability to accurately estimate exposures to NO<sub>x</sub> emissions; about the representativeness of populations examined in epidemiological studies; and about EPA's ability to discern true health effects from confounding factors. The draft ISA is "overly optimistic in dismissing" these concerns, UARG says.

The Clean Air Act requires EPA to review its NAAQS for six different criteria pollutants every five years, and the ISA is the first major part of the review, compiling policy-relevant science on the pollutant. Once EPA finalizes the ISA, it may develop a risk and exposure assessment to characterize risks to human health and the environment from NO<sub>x</sub>, and will finally craft a policy assessment that will suggest whether a change to the NAAQS is necessary.

EPA regulates NO<sub>x</sub> through its NAAQS for nitrogen dioxide (NO<sub>2</sub>), a subset of NO<sub>x</sub>. EPA last updated the standard in 2010, issuing a new one-hour primary, health-based limit of 100 parts per billion (ppb), while retaining its combined annual primary and secondary, environment-based standard of 53 ppb established in 1996.

On its "Rulemaking Gateway" website, EPA says it initiated the current review of the NO<sub>2</sub> NAAQS on March 14, 2012, and plans to publish a proposed rule in the Federal Register sometime in February 2016. That could push publication of a final standard until after the next presidential election in November 2016.

In the draft ISA released on November 22, EPA for the first time found conclusively that short-term NO<sub>x</sub> exposure causes respiratory harm, and found a higher likelihood of other health effects from exposure than in earlier reviews. The data are important because, if finalized, they could point toward the need for stricter NAAQS and possibly tougher regulation of industry and vehicles -- both major sources of NO<sub>x</sub> emissions.

An EPA Clean Air Scientific Advisory Committee (CASAC) NO<sub>x</sub> review panel will now consider the draft ISA at its next meeting in Durham, NC, March 12 and 13, a crucial step before EPA finalizes the document.

Automakers, utilities, the petroleum sector and other major industries filed comments ahead of EPA's January 21 deadline for input on the ISA, in which they outline several criticisms of the draft conclusions.

- EPA relies too much on epidemiological studies; has downplayed uncertainties about the science; and given insufficient weight to "confounding" factors such as other pollutants found with NO<sub>x</sub> or underlying health problems, the groups say. Also, EPA's decision to measure NO<sub>x</sub> levels for the purposes of NAAQS compliance at roadside monitoring sites with high emissions levels gives an unrealistically high estimate of exposure, they argue.
- An analysis for API prepared by consultancy Gradient, attached to the comments, finds that "EPA's causal framework is not applied using a true weight-of-evidence approach." Specifically, "the framework does not require the draft ISA to determine whether, as a whole, the data constitute evidence for causation or are more likely indicative of an alternative hypothesis (e.g., that chance, bias, or confounding account for observed statistical associations)."
- EPA has overestimated personal exposures to NO<sub>x</sub>, and "[t]his bias and confounding alone call into serious question all the stronger causal determinations," API says. Further, EPA's emissions inventory does not take into account natural sources of NO<sub>x</sub> such as lightning, wildfires or soil emissions, according to the group.
- UARG faults EPA's "causal framework" and the role of confounding factors that undermine EPA's findings on causation of health effects. The group says "the criteria prescribed in the draft ISA for assessing causality are biased and lead to overstatement of the strength of the evidence of a causal relationship."
- UARG has concerns about EPA's ability to accurately estimate exposures to NO<sub>x</sub>, about the representativeness of populations examined in epidemiological studies, and about EPA's ability to discern true health effects from confounding factors. The draft ISA is "overly optimistic in dismissing" these concerns, UARG says.
- The group criticizes EPA's decision to include studies on NO<sub>x</sub> exposures from outside the United States and Canada, which the agency excluded from previous ISAs on the grounds that the population characteristics of study subjects in other parts of the world may differ from the United States in significant ways. But some members of CASAC have criticized the agency for excluding studies from outside North America, especially extensive work done in Europe, and EPA's draft ISA could address that criticism.
- The advisory committee has also so far backed EPA's recent move toward roadside monitoring to determine compliance with the NO<sub>2</sub> NAAQS, which EPA justifies on the basis that it has a duty to protect vulnerable populations such as those living near roads. Industry opposes the near-road monitoring as producing results unrepresentative of real-world exposures. Previously, the agency allowed averaging of emissions across wider areas.
- The Auto Alliance, representing the major U.S. automakers and foreign brands including Toyota, says in its comments that although new epidemiological studies tend to show associations between NO<sub>x</sub> and health effects, the available evidence from controlled human exposure studies has not shown such a trend. EPA is therefore wrong to rely on potentially flawed epidemiological studies to strengthen causality determinations, the group says. "Although there may be somewhat more positive associations than negative associations, there is significant noise or variability in the data. Therefore, it is beyond the

capability of current methods to identify which positive associations may be real, independent health effects of NO<sub>2</sub> and which are not," the Auto Alliance says.

- The American Road and Transportation Builders Association (ARTBA) in its comments expresses concern about roadside monitoring of NO<sub>x</sub> emissions, which it says exaggerates exposures, but also looks beyond the science to the broader context in which EPA must decide on new standards. "Regulations do not operate in a vacuum. Before deciding whether or not to tighten existing NO<sub>x</sub> regulations, EPA must take account of what has already been achieved as well as improvements which have been approved but not yet fully implemented," ARTBA says, noting EPA has reported a 50 percent drop in NO<sub>x</sub> emissions since 2000. ARTBA notes that existing regulatory programs, such as the Diesel Emissions Reduction Act engine retrofit program, will continue to reduce NO<sub>x</sub> emissions.
- In addition to the industry groups' comments, the Texas Commission on Environmental Quality (TCEQ) also casts doubt on EPA's interpretation of epidemiological studies, which it says were never designed to infer causal relationships between air pollutants and human health. "Ecological epidemiology studies are not designed to determine if oxides of nitrogen caused the health effects observed. Instead, these studies simply report statistical associations," TCEQ says.

## **28. US Supreme Court Briefing of Greenhouse Gas Cases Underway**

Briefing before the US Supreme Court is currently underway in a matter involving challenges to the suite of greenhouse gas (GHG) cases decided by the US Court of Appeals for the District of Columbia Circuit in June 2012. In October 2013, the Supreme Court granted six petitions for writ of certiorari filed by industry and state petitioners on the following single issue: Whether EPA [(the US Environmental Protection Agency)] permissibly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the Clean Air Act for stationary sources that emit greenhouse gases.

The Supreme Court did not grant review of other issues, such as whether the EPA properly found that GHG emissions from motor vehicles may reasonably be anticipated to endanger public health or welfare.

With respect to the permitting issue on which review was granted, the scope of the grant of certiorari includes the so-called "situs" issue briefed before the DC Circuit. The situs issue involves the question of whether the limiting language in Section 165 of the Clean Air Act cabins the scope of the pollutants that can trigger Prevention of Significant Deterioration (PSD) permitting requirements to those for which the EPA has established a national ambient air quality standard (NAAQS) and for which the area in question is designated attainment with that standard as well as the argument that PSD pollutants are limited to those with local effects.

The reply briefs of petitioners in the case are due by February 14, 2014, and oral argument is scheduled for February 24, 2014.

### **Summary of the DC Circuit Decision**

In the June 2012 decision, *Coalition for Responsible Regulation v. EPA*, 684 F.3d 102 (D.C. Cir. 2012), a three-judge panel consisting of Chief Judge David B. Sentelle and Judges David S. Tatel and Judith W. Rogers ruled in favor of the EPA in a series of cases challenging the agency's

program for regulating GHG emissions from stationary sources under the Clean Air Act. The DC Circuit's decision covered challenges to four different EPA actions:

- The EPA's finding that GHGs from cars may reasonably be anticipated to endanger public health or welfare (endangerment finding case).
- Emissions standards for GHGs from motor vehicles (Tailpipe Rule case).
- The EPA's so-called "tailoring/timing rules," which state that the Tailpipe Rule would automatically trigger the requirement for manufacturing facilities, homes, hospitals and other structures that emit GHGs to obtain preconstruction and operating permits under the Clean Air Act's stationary source programs.
- The EPA's 30-year old PSD rules to the extent they concluded that any pollutant can cause a plant to require a preconstruction permit and stringent controls were based on an impermissible reading of the Clean Air Act.

In its opinion, the court first dismissed all of the industry arguments related to the endangerment finding and Tailpipe Rule, citing agency deference and the Chevron standard of review<sup>5</sup> for agency findings based on the science. Having disposed of these cases, the court moved to the "historic regulations case" and the Tailoring Rule case, in which it upheld the EPA on less sweeping grounds but nonetheless found in EPA's favor. Two aspects of the opinion of particular note are:

- The court found that the EPA's reading of the Clean Air Act that PSD preconstruction permitting for stationary sources would be automatically triggered by the issuance of GHG requirements for cars was compelled. (If the court had found that the reading was not compelled, industry had argued that the EPA would have been forced to adopt the alternative reasonable interpretations of the statute offered by the industry petitioners because they would avoid the absurd results that the EPA claimed as justification for rewriting the statutory major source thresholds.)
- As a result of its conclusion noted above, the court found that the EPA's Tailoring Rule—rewriting the statute's major source thresholds from 250 tons to 100,000 tons—merely provided relief to industry and states, so these parties lacked injury in fact and standing. This allowed the court to find that the agency's invocation of administrative necessity and absurd results doctrines to rewrite the statute was not reviewable.

Thus, the court upheld the EPA's rules without actually reaching the merits of the Tailoring Rule's violence to the Clean Air Act.

## **29. California Vows to Press Ahead With Climate Change Programs**

California plans to extend its suite of ambitious and controversial carbon reduction programs beyond 2020, saying the results to date show the state can grow its economy while fighting climate change. The state's Air Resources Board (ARB) released an update of its plan to meet its goal of cutting emissions to 80 percent below 1990 levels by mid-century. The report said the state was on track to meet its goal of cutting its output of heat-trapping greenhouse gases (GHGs) to 1990 levels by 2020 even as the economy recovers from a deep recession.

But for the state to meet targets beyond 2020, it will need all sectors, from agriculture to waste management, to play a bigger role than at present, the update said.

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<sup>5</sup> Chevron, U.S.A. Inc. v. Natural Resources Defense Council, Inc., 467 U.S. 837, 842-43, 104 S.Ct. 2778, 81 L.Ed.2d 694 (1984)

"Progressing toward California's long-term climate goals will require that GHG reduction rates be significantly accelerated," the ARB said. "Emissions from 2020 to 2050 will have to decline at more than twice the rate of that which is needed to reach the 2020 statewide emissions limit."

The ARB stopped short of setting a 2030 emissions reduction target in the 159-page plan, a target that could have implications for the price of carbon in the state's year-old carbon market. The report did say that California's target should be consistent with commitments elsewhere and noted that the European Union has adopted an emissions reduction target of 40 percent below 1990 levels by 2030. (See discussion of the EU target above.)

California has employed a variety of policies to combat climate change, including a cap-and-trade program that sets a gradually tightening limit on the amount of emissions from covered businesses and allows for the trading of emissions credits on an open market.

The state signaled it will also continue past 2020 with its low-carbon fuel standard (LCFS), which requires a reduction in the carbon intensity of transportation fuels. The fuels are measured throughout their lifecycle in an analysis that includes production and transportation as well as ultimate use.

Both the cap-and-trade program and the LCFS are being targeted by lawsuits. The state has so far prevailed against those court challenges, although both cases are expected to be appealed.

### **30. Proposed Federal Budget Includes No Diesel-Emissions Program Dollars**

President Barack Obama's fiscal-year 2015 budget proposes allocations for many elements of transportation funding, but it doesn't include an appropriation for a program that's been vital to many railroads and ports the past several years: the Diesel Emissions Reduction Act (DERA) program.

Railroads and ports have used DERA grants to install emission-control and/or fuel-saving devices on locomotives. Originally authorized as part of the Energy Policy Act of 2005, the program has a proven track record of reducing emissions and improving air quality in all 50 states, Diesel Technology Forum (DTF) officials said in a press release. Unlike other federal funding programs, DERA provides a 13:1 return on each dollar invested in a project, according to the U.S. Environmental Protection Agency (EPA).

"Zeroing out the Diesel Emissions Reduction Act seems counterintuitive and at odds with the EPA's transportation and clean air priorities for 2014," said DTF Executive Director Allen Schaeffer. "In the last budget cycle, Congress rebuffed the administration and restored \$13 million for this, the FY2014 DERA program, and a broad coalition of environmental, public health and industry groups is already on record and working with Congress on this FY2015 budget."

DTF officials hope the bipartisan support that DERA has received in both the Senate and House will initiate action in Congress to save the program funding, he said.

### **31. EPA Stops Illegal Import of Vehicles That Fail to Meet Pollution Standards**

A Chinese power sports company and its related U.S. distributor have agreed to recall and replace fuel tanks that will better control gasoline vapors in approximately 1,000 vehicles and take other steps to control pollution stemming from the illegal import of over 12,000 recreational vehicles



and highway motorcycles. These motor vehicles were manufactured in China and imported without the required certification indicating that emissions would meet federal standards.

CFMOTO Powersports, Inc., (a successor to CFMOTO America, Inc.) based in Plymouth, Minn., and Zhejiang CFMOTO Power Co., Ltd., and Chunfeng Holding Group Co., Ltd., both based in China, will pay a combined civil penalty of \$725,000.

"Enforcing emission standards is a critical way we protect clean air for all Americans," said Cynthia Giles, Assistant Administrator for EPA's Office of Enforcement and Compliance Assurance. "The upgrades and changes required by today's settlement will help reduce harmful air pollution that can cause respiratory illnesses, aggravate asthma and lead to smog.

In the settlement, approved today by the Agency's Environmental Appeals Board, EPA alleges that over 12,000 highway motorcycles and recreational vehicles imported by the companies between 2007 and 2013 were not certified by EPA, as required by the Clean Air Act (CAA), to meet applicable federal emission standards. Of these, EPA found that 993 vehicles had fuel tanks that did not operate properly to control evaporative emissions, or gasoline vapors, and that approximately 1,400 vehicles were imported without proper emission control information labels.

In addition to the penalty, the companies must institute a Recall and Fuel Tank Replacement Program to replace all uncertified fuel tanks with certified ones to prevent any excess gasoline vapors. The companies must also correct the emission control information labels for those vehicles that are still within the control of the companies.

EPA discovered the alleged violations through joint inspections conducted with the U.S. Department of Homeland Security's Bureau of Customs and Border Protection and through a review of importation documents and other information provided by the companies.

Federal emissions standards for highway motorcycles and recreational vehicles have been in effect since 1977 and 2006, respectively. The CAA prohibits any vehicle or engine from being imported and sold in the United States unless it is covered by an EPA-issued certificate of conformity indicating that the vehicle or engine meets required emission standards

Recreational vehicle and highway motorcycles emit carbon monoxide, a gas that is poisonous at high levels in the air even to healthy people and is especially dangerous to people with heart disease. These vehicles also emit hydrocarbons and nitrogen oxides, which contribute to the formation of ground-level ozone, or smog. Exposure to even low levels of ozone can cause respiratory problems, and repeated exposure can aggravate pre-existing respiratory diseases.

CFMOTO Powersports, Inc. is a Minnesota corporation that holds certificates of conformity and that imports highway motorcycles and recreational vehicles manufactured by Zhejiang CFMoto Power Co., Ltd. and ChunFeng Holding Group Co. Ltd., both Chinese companies. CFMOTO America, Inc. is a now-dissolved Michigan corporation that was the predecessor to CFMOTO Powersports, Inc.

EPA filed an administrative complaint against CFMOTO Powersports in April 2013 and reached agreement on the settlement through an alternative dispute resolution process.

The EPA has periodically taken China-based power sports vehicle makers to task for importing dirty vehicles that didn't comply with clean-air mandates. Last summer, Chi Zheng, whose Los Angeles-based companies MotorScience Inc. and MotorScience Enterprise Inc. specialized as a

consultant for all-terrain vehicle imports from China, was fined \$3.6 million because his companies violated US emissions requirements. Those companies violated the Clean Air Act by importing almost 25,000 all-terrain vehicles without properly testing them for emissions. And in 2012, California-based Yuan Cheng International Group Inc. (YCIG) and its successor NST Inc. were hit with \$50,000 in fines as part of an EPA and US Department of Justice settlement stemming from alleged clean-air violations.

### **32. Court Again Rejects Road Builders' Engine Air Rule Suit**

The U.S. Court of Appeals for the District of Columbia Circuit has for the third time rejected a lawsuit filed by the American Road and Transportation Builders Association (ARTBA) against EPA's regulations allowing states to impose restrictions on the use of non-road engines, saying the case was filed too late and is time-barred.

In a judgment issued on January 31<sup>st</sup>, the D.C. Circuit rejected the group's novel arguments for why the court had the jurisdiction to hear a legal challenge to EPA's years-old rules, despite a 60-day window for suing having long since expired.

Rather than issue a written opinion, the D.C. Circuit issued only a brief memorandum stating that the issues brought in the case, which like its predecessors is called ARTBA v. EPA, "do not warrant a published opinion."

The case is the third such loss in the D.C. Circuit for ARTBA, which has struggled to convince the court that it has the power to review the group's challenge to the years-old rules. EPA's regulations allow California to adopt more stringent emissions rules for non-road engines than the federal government, and if the agency signs off on the policies then other states can adopt them -- but ARTBA says the Clean Air Act preempts this process.

Circuit judges in the prior two attempts to challenge the rules have thrown out the cases as the 60-day window to sue over the 1994 rules has lapsed. For the third case, ARTBA argued that its challenge was not time-barred because it challenged an April 4, 2012, EPA rule granting a waiver for a California non-road engine regulation, and was filed within the 60-day window. The group said the waiver relied on the 1994 rule, so its suit effectively reopened the 1994 rule for review.

But the three judges weighing the case say that because ARTBA missed the 60-day window to sue over EPA's rules after it issued them in the 1990s, the challenge is still time-barred despite the group's new arguments.

The ruling comes after the Supreme Court on January 13<sup>th</sup> declined to hear ARTBA's appeal of an earlier D.C. Circuit decision on the same issue. The group is also pursuing yet another similar challenge in both the D.C. Circuit and the 9th Circuit, over EPA's September 20<sup>th</sup> grant of a waiver for California rules for non-road engine use. ARTBA has claimed that it is entitled to sue on the basis of "after-arising grounds" -- in the third D.C. Circuit case the after-arising grounds was the April 2012 rule that relied on the waiver authority. But the court's judgment says that it must file suit within 60 days of such grounds arising and the group in this instance failed to do so.

It is insufficient for the group to sue within 60 days of EPA refusing a petition for administrative reconsideration of its rules, the court said previously. ARTBA in this case sued within that window after EPA in April 2012 issued a waiver for California rules on large spark-ignition engines.

Although the "substance" of ARTBA's case attacks EPA's rules, the court says that, "The Association claims its new challenge is different. In its previous challenges, it petitioned the Agency to revise the [air act section 209(e)] regulations and then sought review in this court when the Agency denied its request." This time, "it is not seeking to vacate the regulations but only to declare that they are invalid as applied in this instance."

However, the "distinction is irrelevant for purposes of the time bar," because allowing new challenges each time a longstanding regulation is applied would render the 60-day review window "meaningless" and "make a mockery" of Congress' effort to ensure potential litigants bring challenges to rules "at the outset," the court says. "Just as the Association could not previously circumvent Congress's effort by petitioning the Agency to revise its regulations and appealing its refusal to do so, the Association cannot circumvent that effort now by challenging the Agency's regulations whenever they are applied," the court concludes.

### **33. U.S. Among Governments Urging IMO to Reconsider Delay of Nitrogen Limits**

The U.S. and other countries are urging the International Maritime Organization to reconsider a 2013 decision to delay for five years a requirement for new large ships to limit nitrogen oxides emissions. The IMO's Marine Environment Protection Committee voted preliminarily in May 2013 to approve the delay, but the action would not be final until a follow-up vote in April in London.

The U.S., Canada, Denmark, Germany and Japan submitted comments in advance of the vote, arguing the technology exists for ships to control nitrogen oxides emissions. In fact, the countries said ship manufacturers have invested hundreds of millions of dollars in the technology with the expectation that international regulations will be enacted.

"For these engine manufacturers, a delay of five years will have important implications as they will not be able to begin to recover these significant research, design, and production costs until at least five years later than anticipated, which will likely have significant impacts on their financial positions," the countries wrote in the comments. The comments were posted on the U.S. Environmental Protection Agency's website in late January.

If the IMO votes to affirm the delay,, "the arbitrary nature of such an outcome will likely adversely affect future cooperation of industry stakeholders, including engine and after-treatment manufacturers and shipbuilders of all types, who have in good faith undertaken huge financial investments to develop compliant engines and adapt ship designs to accommodate them and who now see those investments discounted," the countries wrote in comments.

The IMO in 2008 voted to enact Tier III limits to cut nitrogen oxides emissions significantly from ships that are built after 2016 and operate in certain coastal waters. The IMO vote would delay the standards from going into effect until 2021. Russia pushed for the delay in May 2013, citing the market availability of emissions control technology.

### **34. House GOP Advances Bill To Block EPA Utility CO2 Rules**

House Energy & Commerce Committee Republicans have approved a bill to constrain EPA's authority to set first-time limits on carbon dioxide (CO<sub>2</sub>) emissions from power plants, with the Republican majority defeating in largely party-line votes a series amendments offered by Democrats to undo or weaken the legislation. On January 28<sup>th</sup>, Republicans on the committee, joined by two Democrats, voted 29-19 to advance H.R. 3826, the "Electric Security and Affordability Act," to the House floor, saying their legislation is necessary to stop EPA from

finalizing pending new source performance standards (NSPS) that would block construction of new coal-fired utilities by requiring them to install carbon capture and sequestration (CCS) they say is too costly and is not commercially available.

Rep. Ed Whitfield (R-KY), the sponsor of the bill and chair of the energy committee's power panel, said although few companies are building power plants today because of low natural gas prices, the bill would ensure that if coal becomes economical again, companies could build coal utilities using the "best available technology" on the market rather than being subject to what he says is an unachievable CCS mandate. The bill, which is being backed in the upper chamber by Sen. Joe Manchin (D-WV), would repeal EPA's proposed NSPS requiring future coal-fired power plants to install CCS technology and block any utility NSPS until Congress passed another law that would make it go into effect, meaning Congress would have a veto power on any future EPA climate rules for power plants.

The legislation would also tightly constrain EPA's authority to write a replacement climate rule by amending the Clean Air Act, directing EPA to set its NSPS based on a CO2 emissions rate that has been achieved by at least six geographically diverse U.S. power plants that have operated for at least a year and received no government subsidies.

House Energy & Commerce Committee ranking member Henry Waxman (D-CA) called the legislation a "recipe for climate disaster," as he said it was unlikely any for-profit companies would begin building power plants with CCS without any federal subsidies, keeping the emission standard from becoming more stringent.

The GOP majority, joined by the same Democrats who voted with Republicans in favor the bill -- Reps. Jim Matheson (UT) and John Barrow (GA) -- were able to reject a series of amendments offered by Democrats that would have weakened the bill or blocked it from taking effect until Congress passed comparable climate legislation.

## **ASIA-PACIFIC**

### **35. Recent Developments in China**

#### **Only 3 of 74 Chinese Cities Meet Air Quality Standard**

Just three of 74 major cities recorded met national air quality standards throughout last year, a senior environmental official revealed recently in Beijing. Only Haikou in Hainan, Lhasa in Tibet and Zhoushan in Zhejiang met new standards. Shenzhen was among the 10 cities with the best air quality.

Wu Xiaoqing, deputy minister for environmental protection, said the smog-plagued Beijing-Tianjin-Hebei area experienced air pollution on more than 60 per cent of days last year, the worst in the country.

Annual average levels of PM2.5 - tiny pollutant particles smaller than 2.5 microns that can penetrate deep into the lungs - reached 106 micrograms per cubic meter in the region, more than 10 times the World Health Organization's safety limit of 10. The area also has seven of China's 10 most polluted cities.

Other built-up regions - city clusters in the Yangtze and Pearl River deltas - also registered chronic smog problems.

Wu said China was paying a "heavy, massive" environmental price for economic growth. "Our measures to curb air, water and other types of pollution may somewhat stall the growth of our gross domestic product, but this is what we have to do," he said.

Wu said revisions to the Environmental Protection Law currently being considered would aim to increase fines for polluters so as to force factories to abide by emission limits. The revision process has already taken more than a year because of fierce negotiations among interest groups, environmental law experts say.

### **Chinese Man Becomes First To Sue Government Over Severe Smog**



A woman adjust her mask as she visits the Olympic Park with her family amid thick haze in Beijing on February 25, 2014.

A Chinese man in the smoggy northern city of Shijiazhuang, capital of Hebei province, has become the first person in the country to sue the government for failing to curb air pollution, a state-run newspaper has reported.

China's north is suffering a pollution crisis, with the

capital Beijing itself shrouded in acrid smog. Authorities have introduced anti-pollution policies and often pledged to clean up the environment but the problem has not eased.

Li Guixin, a resident of Shijiazhuang, capital of the northern province of Hebei, submitted his complaint to a district court asking the city's Municipal Environmental Protection Bureau to "perform its duty to control air pollution according to the law", the Yanzhao Metropolis Daily said.

He is also seeking compensation from the agency for residents for the choking pollution that has engulfed Shijiazhuang, and much of northern China, this winter. "The reason that I'm proposing administrative compensation is to let every citizen see that amid this haze, we're the real victims," Li was quoted as saying by the newspaper.

It was unclear whether the court would accept Li's lawsuit.

Chinese citizens have the right to appeal through legal means and the lawsuit reflects increasing environmental awareness among the public, said Cheng Gang, a chief engineer of the Shijiazhuang environmental protection bureau, according to a state news agency Xinhua report.

Li said he had spent money on face masks, an air purifier and a treadmill to get indoor exercise in December when the pollution was particularly severe. "Besides the threat to our health, we've

also suffered economic losses, and these losses should be borne by the government and the environmental departments because the government is the recipient of corporate taxes, it is a beneficiary," he said.

The government has invested in clean-air projects and empowered courts to mete out stiff penalties for infringements but enforcement has been patchy at the local level, where authorities often depend on taxes paid by polluting industries.

Hebei, a major industrial region surrounding Beijing, has some of the most polluted cities in the world's most populous country. Shijiazhuang routinely recorded "beyond index" measurements of polluting "particulate matter" in early 2013.

### **China to Set Up 10b Yuan Fund To Help Fight Smog**



The Chinese government said it will set up a 10 billion Yuan (US\$1.65 billion) fund to fight air pollution, offering rewards for companies that clean up their operations.

Chai Fahe, vice-president of the Chinese Research Academy of Environmental Sciences, said that the 'front-runner' project aims to reward companies with the lowest emissions or energy use per unit of production. He said the government is

paying more attention to using economic instruments to promote environmental protection, a method that can save resources. The suggestion was also made to reward regional governments that improve air quality, instead of simply giving them money for clean-air projects, Chai said.

Authorities have issued countless orders and policies to try and clean up the country and invested in various projects to fight pollution and empowered courts to mete out the death penalty in serious cases. But enforcement of rules has been patchy at the local level, where authorities often rely on taxes paid by polluting industries.

Premier Li Keqiang, at a cabinet meeting, said the central government would set up the 10 billion Yuan fund to "use rewards to replace subsidies to fight air pollution in key areas", the government said in a statement. Companies that were considered leaders in their field at cleaning up their emissions would be given "incentives", it added, without providing details.

The government would continue to push energy efficiency and clean energy schemes, including improving petrol standards for vehicles, and the phasing out of outdated equipment and factories, the statement added.

It said that the government would also keep on "perfecting" the oversight role of environmental protection bodies and "standardize" the release of public information about pollution.

## **China Vows Greater Enforcement Push in Environmental Protection Effort**

China's top environmental officials reviewed preliminary environmental protection results for 2013 and vowed greater action in tackling air and water pollution over the course of 2014, in particular stepping up enforcement efforts and cracking down on environmental crimes, according to statements made at a press conference in Beijing.

Zhai Qing, vice minister of the Ministry of Environmental Protection (MEP), said the national Air Pollution Prevention Action Plan issued in September 2013 is in the process of being fully implemented and it is expected that reductions of sulfur dioxide and nitrogen oxide emissions will meet annual reduction targets.

Under the 12th Five Year Plan (2011-2015), China has set goals for reducing sulfur dioxide emissions by 8 percent and nitrogen oxide emissions by 10 percent, compared to 2010 levels, while also aiming to reduce levels of chemical oxygen demand in wastewater by 8 percent and ammonia nitrogen discharge by 10 percent, by 2015.

Zhai said that sulfur dioxide emissions, chemical oxygen demand levels in wastewater and ammonia nitrogen discharge reductions were all at around 7 percent three years into the plan, but there is "a lot of pressure" to meet the nitrogen oxide reduction targets. Officials from the National Development and Reform Commission also said in a briefing on January 22<sup>nd</sup> that meeting the nitrogen dioxide reduction goal by the end of 2015 may be difficult.

Currently, a total of 22 policy measures related to air pollution control are being reviewed by the State Council, according to Zhai, with six related to adjustments in the energy structure, including the expanded use of natural gas and use of cleaner coal; 10 related to environmental pricing policies, including taxes, resource pricing and environmental investment; and six others related to environmental standards and assessment measures.

Large, state-owned enterprises such as China Petroleum and Chemical Corp. (Sinopec), PetroChina Co. Ltd., and the China Huadian Corp. that were found to have exceeded emissions standards and energy reduction tasks in 2012 have rectified their problems, Zhai said. He did not detail what punishments were incurred from the infractions, other than saying they were "severe."

Also on February 11<sup>th</sup>, a statement by MEP head Zhou Shengxian was posted on the ministry website detailing urgent needs for reforming the environmental protection system that would give the ministry a more unified system for monitoring industrial pollution, greater transparency regarding the release of that data, as well as more power for independent monitoring and law enforcement. Zhou said the current system has dispersed authority to such a degree that it hampers the ability of environmental protection bureaus and other agencies in enforcing environmental regulations.

It is expected that amendments to the country's Environmental Protection Law will be passed at the forthcoming annual meetings of the National People's Congress (NPC) starting on March 5<sup>th</sup>. There have been expectations that further reforms of the functions of ministries, some which were announced at the NPC meetings in 2013, could be revealed, and that could give the MEP more power to enforce laws, something Zhou alluded to in his statement.

## **Beijing: May Introduce Congestion Charge in 2015**

Beijing is to unveil plans for a low-emission zone and vehicle congestion charge by the end of the year, with the measures to come into effect as early as 2015. Environmental officials say they are consulting with experts on whether to adopt a scheme similar to those followed in London or Milan.

In London, the congestion charge is only imposed in some parts of the low-emission zone, while a fee is collected from every driver entering the low-emission zone in Milan.

Beijing failed to meet its targets for easing road congestion in 2013, with commuters experiencing more traffic jams across the city. During rush hours on workdays last year, the average duration of traffic jams was 1 hour and 55 minutes, a rise of 4.2% from the hour-and-a-half recorded in 2012, according to a report by the Beijing Commission of Transport. The report said that in the main urban area, there were 27.79 million daily journeys. This included 9.09 million trips by private car, 7.06 million trips by bus and 5.72 million by subway.

Easing road congestion was placed at the top of Beijing's work agenda in 2013. One of the goals set by the transport authority in early 2013 was to ensure the traffic congestion index within the Fifth Ring Road — an area covering most of urban Beijing — did not rise above level 5. The index indicates the general congestion situation and ranges from 0 (no congestion) to 10 (heavily congested).

However, according to the transport commission's report, the average traffic congestion index on workdays was 5.5, an increase of 4.2% from the 5.27 in 2012. During morning rush hours in 2013, the index was 5.0, a rise of 5.2% from 2012, the report said. During evening rush hours, the figure was 6.0, a rise of 3.6% from 2012.

The government plans to further limit the number of cars released onto roads each year in the hope of easing congestion and cutting emissions. In November, Beijing announced that from 2014 through 2017, the number of new cars available to registered drivers in the capital would be reduced from 240,000 a year to 150,000.

This year, the city will further develop the public transport system to facilitate commuters. It will open four new subway lines or sections this year with a total length of 62.2 km.

### **Beijing: Ranks Low on Green List of Cities**

The Chinese capital is on the verge of being "unfavorable for human living", a new report claims. Beijing fared poorly in the report that ranked the environmental conditions and general living suitability of 40 global cities, with conditions in the Chinese capital, especially, being severely criticized. The city came second to last, while China's other major city in the study, Shanghai, was fifth from last in the environment category of the report.

Beijing was "almost unfavorable for human living", according to the report by the Shanghai Academy of Social Sciences, while Shanghai could barely meet average standards of an environmentally friendly city. Stockholm, Vienna and Zurich were the top three cities in terms of their environment, and Moscow was at the bottom. The report found that Beijing and Shanghai were in the top 10 for social tolerance, and both were in the top 20 in the business rankings as well as market stability and attraction.



Environmental conditions were one of the six indexes used to evaluate the 40 cities. Other indexes included economics, governance and cultural innovation. Overall, Shanghai came 21st and Beijing 31st.

Geographic conditions and unique weather patterns played a factor in the environment, said Su Ning, associate research fellow of the academy's Institute of World Economy. Air pollution has been a major problem for big cities in China. In 2013, more than 100 cities had an average of 29.9 smoggy days, a 52-year high. Of the 10 worst cities for monthly air pollution, cited by the Ministry of Environmental Protection last year, more than a quarter were located in Hebei province, which surrounds Beijing.

Soaring levels of pollution are driving expatriates out of Chinese cities, and dissuading others from coming. The Associated Press reported that the number of overseas visitors to China had declined from early last year due to air pollution.

### **Cash-for-Clunker Scheme and Green Car Subsidies Renewed**

China's central government has recently renewed the national cash-for-clunker program and new-energy car subsidies to fight rising air pollution allegedly caused mainly by vehicle emissions.

Owners who trade in their used semi-trailer trucks and heavy-duty trucks older than 10 years but still within the lifespan will still get a national rebate of 18,000 Yuan for each this year, the same as last year, the commerce and finance ministries said in a joint statement.

The campaign to drive more new-energy vehicles on to the streets of China's cities has set new goals in the hope of revving up a market showing a distinct lack of interest. An announcement from the central authorities included 12 more cities in a program to advance the use of environmentally friendly cars, taking the total number of cities and regions involved to 40.

Cities in eastern regions are required to promote not less than 10,000 new-energy vehicles by the end of 2015, while targets for the rest are set at 5,000. Beijing and Shenzhen have set their own targets of 35,000, pushing up the total for the 40 cities to around 320,000, according to a calculation by Hongyuan Securities. That means at least 160,000 new-energy cars should be sold this year, over nine times last year's national sales. In 2013, sales of new-energy vehicles stood at just 17,642, according to the China Association of Automobile Manufacturers.

The Ministry of Finance has made the first move by renewing subsidies for new-energy passenger cars in 2014 and 2015. The government will decrease the subsidies by 5 percent in 2014, instead of the 10 percent it announced previously, and cut the incentives by 10 percent in 2015, instead of 20 percent, according to a statement released by the Ministry of Finance. The country will continue to subsidize electric vehicles after the current program expires at the end of 2015, the statement said. The ministry also demanded that local authorities speed up improvements to infrastructure and banned any preferential treatment for local automakers. Benefitting from top-down policies, China's auto manufacturers are making their own plans to expand the new energy vehicle market. Tesla Motors, whose high-performance electric cars have generated a buzz in the US and Europe, is bringing confidence to Chinese car buyers and improving their ecological awareness.

China, one of the most aggressive promoters of electric vehicles, announced in September that it would offer 60,000 Yuan (\$9,906) for each purchase of an all-electric passenger vehicle and 35,000 Yuan for plug-in hybrid cars.

## **China's Aviation Biofuel goes into Commercial Use**

China has started commercial use of aviation biofuel in a bid to ease fuel pressure and cut carbon emissions. China's top oil refiner, Sinopec, was given a license allowing commercial use of its aviation biofuel, said the Civil Aviation Administration of China (CAAC). The license, the first of its kind, permits Sinopec's No 1 Aviation Biofuel to be used by airlines, some of which have showed willingness to cooperate with the refiner. Xu Chaoqun, deputy head of CAAC's Flight Criteria Department, said the development is a significant breakthrough for research, production and use of aviation biofuel. The development also makes China the fourth country in the world to produce aviation biofuel, after the United States, France and Finland.

Sinopec started research on aviation biofuel in 2009, and its application for commercial use was accepted by CAAC in early 2012. Last April, a test flight in Shanghai powered by the biofuel was a success, and the fuel went through several rounds of more strict tests before it was given the green light.

Sinopec can produce 3,000 tons of such oil a year, from materials like rape seed, cotton seed and wasted cooking oil. The refiner is also considering joining with private enterprise in planting, collecting and processing materials, after working with McDonald's to collect cooking oil.

"Aviation biofuel is one of the major trends in global aviation," said Xu. "With our research on aviation biofuel, we have built a set of technological standards, and will have a bigger say in international carbon emission reduction." Research showed that carbon dioxide generated by biofuel is 45% or less than that produced by conventional fuel.

The International Air Transport Association (IATA) forecast that 30% of aviation fuel will be biofuel by 2020, and a few western airlines have been testing commercial flights with biofuel since 2008.

China is the world's largest oil importer and 58.1% of its 2013 supply relied on imports.

With an annual consumption of nearly 20 million tons, China has become the second largest aviation fuel consumer and demand is estimated to be expanding by 10% every year, while the global average is less than 5%. By contrast, the country has abundant biofuel-refining resources: vast areas of oil-rich plants and a huge amount of wasted cooking oil.

However, analysts said there may be a long way to go until large-scale application of aviation biofuel due to costs. Xu Hui, vice director of Sinopec's Science and Technology Department, said the production costs of aviation biofuel are two to three times those of crude oil. He said some three tons of wasted cooking oil can generate one ton of biofuel, and collecting cooking waste suitable for refining is expensive.

Refiners and airlines have to split the cost, and the final price will be determined by the market based on emission-cutting efforts and an application scale, according to Xu with Sinopec. "The most important thing for now is to diversify biofuel sources and upgrade technology," said CAAC's Xu.

## **China Targets Greater Non-Fossil Fuel Use**

China will aim to increase the share of non-fossil fuels in its overall energy consumption to 10.7% in 2014, in an effort to further improve its energy mix, the national energy authority said. Raising

energy efficiency, controlling energy consumption, optimizing the energy mix and guaranteeing energy supply are this year's four major tasks for energy use listed by the National Energy Administration (NEA), according to a document posted on its website.

Non-fossil fuels took up 9.8% of China's total energy use in 2013, up 0.4 percentage points year-on-year, the statement said. The 12th Five-Year Plan (2011-2015) set the target of non-fossil fuels accounting for 11.4% of the country's energy consumption by 2015.

This year, the NEA is aiming to make the installed capacity of non-fossil fuel account for a third of total installed capacity. The share of natural gas in the country's total energy consumption will be raised to 6.5% while that of coal reduced to below 65%.

Greater use of clean and renewable fuels is part of the government's efforts to promote energy saving and environmental protection as the country's economic success has come with steep costs: polluted air and water.

The NEA aims to bring energy consumption for every 10,000 Yuan (\$1,637) of China's GDP to 0.71 tons of coal equivalent in 2014, down 12% from 2010. China's power capacity was up 94m kW in 2013

### **China Under Pressure in Emissions Targets**

China is facing pressure in meeting the emissions cut targets set in its pollution control plan by 2015, an environment official said. Speaking at a press conference in Beijing, Zhai Qing, deputy minister of environmental protection, said China currently records 24 million tons of Chemical Oxygen Demand (COD), a measure of organic pollutants in water, per year, while the total annual volume of ammonia nitrogen emissions stands at 2.45 million tons.

Experts have estimated that China's water environment will undergo fundamental improvement only after the above figures are cut by 30 to 50 percent, Zhai said.

In the country's 12th Five-Year Plan (2010-2015) for environment protection, China vowed to cut COD and sulfur dioxide emissions by 8 percent and ammonia nitrogen and nitrogen oxide emissions by 10 percent compared with 2010 levels.

"Emissions of COD, sulfur dioxide and ammonia nitrogen have dropped by over 7 percent in the past three years, basically as scheduled, but nitrogen oxide emissions only dropped by about 2 percent, which has created great pressure for emissions-cutting tasks in 2014 and 2015," said Zhai. The performance for the first half of 2011 was even more disappointing, as nitrogen oxide emissions rose by 6.17 percent year on year.

But Zhai said he still believes the five-year reduction target will be met under the support of local authorities.

Last year, emissions of major indicators including COD, sulfur dioxide and ammonia nitrogen kept declining, and nitrogen oxide emissions dropped by 4 percent year on year, he noted.

The deputy minister said that China has set a goal of reducing nitrogen oxide emissions by at least 5 percent in 2014, with emissions cut targets of 2 percent for other indicators this year.

A total of 1,473 environment protection projects will be finished across the country this year, aimed at increasing sewage treatment capacity by 10 million tons and denitration capacity by 130 million kilowatts, Zhai said.

China will also strive to pull three million excessively polluting vehicles from the roads, he added, while authorities are currently working on an action plan to combat water pollution and protect soil.

### **US, China Promise Closer Cooperation on Climate Change**

The United States and China have promised to cooperate more closely in combatting climate change following a visit to Beijing by U.S. Secretary of State John Kerry. In a joint statement, the two governments said they have agreed on steps to carry out commitments to curb output of greenhouse gases that trap solar heat in the atmosphere. Those include reducing vehicle emissions, improving energy efficiency of buildings and other measures.

China and the United States are the biggest sources of emissions of carbon dioxide and other gases that cause the atmosphere to trap solar heat and alter the climate. Scientists warn such changes will lead to drought and other extreme weather conditions.

The two governments will "contribute significantly to successful 2015 global efforts to meet this challenge," the statement said.

It cited the "overwhelming scientific consensus on climate change and its worsening impacts, and the related issue of air pollution from burning fossil fuels," and said the two countries recognize the urgent need for action.

Beijing and Washington launched the U.S.-China Climate Change Working Group last year. They promised progress in five areas -- reducing vehicle emissions, advanced electric power grids, capturing and storing carbon emissions, gather greenhouse gas data and building efficiency.

### **Concerns Raised: Don't Make Smog Emergency Plan A Specious Regulation**

February 14th marked both the traditional Chinese Lantern Festival and the Western Valentine's Day. But the joyous day was unfortunately clouded by a new wave of haze, which shrouded more than 30 cities in China. The Air Quality Index (AQI) reading showed that these cities, especially those neighboring Beijing, were all categorized as "hazardous" in terms of the level of health concern. Beijing even recorded a "beyond index" reading of more than 500 at about 11 pm that day. A blue alert for heavy air pollution was activated.

However, according to a recent post by the Finance Channel of China Central Television (CCTV) on Sina Weibo, the so-called emergency plan was probably just a specious regulation. The post complained that even though the AQI reading had surpassed 500, Beijing authorities did nothing except issue a blue alert, and there were no concrete measures taken, such as halting factories and controlling traffic. Basically, it just "turned a blind eye" to the gray sky.

CCTV's complaint was shared and reposted online more than 10,000 times in less than one day. Although it is uncertain whether such a complaint is based on a legitimate legal basis, it being echoed by the masses demonstrates that severe regulations are highly demanded by the populace.

In fact, the last two years have witnessed Chinese authorities making huge investments to tackle the worsening air quality. At a State Council executive meeting on February 12th, the central government decided to establish a 10 billion Yuan (\$1.65 billion) special fund to deal with air pollution. (See story above.) What's more, all types of regulations, plans and initiatives have also been blossoming in local areas.

So far this anti-haze campaign has just started and has not had any real effect. But the complaints from the masses have shown that the current regime of handling air pollution still lacks responsiveness and practicality. How to technically effectuate current regulations will be more convincingly embraced than adopting more theoretically-based policies.

### **Government Shake-Up Rumored To Grant More Powers to Environment Ministry**

China could grant its undersized environment ministry new powers over resources, possibly allowing it to veto future projects, and more muscle to punish polluters as part of a government shake-up to tackle decades of unchecked growth. Sources with ties to the leadership told Reuters that the government was **considering** a sweeping reorganization of cabinet ministries in March that will dissolve the Ministry of Land and Resources and transfer some powers to the Ministry of Environmental Protection (MEP), long regarded as too weak to punish law-breaking polluters.

Amendments to China's 1989 environmental law, likely to be rubber-stamped at the annual session of the country's legislature in March, are rumored to also give the environment ministry the powers to impose unlimited penalties on firms that fail to rectify problems and allow regulators to suspend or shut down persistent offenders.

A nationwide monitoring system will be established to force industries to disclose exactly how much pollution they cause, and it will become a criminal offence to misuse or switch off pollution control technology and misreport emission levels. The environment ministry said last year that it planned to spend 40 billion Yuan (\$6.60 billion) over 2011-2015 to boost its monitoring capacity.

The proposals are part of China's efforts to steer the economy away from investment-led growth, which has fuelled three decades of double-digit expansion per year, towards a lower but more sustainable pace leaning more on consumption and services.

Despite vows to get tough on industry, China's ability to impose environmental safeguards on local governments and powerful state-owned firms remains in doubt following a series of toxic chemical spills, smog scares and food safety scandals.

China has already stripped dozens of powers from ministries, including the powerful National Development and Reform Commission (NDRC), in a bid to move away from bureaucratic interference in the world's second-largest economy and towards better regulation. The NDRC, a sprawling superministry with a huge swathe of duties ranging from cutting greenhouse gases to deciding energy prices, has long been under fire for resisting reform and for heavy-handed intervention in the economy.

The new amendments reportedly will abolish a "maximum fine" system in favor of unlimited penalties for repeat offenders. Officials say firms have preferred to pay the relatively small fines up front rather than face much higher compliance costs. But the environment ministry will also need a bigger budget and a rise in status in China to fulfill its goals.

The planned environmental law changes have been broadly welcomed by activists, but they are concerned about new restrictions on the public right to sue polluters. A previous draft said lawsuits could only be filed via the government-affiliated All-China Environmental Federation. Critics said the clause would restrict citizens' rights to sue in contentious cases, and it was criticized even by the People's Daily, the mouthpiece of the Chinese Communist Party.

Subsequent amendments also allowed government-registered environmental organizations that have been operating for at least five years to launch legal action. Chinese environmental group Friends of Nature said the change was not enough and the clause remained "detrimental to the public interest".

### **Firework Frenzy in China Aggravates Air Pollution**

China's environmental watchdog said on Saturday that 33 of the 161 cities monitored nationwide were hit by heavy air pollution on the Lantern Festival, due to firework revelry and unfavorable weather conditions. Beijing, together with its surrounding cities such as Shijiazhuang, Baoding, Xingtai and Hengshui, was rated by the Ministry of Environmental Protection as "severely polluted" according to the ministry.

The Lantern Festival, which marks the end of China's half-month lunar New Year celebrations, traditionally features outdoor celebrations by lighting hanging lanterns and fireworks. Chinese people traditionally believe the noise of setting off fireworks can fend off evil spirits and bad luck. However, fireworks' contribution to air pollution has drawn attention from the public and authorities over the past years. Fireworks sales in Beijing during the festival declined 38 percent from a year earlier, Xinhua reported, citing data from the municipal fireworks office.

The major pollutants were PM 2.5 and PM 10, and firework revelry was blamed for the serious air pollution, the ministry said.

Shijiazhuang, capital of north China's Hebei Province, was the most polluted city, with an average PM 2.5 reading of 363 micrograms per cubic meter.

### **China Auto Sales in 2013 Approach 22 Million**

The year 2013 has been a fruitful year for the Chinese automotive industry. Its production and sales have reached to 22,116,800 and 21,984,100 units respectively, with an increase of 14.8% and 13.9% year on year. The sales and production of Chinese automobiles have now ranked the first in the world for five successive years.

For each month sales, December was the highest, reaching 2,134,200 units; while February was the lowest, only 1,354,600 units. For the whole year, except for February (Spring Festival season), the other eleven months were all higher than the same period of last year.

### **China to Focus on Air, Water Pollution, Emissions Trading, Impact Assessments**

China's Ministry of Environmental Protection this year will prioritize measures to prevent and control air, water and soil pollution; use market strategies to tackle environmental problems; and elevate the environmental philosophy of President Xi Jinping to a guiding role, the country's top environmental official said in a speech posted on the ministry's website on January 13<sup>th</sup>.

Minister of Environmental Protection Zhou Shengxian laid out the agenda for 2014 and the coming years in a January 10<sup>th</sup> speech at the National Environmental Protection Conference in Beijing. The meeting was attended by officials from the ministry and environmental protection bureaus around the country. Zhou said China will seek “more creative strategies” to deal with environmental problems, including setting up the regulatory groundwork for a national trading platform to deal in pollutant emission and discharge rights.

Twenty provinces and municipalities currently have pollutant license regulations, Zhou said. Within the year, the ministry is expected to issue national pollutant license management measures and technical standards for measuring the total volume of pollutants from construction projects, he said. At the same time, the government will continue to draft regulations on the trading of pollutant emission and discharge rights in preparation for setting up the national trading platform.

Zhou said work will continue to privatize the environmental impact assessment (EIA) system to make the assessments more like “third-party” evaluations. Currently, most EIA evaluators are linked to government institutions or university departments under government authority and not independent businesses. Zhou said the ministry expects to release two documents on the EIA process for construction projects that will require monitoring and evaluations before, during and after projects are completed.

This year's top priority will be preventing and controlling air, water and soil pollution, Zhou stated. Besides further implementing the national air pollution action plan released in late 2013, the ministry will push to release and implement a national clean water action plan and a soil pollution prevention and treatment action plan over the coming year, Zhou said.

Based on its progress so far, China still needs to reduce airborne nitrogen oxides emissions by nearly 5 percent by 2015, compared with 2013 levels, to achieve national targets for four so-called key pollutants set out in the 12th Five-Year Plan, Zhou said. Zhou said China has succeeded in cutting airborne sulfur dioxide and levels of chemical oxygen demand in wastewater and is on pace to reach targets for ammonia nitrogen levels in wastewater, but that efforts to reduce nitrogen oxides emissions have “been very stressful.” He said China plans to cut major pollutants like sulfur dioxide and ammonium nitrate by 2 percent over 2014. Nitrogen oxides would be slashed by 5 percent.

The National Development and Reform Commission announced on December 25<sup>th</sup> that while most 12th Five-Year Plan (2011-2015) emissions targets are on schedule to be met, it may be difficult to meet those for reducing energy use and carbon emissions per unit of gross domestic product, for increasing the amount of renewable energy in the energy mix and for reducing nitrogen oxides emissions.

A State Council midterm evaluation report for the current five-year plan released by the National People's Congress on December 26<sup>th</sup> said energy intensity had been reduced 5.54 percent and carbon intensity 6.6 percent in the first two years of the plan, well short of the 16 percent and 17 percent reductions, respectively, from 2010 levels that the country is aiming for by the end of the plan.

On December 29<sup>th</sup>, the State Council said that the National Energy Administration is launching a special review of air pollution control compliance at coal-fired power facilities in Tianjin municipality and in the provinces of Hebei, Jiangsu, Zhejiang and Guangdong, in particular to check if they are operating dust control and denitrification and desulfurization technology, with three phases of inspections and a plan for rectifying any problems to be completed in May.

Nanjing, capital of Jiangsu province, which suffered serious air pollution in November, announced on December 26<sup>th</sup> that 46 coal-fired boiler units will be shut down. In other areas, Shenzhen in south China's Guangdong province released an air pollution action plan on December 24<sup>th</sup> and the state-run Xinhua news agency reported on December 18<sup>th</sup> that a large steel factory in Shanghai built in the 1980s is being moved outside the urban area.

On December 24<sup>th</sup>, the Ministry of Environmental Protection released details of a second special budget for reducing pollution, with 45.19 million Yuan (\$7.4 million) being newly allocated for air quality monitoring, forecasting and warning systems. A total of 354.39 million Yuan (\$58.4 million) was allocated to the fund in 2013, with about two-thirds of that coming from local government funding, primarily for building environmental monitoring capacity, and with 41 percent of the funding being allocated to projects in western China.

Zhou said President Xi's environmental protection philosophy of “not following the old path of further damaging the environment” and of constructing an “ecological civilization” will be treated as a critical instruction for how the ministry crafts its agenda over the coming decade.

### **As China Reels From Air Pollution, Government Continues Policy Rollouts**

Beijing municipality issued its most severe “blue” air pollution warning on January 15<sup>th</sup> when the air quality index showed readings of small particulate matter (PM-2.5) above the top level of 500 micrograms per cubic meter, prompting officials in the capital and other areas to pledge further measures to deal with the mounting problem.

At the opening of the municipal People's Congress meetings ahead of annual National People's Congress meetings to be held in March, Beijing mayor Wang Anshun vowed that the city would reduce annual average concentrations of PM-2.5 and overall sulfur dioxide and nitrogen oxide emissions each by 5 percent in 2014, compared with 2013 levels, according to a report on the meeting appearing on January 17<sup>th</sup> on the National Energy Administration (NEA) website.

Wang also announced that Beijing will cut coal consumption by 2.6 million metric tons, devote 15 billion Yuan (\$2.4 billion) toward projects to improve air quality, and shut down or relocate 300 high-polluting businesses in 2014 as part of its clean air action plan.

The report said a total of 288 businesses were shuttered or relocated in 2013. Initiatives will also be taken to further study the sources of PM-2.5 in and around the capital, average annual concentrations of which were reduced by 5 percent in 2013 compared with the prior year, Wang said.

At local People's Congress meetings the day before, the Shanghai municipal government announced further information on its air pollution emergency system, including blue, red, orange and yellow alert systems for varying levels of PM-2.5 that will prompt differing responses. Guangdong province in southern China also announced new details on January 9<sup>th</sup> about its previously released air pollution emergency plans.

Most provinces and major municipalities are currently holding their People's Congress meetings, and according to a January 17<sup>th</sup> report from China Environmental News, the official news agency of the Ministry of Environmental Protection (MEP), the majority have hoisted air pollution to the top of their agenda for 2014. Other jurisdictions continue to roll out air pollution action plans, with Henan, Jiangsu, Shandong, Fujian provinces, the Inner Mongolia autonomous region, and the



cities of Urumqi, Xiamen, Xi'an, and Hangzhou all having released plans in the first half of January.

The State Council and the MEP also have recently signed agreements with provinces on reducing air pollution emissions, and 161 cities around the country now release real-time air quality data, with a total of 190 cities set to have the capacity to release real-time data by the end of 2014.

On January 15<sup>th</sup>, the NEA said that in 2014 it will attempt to reach a goal of having 10.7 percent of the national energy mix coming from non-fossil fuel-based sources, up from the preliminary estimate of 9.8 percent at the end of 2013; increase the percentage of natural gas to 6.1 percent; and reduce coal consumption in the mix to below 65 percent, a report from the annual National Energy Conference indicated.

Beijing, Tianjin municipality and nearby Shandong province have pledged to implement joint air pollution prevention and control mechanisms to cut consumption of around 17 million metric tons of coal in the next year and reach a goal of 100 percent of coal-fired facilities operating desulfurization technology and 70 percent operating denitrification technology.

On January 8<sup>th</sup>, the MEP and the National Development and Reform Commission announced they would jointly launch a campaign to check desulfurization and denitrification devices at coal-fired facilities around the country to make sure they are being used properly and being operated continuously.

Beijing is targeting a 25 percent reduction in PM-2.5, Shanghai a 20 percent reduction, and the Pearl River Delta region a 15 percent reduction by the end of 2017, compared with 2012 levels, largely through control of coal consumption, adjusting the energy structure, enacting automobile restrictions, and using technology to reduce sulfur dioxide and nitrogen oxide emissions.

### **China's Most-Polluted Province Faces Enormous Challenge**

Hebei, a northern region with the worst air in China, faces an enormous challenge in cleaning up its dirty air as data showed that little more than one third of all days last year met quality standards. The air quality index (AQI) in 129 days, 35.3 percent of days in 2013, was below 100, Chen Guoying, director of the Hebei provincial bureau of environmental protection, told a local legislature recently. The province, which surrounds the national capital Beijing, had 80 days, or 21.9 percent, of severe air pollution (AQI readings higher than 200), Chen said.

According to statistics published monthly by the Ministry of Environmental Protection, Hebei is home to up to seven of the country's top 10 polluted cities. "Heavy smog hit at the time of the "two sessions" in 2013 and again this year," said Liu Ronghua, a local political advisor, at a panel discussion at the annual meeting of the provincial people's political consultative conference. (The "two sessions" refer to the annual meetings of the local legislature and political consultative conference.)

"Smog has triggered a survival crisis and people are wondering where is suitable to live. Some are fleeing big cities to avoid the toxic air," Liu said.

Hebei's economy is dominated by highly polluting and energy guzzling heavy industries, which contributed to up to 77 percent of all emissions into the air, according to Chen. The three sectors of steel, petrochemicals and construction materials account for half of its industrial output. Hebei churned out 180.5 million tons of steel last year, the largest among all provincial-level regions.

To tackle the severe air pollution, the provincial government has banned approvals of new steel, cement, glass and nonferrous metal plants. Meanwhile, it has pledged to cut its annual steel and cement production capacities by 60 million tons respectively by 2017 and to reduce its annual coal consumption by 40 million tons from 2012 levels under the same time frame. To meet the targets, authorities will encourage mergers and acquisitions and order closures or use pricing reforms to prompt outdated facilities to shut down.

Hebei has entered a period of painful economic transition and the government will focus more on environmental protection and greener growth rather than on pure gross domestic product expansion, said Zhang Qingwei, governor of Hebei.

### **China Pushes Provinces to Improve Collection, Release of Pollution Data**

China's Ministry of Environmental Protection has instructed certain provinces to improve their required collection and release of pollution information and has issued an updated list of companies facing stricter-than-normal requirements to disclose emissions and discharges. In a December 31<sup>st</sup> announcement, the ministry singled out the island province of Hainan and the autonomous regions of Guangxi-Zhuang, Tibet and Xinjiang for failing to set up online systems for monitoring so-called key companies and urged 27 other provinces and regions to improve their systems because the integrity of the information they are gathering and disclosing is "not high."

The key companies on the "critical monitoring" list account for about 80 percent of all wastewater discharges and airborne emissions in China, according to the ministry. The companies must disclose information on the "key pollutants" specified in the current Five-Year Plan—chemical oxygen demand and ammonia nitrogen levels in wastewater and airborne emissions of sulfur dioxide and nitrogen oxides—to their local environmental protection bureaus. Industries responsible for large amounts of heavy metal pollution and livestock facilities responsible for significant agricultural pollution are also required to disclose their information.

A total of 14,410 companies are on the updated "critically monitored" list compared to 15,797 a year earlier, signaling some improvement.

The ministry also said four general problems have emerged during recent formulation of action plans around the country to combat air pollution:

- Companies are **not correctly operating technology** to reduce sulfur dioxide and nitrogen oxides emissions.
- **Small companies** without proper emissions reduction technology are difficult to control.
- Rampant **construction** is contributing to heavy particulate matter pollution.
- Continued **residential use of coal** in small cooking stoves and heating devices is hard to curtail.

China's Ministry of Public Security said on January 5<sup>th</sup> that law enforcement agencies across the country investigated 372 criminal cases related to environmental protection in 2013, while in the previous 10 years only a total of 700 criminal cases related to the environment had been investigated.

### **Beijing Sees Little Improvement in Air Quality In 2013**

Despite pledges in the last year to fight pollution, Beijing saw barely any improvement in air quality in 2013. The intensity of major air pollutants remained much the same in 2013 as they were in the previous year, figures released by the Beijing Environmental Protection Bureau indicate. For example, PM2.5 was 2.5 times the national standard; the PM2.5 reading in 2013 was on average 89.5 micrograms per cubic meter compared to the national standard of 35 micrograms per cubic meter.

Zhang Dawei, head of the Beijing Environmental Monitoring Center, said that compared with 1998, the intensity of sulfur dioxide declined by 78 percent, nitrogen dioxide by 24 percent and PM10 by 43 percent. But considering the rising number of automobiles and the increasing energy consumption in all walks of life, Beijing's goal to reduce PM2.5 concentration to 60 micrograms per cubic meter by the end of 2017 — down 25 percent from 2012 — will "remain very challenging", he said.

### **Cars or Coal? Scientists Split Over Main Culprit of Beijing's Air Pollution**

The Chinese Academy of Sciences (CAS), the country's top research body, released a study on December 30 saying motor vehicle emissions were only responsible for less than 4 per cent of Beijing's PM2.5, the most health-threatening fine air pollutants. Instead, the study identified fossil fuel burning as the largest contributor of PM2.5, contrary to popular beliefs that the nearly 5.5 million cars clogging the capital's streets were chiefly to blame for its air pollution.

However, barely 24 hours later, Pan Tao, president of the Beijing Municipal Research Institute of Environmental Protection, openly challenged the findings, telling People's Daily online that motor vehicle emissions were "undoubtedly" the major source of Beijing's air pollution.

The CAS study analyzed air samples in the capital on a seasonal basis, and found that pollutants generated from industrial production and coal-burning are the source of Beijing's PM2.5 pollutants. According to the study, coal burning, industrial pollution and secondary inorganic aerosol, a catch-all term for inorganic particulates formed as a product of complex chemical reactions among pollutants, account respectively for 18 per cent, 25 per cent and 26 per cent of the air pollution at large. Combined waste incineration and motor vehicle emissions are responsible for 4 per cent of the hazardous PM2.5 fine particles in Beijing's air, it says.

But the academy's conclusion appears self-contradictory as motor vehicle emissions are themselves a major contributor to secondary inorganic aerosol, argued Pan Tao from the Beijing institute. Moreover, Pan asserted, it was simply impossible that car exhaust could account for as little as 4 per cent of Beijing's main air pollutants.

### **MEP Report Shows Motor Vehicle Pollution Is a Major Cause of Haze**

China's Ministry of Environmental Protection said on January 26<sup>th</sup> that motor vehicle pollution is a major cause of pollution. The Ministry recently released the annual report of China's motor vehicle pollution's prevention in 2013 (hereinafter referred to as the annual report), and announced the 2012 national motor vehicle emissions status. The Annual Report shows that China has become the world's vehicle production and sales superpower for four consecutive years.

The Annual Report data shows that, in 2012, China's vehicle population continued to grow, and reach 223,828,000. Classified by emissions standards, cars that achieve the State IV standard and above account for only ten percent of the fleet; 7.8% of cars have not yet reached the

standard I . According to the environmental protection symbol classification, "green standard car" accounts for 86.6%, "yellow car" of high emissions still accounts for 13.4%. Notably, the "yellow cars" have discharged 58.2% of NOx, 81.9% of PM, 52.5% CO and 56.8% of HC.

### **Joint Effort to Fight Yangtze River Delta Pollution**

A coordinated effort to fight air pollution over the Yangtze River Delta was launched recently. As per the agreement, Shanghai and the three neighboring provinces — Zhejiang, Jiangsu and Anhui — will share information and take joint action to fight air pollution in the region.

Shanghai will have to reduce PM2.5, by 20 percent, a target set by the Ministry of Environmental Protection.

In the joint action, Shanghai and neighboring cities will keep each other updated about regional air quality conditions and cooperate in scientific research on air pollution. They will also try to achieve a unified standard over energy conservation and emission cuts.

Restriction of coal consumption was listed as one of the main tasks; cities and provinces were urged to push for a more environmentally friendly energy supply structure. Other tasks include the rectification of high-pollution enterprises, elimination of high-emission vehicles and upgrading oil products, as well as strict control over dust emission and burning of straw.

The delta region shall also work on a unified air pollution warning system and act jointly once the warnings are issued.

Only eight days out of 31 days last month had air quality that was acceptable in Shanghai. It was one of most polluted winters the city has seen; in each of the previous four Decembers, air quality was good or excellent for at least 20 days.

The ministry gave China's 31 provinces, municipalities and autonomous regions the targets to reduce PM2.5, by 5 to 25 percent, Xinhua news agency reported.

Shanghai, Jiangsu, Zhejiang, Shandong and Shanxi will have to cut the indices by 20 percent, followed by 15 percent for Guangdong and Chongqing and 10 percent for Inner Mongolia Autonomous Region. A 25 percent decrease — the highest — will be required for Beijing and neighboring Tianjin municipality and Hebei Province, according to a liability paper signed by the regions and the environment ministry.

The State Council is mulling a system to evaluate each provincial-level government's progress. Those failing to reach their goals will have to provide explanations and make corrections.

### **Worries in the Path of China's Air**

When China's skies darken with pollution, it is not the only nation to suffer. Soot, ozone-forming compounds and other pollutants from China can blow east to Korea and Japan. Ultimately, some even reach the west coast of the United States, scientists say.

Other nations generate pollution too, of course, so the wafting of bad air from China adds to local problems. Recent research in Japan suggests that China's contribution to average annual fine-particle pollution ranges from 40 percent in the Tokyo area to 60 percent in Kyushu, which is closer to China, according to Hiroshi Animator, who heads the global atmospheric chemistry

section at Japan's National Institute for Environmental Studies. On average, about 10 percent to 20 percent of Japan's springtime ozone comes from Chinese emissions, he said.

China's main effect on pollution in the United States, however, involves ozone, scientists say.

### **China Exports Pollution to U.S. Along With Manufactured Goods, Study Finds**

Pollution from China's manufacturers is traveling across the Pacific Ocean to reach the U.S. West Coast, according to a paper published in the Proceedings of the National Academy of Sciences. The study, published on January 20<sup>th</sup>, is the first to quantify pollution reaching the West Coast from the Chinese manufacturing sector that produces products ranging from mobile phones to televisions for global export, according to a statement about the study from the University of California-Irvine, where one of the authors is based.

Los Angeles sees at least one extra day a year of smog that exceeds federal limits because of nitrogen oxides and carbon monoxide emitted by Chinese factories producing for export, the analysis found. "We've outsourced our manufacturing and much of our pollution, but some of it is blowing back across the Pacific to haunt us," Steven Davis, a co-author of the study and an earth system scientist at UC-Irvine, said in the statement. "Given the complaints about how Chinese pollution is corrupting other countries' air, this paper shows that there may be plenty of blame to go around."

Winds called the "westerlies" can drive airborne chemicals across the ocean and lead to dangerous spikes in contaminants, according to the university's statement. Dust, ozone and carbon may collect in valleys in California and other Western states, it said, while noting that China still isn't responsible for the lion's share of pollution in the U.S.

Jintai Lin of Beijing's Peking University was the lead on the study and joined by experts at several global universities as co-authors.

The Asian nation is the world's largest emitter of anthropogenic air pollutants, according to the paper, with a considerable fraction of its emissions caused by the manufacture of goods for foreign consumption. In 2006, 36 percent of anthropogenic sulfur dioxide, 27 percent of nitrogen oxides, 22 percent of carbon monoxide and 17 percent of black carbon emitted in China were associated with production of goods for export, according to the paper. For each of these pollutants, about 21 percent of export-related Chinese emissions could be traced to U.S.-related exports, the paper said.

On some days, the export-related Chinese pollution contributed to as much as 24 percent of sulfate concentrations over the western U.S., according to the study.

### **Study Shows How China's Air Quality Affects Its Global Competitiveness**

China has the second worst air pollution in the world, after India, according to a state think tank's report on global environmental competitiveness. The report, covering the year 2012 and issued by the Chinese Academy of Social Sciences (CASS), also concluded that China ranked 87th out of 133 countries in overall environmental competitiveness, after evaluating each country's ecological status, environmental management capacity and the balance between economic growth and conservation. The data was compiled using 16 indicators, including air quality.

Switzerland, Germany and Norway topped the list. Brazil was the highest-ranked developing country, in fifth place, while the United States was 26th.

The study evaluated air quality based on levels of four pollutants, including smog-induced fine particles known as PM2.5, as well as the level of indoor air pollution, using figures from international organizations such as the United Nations, World Health Organization (WHO) and the World Bank. Professor Huang Maoxing of Fujian Normal University, a main author of the report, said China's smog was a major factor. "This is a newly emerged problem, and the country has only started to monitor PM2.5 very recently ... China still has a lot of room to improve," he said.

The ranking coincided with the recent release of a Greenpeace report which said that last year nearly 92 per cent of Chinese cities failed to meet the national air quality standards on PM2.5, particles 2.5 microns or less in diameter which are the most hazardous to public health. The report, compiled from government statistics, also found that the PM2.5 levels in the 10 most polluted cities were twice the national standard. China's standard for PM2.5, at 35 micrograms per cubic meter, is already higher than the WHO's recommended level of 10.

The CASS study painted a rosier picture for China on the issues of environmental governance, ecological protection and resource utilization, ranking the country sixth in terms of environmental management competitiveness. The top three under that category were Honduras, Bolivia and Saudi Arabia.

Li Bo, a senior consultant with environmental group Friends of Nature, said the study had probably focused too much on the government's role in protecting the environment. "Good environmental governance lies in whether the government can effectively mobilize the public and improve resource efficiency. And China has a long way to go in that aspect," said Li.

Jiang Nanqing of the UN Environmental Programme, said China had a relatively sound system of environment-related policies and laws, which may have contributed to its high ranking in the category. "China's problem lies with implementation and supervision," she said.

### **China to Invest in Air Pollution Control**

China needs to invest 1.75 trillion Yuan (290 billion U.S. dollars) for its air pollution treatment plan from 2013 to 2017, an environment expert has estimated. Wang Jinnan, deputy head of the Chinese Academy for Environmental Planning, said at the 4th Caixin Summit in Beijing that the investment would drive up GDP by nearly 2 trillion Yuan and create over 2 million jobs.

According to Wang, 36.7 percent of the investment, or 640 billion Yuan should go on cleaning up industry, followed by 490 billion Yuan (28.2 percent) on cleaner energy sources. Cleaning up motor vehicles will absorb 210 billion Yuan.

The State Council issued the Air Pollution Prevention and Control Action Plan in September to control PM2.5 (airborne particles of less than 2.5 microns diameter). The action plan requires PM2.5 in populated regions and metropolises to be reduced significantly by 2017. The annual average of PM2.5 in Beijing would be expected to drop to 60 micrograms per cubic meter.

### **China Smog Fears Spur Call for Ban on New Year Fireworks**

Warnings of heavy smog over central and eastern China have prompted the country's weather forecaster to call for a ban on the fireworks traditionally let off at Lunar New Year, state media said. Chinese New Year is usually marked by massive displays of fireworks thought to bring good luck, but which turn cities into a semblance of war zones and blacken the skies with thick smoke for hours on end.

With smog expected to start blanketing central and eastern China during the festivities, Chen Zhenlin, spokesman for the China Meteorological Administration, said local governments should ban fireworks completely, the official China Daily said. "Firecrackers and fireworks can release large amounts of toxic gas and particles such as sulfur dioxide, which will cause severe air pollution," Chen was quoted as saying.

Authorities, including those in Beijing, have asked people to set off fewer fireworks this year to help improve air quality, though in the capital at least there have been no moves to close down the temporary stalls that sell the fireworks.

Sales of fireworks have been flat so far in Beijing, the China Daily said, as people heed the calls for clearer skies. "We have reduced the number of fireworks in the city by roughly 13 percent this year and we are not confident all our fireworks in stock will be sold," Wu Liyu, head of the Beijing Fireworks Co, told the paper.

Air quality in cities increasingly worries China's leaders as more affluent citizens turn against a growth-at-all-costs economic model that has poisoned much of the country's air, water and soil. Large parts of eastern China, including the prosperous and cosmopolitan commercial capital of Shanghai, have suffered thick palls of smog this winter, though Beijing has had fewer problems so far this year.

### **China's Smog Causes Models to Wear Facemasks!**

Northeast China was struck by the most severe smog attack recently, sending air quality index in more than 40 cities above the 300 hazardous level and forcing schools in Nanjing, Jiangsu Province to shut down. But instead of halting their outdoor modeling show, organizers of a jewelry exhibition in Shenzhen, Guangdong Province had all the models wear face masks on the runway.



Catwalk modelling is usually one of the glitziest and most glamorous pastimes, but not for these unfortunate Chinese models. The women were parading a new collection of gold jewelry at a park in Nanjing, in east China's Jiangsu province.

### **Ex-Health Minister Endorses Finding China's Smog Kills 350,000 A Year**

Air pollution causes 350,000 to 500,000 premature deaths on the mainland a year, according to an article co-written by a former health minister. Chen Zhu, now president of the Chinese Medical Association, and three other authors endorsed the estimate in a commentary published in *The Lancet* medical journal recently. The article, titled "China tackles the health effects of air pollution", cited estimates from the World Bank, the World Health Organization, the Chinese Academy of Environmental Planning and Fudan University.

The authors said China spewed out more of the main pollutants than any other country, but that "prevention and control of environmental pollution in China is difficult because there are multiple pollution sources and pollutants across cities and regions".

Beijing has committed US\$277.5 billion over five years to preventing and controlling air pollution and if targets are met 200,000 fewer people would die prematurely each year, according to *The Lancet* article. It said the main polluters in the country were industry, coal and vehicles.

However, the estimate the article endorsed - that air pollution causes 350,000 to 500,000 premature deaths each year - was far lower than another estimate in a study published in the same magazine the year before that air pollution was responsible for 1.2 million premature deaths in 2010 alone and the loss of 25 million disability-adjusted life-years. Chen said the 2012 study was a worst-case scenario and might have overestimated the effects of pollution. The former health chief and his fellow authors said in their commentary the lower estimate used a revised measure of long-term air pollution and real-time air monitoring data in cities, which "better reflect the real situation in the country".

However, Yang Gonghuan, a former deputy director of the Chinese Centre for Disease Control and Prevention and an author of the 2012 study, said: "I don't think it's really appropriate to say we overestimated. "The Fudan University study only looked at 113 cities, while ours looked at the whole country. The population of the whole country is far greater than the population of 113 cities."

### **China Adds \$10 Billion in New Coal Production Capacity**

Despite experiencing the worst air pollution on record in 2013, China last year approved the construction of more than 100 million tons of new coal production capacity at a cost of \$9.8 billion, according to a new report by Reuters. The increase in coal production in 2013 was six times bigger than the increase in 2012, when the administration approved just four coal projects with 16.6 million tons of annual capacity and a total investment of \$1.2 billion.

The news is startling, considering the country's air pollution. What's more, the pollution has recently been confirmed to be caused by fossil fuel production, with coal at the forefront.

The news of China's staggering increase in coal production capacity also casts serious doubt on the government's recently-announced new pollution reduction targets, which reportedly require all of China's provinces to reduce air pollution by 5 to 25 percent annually (see story above). Those who fail to meet those goals will supposedly be "named and shamed" publicly. If China



continues its ravenous appetite for coal in 2014 the way it did in 2013, it is very difficult to see how those goals will be met.

Coal supplies 26.6 percent of energy use worldwide and is responsible for 43.1 percent of global CO2 emissions, according to data from the Center for Climate and Energy Solutions.

And it will most certainly cancel out what is looking like great potential for the country's solar industry. The country in April issued goals to have a total of 700,000 MW of renewable energy online, including 50,000 MW of solar, by 2020 — a goal recently reinforced by the development of a huge 1,000 megawatt (MW) ground-mounted solar power plant complex in the western Xinjiang province.

### **Figueres Says China 'Doing It Right' In Efforts to Address Global Warming**

China, the top emitter of greenhouse gases, is also the country that's "doing it right" when it comes to addressing global warming, according to the United Nations' chief climate official. The nation has some of the toughest energy-efficiency standards for buildings and transportation, and its support for photovoltaic technology helped reduce solar panel costs 80 percent since 2008, Christiana Figueres, executive secretary of the UN Framework Convention on Climate Change, said January 12<sup>th</sup> in an interview.

The country is facing growing public pressure from citizens to reduce air pollution, due in large part to burning coal. Its efforts to promote energy efficiency and renewable power stem from the realization that doing so will pay off in the long term, Figueres said. China is also able to implement policies because its political system avoids some of the legislative hurdles seen in countries including the U.S., she said. Key policies, reforms and appointments are decided at plenums, or meetings of the governing Communist Party's more than 200-strong Central Committee. The National People's Congress, China's unicameral legislature, largely enforces decisions made by the party and other executive bodies. The political divide in the U.S. Congress has slowed efforts to pass climate legislation and is "very detrimental" to the fight against global warming, she said.

Figueres is responsible for guiding more than 190 member-states in a UN-led initiative to draft an international treaty to address climate change. The goal is to sign in 2015 a treaty that will take effect in 2020, replacing the Kyoto Protocol, which was adopted in 1997.

### **Timeline: Major Air Pollution Developments in 2013**

The past year was momentous with regard to air pollution in China. Official statistics over a period of 52 years show the number of smoggy days at a record high in 2013. More than 100 big- and medium-sized cities in 25 provincial-level regions were affected by smog. The pollution has been blamed for a decline of tourists visiting smoggy regions that were once known for their tourist attractions. Taking the example of Beijing, the capital saw a decline of inbound tourists last year for the first time since 2008. Tourists arriving fell 14.3 percent in the first half of 2013 compared with the same period in 2012.

#### **January 2013**

Heavy smog covers 17 provinces, mainly in North and Central China, for about 20 days. Seventy-four cities start to release daily PM2.5 readings after a new national ambient air quality standard is set.

## **February**

The Beijing city government urges the public not to set off fireworks on heavily polluted days during Spring Festival. About 80 percent say they accept the advice in an online poll of more than 2,000 people by China Youth Daily.

## **March**

Air pollution becomes a hot topic at the annual sessions of the National People's Congress, the top legislature, and the Chinese People's Political Consultative Conference, the top advisory body. Official documents show Beijing will be able to forecast smoggy weather two days in advance by 2015.

## **April**

Six cities in Hebei province, which borders Beijing, feature in a list of China's top 10 most polluted cities.

## **May**

Shanxi becomes the first province to promise that it will include regional PM2.5 levels in officials' performance evaluations.

## **June**

China's theme for the 2013 World Environment Day is "Work together, as we share the same air". A report by the Beijing Academy of Social Sciences shows that the capital's air quality will not meet the national standard until 2030.

## **July**

Research shows the average life expectancy in North China has been shortened by 5.5 years because of air pollution generated by coal consumption. China says it will invest 1.7 trillion Yuan (\$281 billion) before 2017 to tackle air pollution.

## **August**

The Ministry of Environmental Protection punishes China's two major oil companies - China National Petroleum Corp and China Petroleum and Chemical Corp - for failing 2012 environmental tests. Approval for all new modification and expansion projects is delayed until after the 2013 evaluation.

## **September**

The central government unveils the Airborne Pollution Prevention and Control Action Plan (2013-17), the toughest measure to date to tackle the worsening air pollution. It aims for a marked improvement over the next five years. The plan cuts coal use, shuts down polluters, promotes cleaner production and cuts the density of inhalable particulate matter. Putting the ambitious ideas in practice will cost an estimated 1.75 trillion Yuan (around 290 billion U.S. dollars).

## **October**

The National Health and Family Planning Commission says it will map out the health effects of smog in the next three to five years. Officials from six regions in the Beijing-Tianjin-Hebei cluster sign an agreement to combat air pollution.

## **November**

The Communist Party of China (CPC) changed its system for evaluating the performance of government and party officials, once focused almost exclusively on GDP. In a key reform blueprint released by the new generation of CPC leadership in November 2013, protection of the environment and ecosystem are to be given much more weight in assessing officials' achievements.

## **December**

Liaoning province becomes the first to fine local governments for causing air pollution. Eight cities are fined 54.2 million Yuan.

### **China Tightens Emissions Standards for Industries in Push to Reduce Air Pollution**

On December 27<sup>th</sup>, China revised pollutant emissions standards for the cement and several nonferrous metal-producing industries, in part to help tackle the poor air quality that has plagued major urban areas over the past year. Besides cement, the Ministry of Environmental Protection revised air, wastewater and solid waste emissions and discharge standards for other heavy industries, including aluminum, lead, zinc, copper, nickel, cobalt, magnesium, rare earth and vanadium production; battery production; and leather and fur processing.

The ministry said the cement industry accounts for 15 percent to 20 percent of all coarse (PM-10) and fine (PM-2.5) particulate matter emissions in China, as well as 3 percent to 4 percent of sulfur dioxide emissions and 8 percent to 10 percent of nitrogen oxides emissions. The ministry said it hopes the new standards for the cement industry will reduce emissions of particulate matter 30 percent and nitrogen oxides 45 percent. Standards for the cement industry go into effect March 1 for new facilities. Existing facilities will have until July 1, 2015, to comply.

The new standards for battery manufacturing tighten controls on airborne emissions and wastewater discharges of lead, mercury, cadmium, nickel, zinc, magnesium and silver.

With the new standards for leather and fur manufacturing, the ministry said it is aiming to reduce chemical oxygen demand in wastewater 57 percent and ammonia nitrogen discharges 67 percent.

New and existing battery producers and fur and leather manufacturers will have to comply with their new standards as of March 1, 2015.

New standards for the other metals industries go into effect immediately.

### **Beijing's Mayor Urges "All-Out Effort" To Curb Air Pollution**



Residents ride bicycles along a street amid heavy haze in Xingtai, Hebei province November 3, 2013. Dense smog has periodically shrouded major cities in north and northeast China in recent years, raising increasing public discontent, says Xinhua News Agency

Photo: China Daily

Beijing's mayor pledged to cut coal use by 2.6 million tons and set aside 15 billion

Yuan (\$2.4 billion) to improve air quality this year as part of the city's "all-out effort" to tackle air pollution, state news agency Xinhua said.

The announcement by Wang Anshun came as the capital was blanketed in its worst smog in months. An index measuring PM2.5 particles, especially bad for health, reached 500 in much of the capital in the early hours. A level above 300 is considered hazardous, while the World Health Organization recommends a daily level of no more than 20.

Coal-burning boilers inside Beijing's fifth ring road - covering the built-up area of the city - will be eliminated and measures taken against coal burning in the capital's periphery, Xinhua quoted Wang as saying. The city also aims to ban all heavily polluting vehicles this year, cut new car registrations and promote new energy vehicles, Wang said.

Beijing reported 58 days of serious pollution last year, or one every six to seven days on average, Xinhua quoted Zhang Dawei, director of the Beijing Municipal Environmental Monitoring Center, as saying.

### **Study: Chinese Plants Report Frequent Breaches of Pollutant Standards**

Steel factories and thermal power plants in eastern China that provide real-time pollutant emissions data frequently exceed national standards, according to a study released by a Beijing-based environmental group. Companies from those industries based in the provinces of Shandong and Hebei were in "serious breach" of discharge standards even during periods of severe air pollution, according to the January 13<sup>th</sup> report by the Institute of Public & Environmental Affairs. The IPE studied data from industrial facilities in three eastern provinces that have been releasing real-time information since July as part of a project initiated by China's environment ministry.

More than 600 million people were affected by a "globally unprecedented" outbreak of smog in China that started in January 2013 and spread across dozens of provinces, lasting several months, Ma Jun, the Beijing-based founder and director of IPE, told reporters in Beijing.

"The government should enhance supervision, media should expose more and banks should cut loans to these types of companies," Ma said, referring to about 4,000 companies, including those

in thermal power, steel, cement, refining and petrochemicals that contribute 65 percent of China's industrial emissions of pollutants. "These 4,000 main polluters should be closely watched to reduce pollution."

### **36. S. Korea's Diesel Consumption Up 4.5 Pct. In 2013**

South Koreans' average consumption of diesel edged up in 2013 from a year earlier, data showed Sunday, from the rising number of diesel-powered automobiles in the country. According to the data by the Korea Petroleum Association, South Koreans consumed 438 liters of diesel on average last year, up 4.5 percent from the previous year.

### **37. Colombo to Require Mandatory Emission Tests Biannually**

A new gazette regulation which is due to come into effect this March cites that motor vehicles will be subjected to smoke emission tests twice a year instead of the current check required only at renewing the revenue license. According to the Department of Motor Traffic, the new regulation would also introduce stricter checks on vehicles by reducing the cut-off point of emission levels to pass the test.

The move comes in the wake of a new survey of air pollution and quality in Colombo carried out by the Environmental Ministry along with the Motor Traffic Department and the Moratuwa University. The survey revealed that strict checks on vehicle emissions helped improve air quality in main towns.

The emission testing centers which are now run by private sector companies will also be scrutinized through random checks on vehicles which pass the test from these centers.

Accordingly, the new gazette regulation would enable the Registrar of Motor Vehicles (RMV) to file action against a vehicle owner if is photographic evidence to prove excessive smoke being released. Upon filing action, the vehicle owner will be summoned to courts and the vehicle re-tested again.

### **38. Petrol, Diesel Prices to Stay Put in Pakistan**

The government has decided to reduce the prices of kerosene by Rs1.24 and light diesel by Rs1.02 per liter, while the prices of petrol, HOBC and high speed diesel will remain unchanged. The decision was taken at a recent meeting between Finance Minister Ishaq Dar and Prime Minister Nawaz Sharif

The official regulator body, Oil and Gas Regulatory Authority (Ogra), had recommended a decrease in various petroleum products' prices. "Reduction in Gasoline price of over Rs3 was recommended while about Rs5 reduction was suggested in Kerosene oil price," sources said.

Prices of petrol, HOBC and high speed diesel will remain unchanged during February. The finance minister said in order to maintain the current prices of petrol, HOBC and high speed diesel, the government will have to bear a subsidy of about one Rs1 billion.

### **39. Corporates Cheer as India's Oil Minister Takes Charge of Green Clearances**

Veerappa Moily has two seemingly incompatible jobs. As oil minister, he has overseen India's petroleum and natural gas needs. But now he also runs the environment ministry, where he has

issued permits for 100 stalled projects in a month-long spree that has delighted industry but shocked green activists.

Since taking the additional environment portfolio on December 24<sup>th</sup>, he has given his go-ahead to projects worth some \$40 billion, including Posco's \$12.6 billion steel plant and forest clearances for India's first major hydropower projects in the wilderness state of Arunachal Pradesh, near a contested border with China.

Moily's haste is part of a last-minute push by India's outgoing government to revive investment in the economy after two years of growth at decade lows. The general election is due by May.

But the friction the clearances have generated go to the heart of a long-standing dilemma: how to develop quickly in a country still plagued by poverty while minimizing damage to the environment.

In an interview in his oil ministry office, under an image of a drilling rig, Moily said his approval push was "necessary". "On the planet there is space available for the wildlife, for the forest and also for the human being," he said, vowing to take decisions by February 15 on a backlog of projects worth about \$100 billion.

Environmental campaigners are outraged at Moily's twin jobs, accusing him of steamrolling opposition to some projects from tribal populations and ignoring concerns about biodiversity. One group dubbed his appointment "shocking and bizarre." "You have given speedy clearances by ignoring all the stakeholders except the corporates," Greenpeace said in an open letter to Moily. Citing a "clear conflict of interest" between his two portfolios, it demanded his resignation.

Moily denies he is unduly favoring industry, saying he will not bypass environmental rules to clear a backlog of decisions. He cited his rejection of Vedanta Resources Ltd.'s plea to mine bauxite in the Niyamgiri hills of Odisha state after local residents opposed it. "It is not a question of favor. If you are not taking a decision, ultimately what happens ... you are working against the interest of the nation," he said.

Even though Moily's environmental clearances are in some cases the final hurdle in India's notorious thicket of bureaucracy, it will still take time to get the projects going. Tight liquidity makes raising funds tough right now and, before investing, many companies will wait for the formation of a new government.

Still, many say the 74-year-old minister - who rises at 4.30 a.m. and works into the evenings juggling dossiers from the two ministries - has an eye on the coming election. "Clearly, it's a move to try and get things going before the elections. One last chance for the government," said Sam Mahtani of F&C Asset Management in London, which manages \$4 billion in emerging market equities.

Moily's hyperactivity coincides with the rise of opposition leader Narendra Modi, who has won popular support presenting himself as a man of action trusted to revive the economy, build roads and create jobs by slashing red tape.

The outgoing government has targeted spending \$1 trillion on infrastructure projects over the five years to 2017, but it has fallen short of previous goals and much of the country is plagued by power blackouts and bumpy roads.

After being panned for dragging his feet on decision making, Prime Minister Manmohan Singh last year formed a cabinet body to track stalled projects. In many cases, bottlenecks were traced back to the environment ministry. In five weeks, Moily has softened the rules for coal mine expansion, allowing some to increase output by 4 million tons per year without further approvals. He has made it easier for mines to renew leases, cleared an oil pipeline and given a crucial permit for a coal power station planned by Hinduja National Power Corporation Limited. "There was a problem in the Ministry of Environment and Forests," Finance Minister P. Chidambaram told an Indian daily last week. "But I think that problem has been fixed now."

#### **40. Hong Kong Chief Reiterates Environmental Policies**

Hong Kong's chief executive said in his second annual policy address that the government will continue with environmental policies announced in 2013. C.Y. Leung, the special administrative region's top official, reiterated environmental policies that his government issued in 2013, including the introduction of a Clean Air Plan to achieve air quality objectives by 2020 and a new Air Quality Health Index, pledges to allocate funding to retire certain older diesel vehicles and continuing plans for solid waste management and consultations on solid waste fees.

As part of previously announced air quality plans to phase out about 82,000 pre-Euro IV diesel commercial vehicles, Leung said the first part of the scheme will begin in March, and the government is waiting for Legislative Council approval for budgeting \$1.47 billion as part of the payment scheme to retire the vehicles.

He said the government will soon introduce legislation to the Legislative Council that would require oceangoing vessels to switch to lower sulfur diesel at berth in Hong Kong, with the content of sulfur in local marine diesel being reduced from 0.5 percent to 0.05 percent. The government aims to put this into force in 2015, he said.

The air pollution watchdog group Clean Air Network (CAN) said in a statement that it "realizes it takes time" to implement policies but that the government had "missed a golden opportunity" to address poor air quality through a blueprint for comprehensive transportation management. CAN said more action is needed on setting up low-emission zones and tightening vehicle emissions standards, installing onshore power facilities at a major cruise terminal and reducing the impacts of vehicle and shipping emissions on human health.

The Hong Kong think tank Civic Exchange called for more regular government review of air quality objectives and expressed "major reservations" that issues such as water resources management, transparency regarding consultation on the region's future energy mix and carbon reduction strategies as part of climate change mitigation weren't discussed in the annual address.

Hong Kong owners of older commercial diesel vehicles will be able to apply in March for subsidies for retiring those vehicles as part of a plan to improve air quality, Environment Secretary K.S. Wong told reporters on January 17<sup>th</sup>. Also to reduce air pollution, the Environment Bureau has set aside funding for trials of cleaner all-electric buses for 36 franchised bus companies, with the first batch of these buses to be put into service toward the end of the year, Wong said. A similar plan for all-electric taxis is being considered.

Meanwhile, at a forum on air pollution policy on January 17<sup>th</sup>, Christine Loh, the undersecretary of the environment who heads Hong Kong's Environmental Protection Department, said that while the government has mandated that air quality objectives be reviewed at least every five years, action is still needed to "put a review process in place." Loh called on the public "to press the

government” to initiate that process, since it would “not be able to start the review in the fifth year” and complete it on time. Hong Kong finished a review of its air quality objectives in 2013 for the first time since 1987.

Wong said Hong Kong is aiming to require oceangoing vessels to switch to lower-sulfur diesel at berth by 2015. Loh pointed out that as of April 1, diesel fuel provided to smaller local vessels in Hong Kong waters could be limited to a sulfur content of 0.05 percent, down from 0.5 percent, under legislation that went before the Legislative Council on January 17<sup>th</sup>.

Loh said neighboring Shenzhen on China's mainland has “ideas it wants to roll out” regarding lower sulfur fuels for marine vessels, and that other ports such as Shanghai are “watching” to see how these policies develop. “The dream is for all ports in the Pearl River Delta [in southern China's Guangdong province] to do fuel switching at berth,” Loh said. “This will take a few years,” she said, adding that the long-term goal is to have all ports along China's coast adopt similar policies.

Loh disclosed that an environmental impact assessment for the proposed third runway at the Hong Kong International Airport has been completed and will “be out very soon.” She said increased air traffic from that project might necessitate more air pollution control measures.

Loh also said Hong Kong and Guangdong province have agreed to launch a study on small particle matter pollution (PM-2.5) in the Pearl River Delta to be conducted over the next two years.

#### **41. CSE Notes That Delhi Loses Air Pollution Control Race to Beijing**

Delhi is fast replacing Beijing in notoriety as the iconic face of the Asian growth story and its pollution aftermath. A Centre for Science and Environment (CSE) assessment of the available air quality data for Delhi and Beijing and the review of air pollution control measures in the two capital cities shows that Delhi is losing the race very fast – it is already more polluted than the Chinese capital.

Both the cities face serious pressures to clean up their air; both have unique challenges. But Delhi seems to lack Beijing's scale, stringency and frenetic pace of action, according to CSE. After years of consistent and aggressive efforts Beijing has evidence to show improvement in its air quality but Delhi has squandered its earlier air quality gains.

##### **Who is more polluted?**

CSE has reviewed and compared the available air quality data from the Beijing Environmental Protection Bureau, the Delhi Pollution Control Committee and the Central Pollution Control Board. The highlights of the CSE analysis are as follows:

##### **Annual trends in PM10 levels:**

- Beijing: PM10 levels have decreased by about 40 per cent from 2000 to 2013.
- Delhi: PM10 levels have increased by about 47 per cent from 2000 to 2011. PM10 levels in Delhi are nearly double that of Beijing.

##### **Trends in daily PM2.5 levels**

- Beijing: The daily PM2.5 levels available for the year 2013 show that these have varied from less than 50 to as high as 400 micrograms per cubic meter (m/cum), but have largely remained below 250 m/cum. Thus, even their winter peaks have not exceeded 400 m/cum.



- Delhi: CSE has analyzed winter pollution when levels are higher than in other seasons. The continuous daily average PM2.5 data for the period November 2013 to January 2014 shows that average levels have been about 240 m/cum which is about four times higher than the Indian standards. During this period, the peak levels have hit as high as 575 m/cum – nine times higher than the Indian standards.

### **Actions Taken**

CSE has also reviewed the action taken by the two cities and found a lot more is happening in Beijing compared to Delhi.

**Controlling car numbers:** To control vehicular pollution and congestion, the Beijing government has already fixed the number of cars that can be sold in one year in the city to 240,000. This year onwards this limit will be lowered further to only 150,000 new licenses annually to further lower the sale of cars. Beijing government has also proposed banning half of private cars on roads based on odd and even license plate numbers if the red alert on pollution persists for three or four days.

**No dieselization of car segment:** As the Chinese government does not allow a wide difference between petrol and diesel prices, dieselization of the car segment is absolutely negligible at 1 per cent, as opposed to more than half in Delhi. Beijing has already introduced Euro V equivalent standards.

### **Other Considerations:**

- Beijing's Public transport scaled up, well integrated and fares reduced to improve usage.
- Beijing has adopted air quality index and a health alert system to inform and warn people about the severity of daily pollution and the need for precaution. This year, the smog has forced Chinese cities to close some of the large factories. Smog episodes in Beijing have also led to restrictions on highway movement. In some provinces smog episodes have forced schools to suspend classes. People were advised to wear masks.
- Local governments in China are now liable to pay a fine if air pollution levels hit critical rank. Local governments in eight cities in northeast China's Liaoning province have been fined of US \$8.9 million.
- State-of-the-art advanced testing facilities for in-use vehicles.
- Stringent action taken to seal oil vapor leakage from petrol refueling stations.
- Range of action on polluting industry and other sources

What has Delhi done? Stringency, scale and enforcement remain weak

- Introduced Euro IV emissions standards.
- All buses and three-wheelers and a part of taxis run on CNG.
- Public transport augmentation plan (metro and new buses) begun but scale is not yet adequate.
- 15-year-old commercial vehicles taken off the roads.

- In-coming freight traffic partially restricted.
- Simple in-use tests for vehicles implemented under the PUC program.
- Polluting units relocated, control on power plants tighter, generator sets to meet standards, open burning of leaves banned.

### **Health consequences in Delhi**

CSE informs that since 2000, at least one study a year has been published in Delhi to give clinching evidence of smog's toxic risk. Many of these studies have been carried out by doctors — from the All India Institute of Medical Sciences, Vallabhbhai Patel Chest Institute, St Stephens Hospital and others. Over the years, they have widely reported prevalence of chronic respiratory symptoms; increase in emergency room visits during winter for asthma, chronic obstructive lung disease, and acute coronary event. The reports show the genotoxic effects of vehicular fumes; vitamin D deficiency among Delhi children in polluted localities which increases risk of developing rickets; and significant increase in eye symptoms and disorder in polluted areas.

As per the Global Burden of Disease report released last year, air pollution is the fifth largest killer in India. The WHO has classified air pollution as a class 1 carcinogen – though policy response to all this information is very poor.

The most extensive scary evidences according to CSE have come from the 2012 epidemiological study on children in Delhi carried out by the CPCB and the Chittaranjan National Cancer Institute of Kolkata. This study had covered 11,628 school-going children from 36 schools in different parts of Delhi and in different seasons. It found that every third child has reduced lung function. There is evidence to show greater exposure to particulate pollution. Sputum of Delhi's children contains four times more iron-laden macrophages than those from cleaner environs, indicating pulmonary hemorrhage. The levels of these biomarkers in children have been found to be higher in areas with high PM10 levels.

Significantly, in 2013, scientists from Jawaharlal Nehru University who had earlier reported a decline in the level of toxins like polycyclic aromatic hydrocarbons (PAH) after the introduction of CNG program and replacement of diesel buses, now say the levels have gone up again due to rising number of vehicles. They conclude that a maximum of 39,780 excess cancer cases might occur due to lifetime inhalation and exposure to the PAH concentrations.

The World Allergy Organization (WAO) Journal also published in 2013, reported high respiratory disorder symptoms in students residing in Chandni Chowk (66 per cent) in north Delhi, Mayapuri (59 per cent) in west Delhi and Sarojini Nagar (46 per cent) in south Delhi. Heavy traffic movement has been found to be the factor in the relative difference among the localities. WAO also alerts that allergic problems will increase further as air pollution increases.

More evidences from studies of University of California, Berkeley, in Delhi, show PM2.5 concentrations inside vehicles while travelling can be 1.5 times higher than the surrounding background air and ultra-fine levels about 8.5 times higher. The exposure to vehicular fumes in Delhi is among highest in the world.

### **42. Hong Kong's Air Quality to 'Drastically Improve' Within Five Years, Says Loh**

Hong Kong's air quality will show "dramatic improvement" over the next five years, says undersecretary for the environment Christine Loh Kung-wai. And she predicts that reductions in pollution should start being measured by the second half of this year

In her most confident pledge so far on the fight for cleaner air, Loh told the South China Morning Post the city is well on target to achieve landmark goals - such as a 20 per cent reduction in sulfur emissions - before 2020. "There's no question - we will meet these objectives," Loh said.

"Our whole vehicle fleet will be dramatically cleaner in about four or five years ... we will see a dramatic improvement in roadside [air quality]." Recent government data indicates roadside air quality is getting worse, but she insisted the situation would improve.

Objectives set out in last year's seven-year air quality road map had already been met without much political resistance, she said. This was in stark contrast to stalled action on other environmental issues such as waste, energy and conservation.

Loh believes several more air quality measures will be endorsed by Legco before the summer. "We should be able to start measuring reductions by the second half of the year," she said.

A HK\$11.4 billion initiative to replace about 82,000 old commercial diesel vehicles will start next month. A scheme to replace catalytic converters - devices that reduce harmful emissions - on 20,000 taxis and public light buses powered by LPG is expected to be approved by summer, while a plan to retrofit about 1,400 franchised buses with selective catalytic reduction devices is also scheduled for approval this year.

"By 2016, all pre-Euro vehicles will be banned from the street," said Loh, in reference to the "Euro" emission standards introduced progressively by the European Union since 1992. "Once we start running the scheme, we can see how we can incentivize vehicle owners to replace their vehicles earlier rather than later."

Loh said that the community would have to be "galvanized" for all the measures to succeed.

But tackling roadside pollution is not enough, Loh admitted. Maritime traffic is one of the city's biggest causes of toxic sulfur dioxide emissions. In 2012, a study found 75 per cent of deaths linked to sulfur dioxide in the Pearl River Delta each year were Hongkongers.

Loh expects legislation for a mandatory fuel switch - which will force all ocean-going vessels berthing at Hong Kong to switch to a lower-sulfur fuel - to be passed in summer and to take effect by early next year. This will be coupled with an initiative that would require smaller local ships to switch to a cleaner marine diesel, which Loh has penciled in for April 1. "We think, after the implementation of both measures, we will see an estimated 20 per cent drop in local sulfur dioxide emissions. This is really quite substantial."

Loh was pleased the much-criticized Air Pollution Index was replaced by the Air Quality Health Index in December. "We now have a much better health-based air quality index," she said.

### **43. Hong Kong Chokes As Private Cars Clog Streets**

Surging numbers of private cars bought by Hong Kong's elite are jamming the city's streets and hampering efforts to cut air pollution levels at more than three times the World Health Organization's recommended limit.

The number of registered private vehicles reached 516,000 units last year, a 35 percent jump over the past decade. That compares with the 11 percent increase in all other vehicles, including buses, trucks and taxis, which totaled 231,000 units, according to government data.

Despite having the world's third-most vehicles per kilometer of road, according to the World Bank, Hong Kong's Transport Department has no plans to follow Singapore and London with congestion charging or sales quotas. "Hong Kong is doing nothing while other countries move ahead" with measures to tackle congestion, said Hung Wing-tat, associate professor of civil and environmental engineering at Hong Kong Polytechnic University. "If the government doesn't do anything, eventually there will be gridlock."

Poor roadside air quality presents the biggest daily health threat to the city's 7.2 million people, according to the government's clean air plan published last year. More new cars, though equipped with technologies to cut emissions, cause dirtier commercial vehicles to spend more time traveling and spewing pollutants, the report said. Nitrogen dioxide mostly formed from vehicles in roadside areas, has been linked to damaged lung function in children and asthma attacks.

Hong Kong had half the number of cars per 1,000 people as Singapore in 2010 and about an eighth the amount in the U.K, according the most recent World Bank data.

#### **44. Hong Kong Marathon Routes May Change To Cut Exposure to Pollution**

The routes of the Hong Kong marathon may be overhauled in a bid to reduce runners' exposure to air pollution. The idea was unveiled after a green group reported that pollution levels at certain black spots of the Standard Chartered Hong Kong Marathon were up to five times higher than World Health Organization guidelines.

Marathon organizers said they might be able to use open space around the Kai Tak sports complex after it was completed in 2020, meaning runners would not have to cross from Kowloon to Hong Kong Island via a tunnel.

"The entire route can be revised once the complex is completed, as it will provide a lot of new open space and roads," said Kwan Kee, chairman of the organizer, the Amateur Athletic Association. He said the 28-hectare sports complex could see organizers keeping the marathon in Kowloon and the New Territories.

For the 42-kilometre marathon, average concentrations of PM2.5 - airborne particles measuring 2.5 microns or less which are the most hazardous to health - hit 63 micrograms per cubic meter, roughly 2.5 times the WHO's recommended 25mcg. In the Western Harbour Tunnel, PM2.5 concentrations were up to five times higher than recommended.

Kwan said there were many challenges to laying out suitable marathon routes in Hong Kong but the committee would explore the feasibility of any options.

#### **45. South Korea Introduces Fines Linked To Car Efficiency, Emissions Performances**

Beginning on February 6<sup>th</sup>, fines were implemented in South Korea for domestic and imported cars falling short of fuel economy requirements or automotive greenhouse gas emissions standards, the Ministry of Trade, Industry and Energy said in a statement.

A June 2013 amendment to the Energy Use Rationalization Act calls for a fine of up to 1 percent of annual sales value against car makers and importers failing to meet fuel economy standards in terms of the average gas mileage of all cars they sell in a year. The current fuel economy minimum is 17 kilometers per liter, good until 2015 and set to rise in 2016.

Alternatively, car manufacturers and importers may choose automotive greenhouse gas emissions standards provided by the Air Quality Preservation Act under the jurisdiction of the Ministry of Environment to fulfill their environmental performance obligations.

The Ministry of Environment said in a separate statement that revised rules and regulations under the Air Quality Preservation Act provide statutory fines proportionate to the percentage of new cars failing to satisfy automotive greenhouse gas emissions standards. Each car manufacturer or importer should make sure that at least 80 percent of the cars they sell annually meet the emissions standards prescribed by the ministry for different car categories. The ratio will rise to 100 percent in 2015.

The dual system of automotive engine and tailpipe fines is based on the provisions of the 2010 Basic Law on Low Carbon Green Growth, which combines South Korea's climate change response with various energy efficiency initiatives.

#### **46. Indian Environmentalists Criticize Minister for Making Diesel-Guzzler SUVs Cheaper**

Environmentalists criticized finance minister P Chidambaram for his budget proposal to cut taxes on cars — specifically the high-polluting diesel guzzler SUVs — and said the government was more concerned about the industry than human health or environment. "By making SUV cheaper in (interim) Budget, Chidambaram has proved he cares about (automobile) industry; not (about) our health or environment," said Sunita Narain, director general of the Centre for Science and Environment.

Green activists also criticized Chidambaram for not keeping the government's promise, made in the last year's budget. They noted that the government has decided to give this sop to diesel SUVs and all cars when air pollution and motorization in Indian cities have emerged as a serious public health problem.

Articulating the views of environmentalists, Narain's colleague and executive director (research and advocacy) of the CSE, Anumita Roychowdhury, said, "We are extremely unhappy of the government's proposal to cut taxes on cars with fuel-guzzling and polluting SUVs enjoying the biggest slash". She pointed out that Chidambaram had hiked the excise on SUVs from 27% to 30% in his last year's budget. "But this year, buckling under pressure from the automobile industry, he has cut excise across all vehicle segments....If a government cannot stay consistent and bold about its earlier decisions to address energy security and public health, it loses the confidence of the people to deliver on the objectives of good governance. This is certainly a disturbing message just before the elections," said Roychowdhury.

Pointing at excise cuts, she told Times of India that the move would push the market towards heavier cars and SUVs that guzzle more fuel. Questioning the justification for this move, she referred to data of cars sales in the country and asked, "How can Chidambaram justify highest tax cut for SUVs when their sales have remained the most robust compared to other vehicle segments"?

Quoting the SIAM's data of late last year, the CSE noted that while passenger cars sales had declined by 6.69%, the sales of utility vehicles had increased by a whopping 52.20% during the financial year of 2013 compared to 2012. SUVs have remained the highest selling segment all through — even during the height of recession in 2009-11, sales of cars and SUVs (2000 cc engines) increased by 41%.

Roychowdhury said: "Clearly, the UPA government still lacks maturity in its fiscal governance. This political tokenism offers no electoral hope for clean, safe, healthy future."

#### **47. India Court Orders Governments to Respond To Report on Delhi Vehicular Air Pollution**

On February 10<sup>th</sup>, the Supreme Court of India ordered federal and state governments to respond to a report recommending actions to curb air pollution from vehicles in the Delhi area. The court notices apply to the governments at the center as well as the states of Haryana, Uttar Pradesh and Rajasthan, whose parts make up the National Capital Region of Delhi, in a long-running case involving vehicular emissions and air pollution in Delhi (M.C. Mehta v. Union of India, W.P. (C) No. 13029, 1985).

The court accepted a report submitted by the Environmental Pollution (Prevention and Control) Authority for the National Capital Region (EPCA), a body created by the federal government in 1998 to monitor and control pollution in Delhi, according to EPCA member Centre for Science and Environment.

The report said Delhi's pollution levels have risen alarmingly, after having dropped until the early 2000s, and suggested broad-ranging measures to control it. Suggested measures included"

- nationwide implementation of Bharat Stage IV emissions standards for combustion engines;
- introduction of tighter auto emissions standards;
- maintenance of an effective gap between diesel and compressed natural gas (CNG) prices to discourage use of diesel vehicles;
- lowering of taxes on buses compared to personal vehicles;
- uniform vehicle tax measures across the National Capital Region of Delhi;
- effective increase in parking charges to discourage use of personal vehicles;
- increasing the number of public buses in Delhi;
- creation of dedicated pedestrian and cycling lanes, and
- immediate introduction of daily health alerts on air quality.

It was in the same case, first filed in 1985, that the Supreme Court had ordered implementation of wide-ranging measures—increasing the number of public buses, phasing out old vehicles, switching public transport buses and auto-rickshaws to CNG, setting up of proper inspection and maintenance facilities for commercial vehicles and better air quality monitoring—which were eventually credited with reducing air pollution in Delhi.

However, the EPCA report said, the gains made have been lost and that this winter was the National Capital Region's most polluted ever. The National Capital Region of Delhi comprises the capital city of New Delhi as well as several neighboring cities, including Gurgaon and Noida.

If implemented, the actions recommended will have far-reaching implications for oil marketing firms and automobile manufacturers, as well as the fiscal and public transport policies of the federal and state governments concerned.

The next date for hearing the case is March 10.

#### **48. Malaysia Aims to Be Manufacturing Hub for Vehicles with Low Emissions, Fuel Use**

Malaysia is positioning itself to be a manufacturing hub for energy-efficient vehicles, according to the Ministry of International Trade and Industry. By 2020, 85 percent of the vehicles produced in the country are to be so-called EEVs, the ministry said on its website, marking the launch of the National Automotive Policy 2014.

“This encompasses strategies and measures to strengthen the entire value chain of the automotive industry and will also lead to environment conservation, high-income job creation, transfer of technology and create new economic opportunities for local companies,” the statement said. Few details of the strategy were offered.

EEVs meet the standards that have been set for carbon dioxide emissions and fuel consumption. They include fuel-efficient vehicles, hybrids, electric vehicles, and alternatively fueled vehicles. The last category covers cars powered by ethanol, compressed natural gas, liquefied petroleum gas, hydrogen and fuel cells.

“Customized incentives” being offered to both foreign and domestic investors include grants for training and research and development, infrastructure facilitation and lower taxes, Minister of International Trade and Industry Datuk Seri Mustapa Mohamed said in launching the policy.

In addition, the exemption of excise duties and import taxes is being extended for Malaysia-assembled hybrid vehicles until Dec. 31, 2015, and for electric vehicles until Dec. 31, 2017.

The National Automotive Policy's incentives are valued at 2 billion ringgit (\$598 million). The policy targets annual exports of 200,000 cars and a minimum of RM10 billion (\$3 billion) of components by 2020.

## **SOUTH AMERICA**

#### **49. Stricter Vehicle Emissions Limits, Low-Sulfur Fuels Expected to Improve Brazil's Air Quality**

Resolutions requiring lower automobile and motorcycle emissions and lower sulfur levels in gasoline that went into effect on January 1<sup>st</sup> are expected to help improve air quality in Brazil. A resolution (No. 415) approved by the National Environmental Council (CONAMA) in 2009 lowered permissible levels of pollutant emissions for all new cars as of January 1<sup>st</sup>. The new limits are 55 percent lower for carbon monoxide, 33 percent lower for nitrogen oxides, and 50 percent lower for particulate matter. Manufacturers have had to equip their 2014 model cars with more efficient catalytic converters and engine technology to reach the new levels.

A 2011 CONAMA resolution (No. 432) set 2014 limits for carbon monoxide, hydrocarbons and nitrogen oxides emissions for motorcycles that are two to 10 times stricter than the previous limits, depending on the pollutant. It also set motorbike and motor scooter emissions limits that are one-half to one-quarter of the previous limits.

The National Oil Agency (ANP) resolution No. 40, approved in December 2013, stipulated that as of January 1<sup>st</sup>, all automotive gasoline must have no more than 50 milligrams of sulfur per kilogram of fuel, down from 800 mg/kg. A 2008 CONAMA resolution had already required lower sulfur levels in diesel fuel for 2012 model trucks and buses. An ANP statement said the lower sulfur level “will improve air quality and reduce respiratory diseases” and added that, “as of January 2014, the sulfur levels in gasoline would be similar in quality to that sold in the United States, Canada and Europe.”

## **50. Ecuador, China Advance Refinery Plans**

China National Petroleum Corp. (CNPC) and the Ecuadorean government have reached an agreement regarding cooperation on a plan to construct a long-delayed refinery on Ecuador’s Pacific Coast. On January 21<sup>st</sup>, Ecuador’s Vice-President Jorge Glas and CNCP Chairman Zhou Jiping reached a joint-approval of the feasibility report for the Refineria del Pacifico (RDP), according to a release from Ecuador’s government.

During a second meeting on January 23<sup>rd</sup>, Glas further solidified the deal with representatives of Industrial and Commercial Bank of China, who expressed an interest in handling financing for CNPC in the refinery project, Glas said.

This latest arrangement, for which no official financial details have been disclosed, follows the signing in June 2013 of a framework agreement between Ecuador and CNPC on integrated cooperation in developing RDP. While no firm timetable was available regarding final funding for RDP, once realized, the refinery project will be a significant step in utilizing Ecuador’s oil production domestically to reduce the country’s dependence on petroleum product imports, according to Glas.

Under the June 2013 agreement, CNPC said it will take a share in the construction of RDP as well as participate in the exploration and development of Ecuador’s upstream resources. At the time, the RDP refinery and petrochemical complex was scheduled for completion by 2017, Ecuadorean President Rafael Correa said in a June 29 release.

The planned RDP, which began as a joint-development between Ecuador (51%) and Venezuela (49%) has faced a series of financial and political setbacks since its inception in 2007, with both countries seeking from the outset foreign companies to both bid on and provide 70% of financing for the refinery’s construction. In 2007, Ecuadorean President Rafael Correa said the proposed 300,000-b/d RDP, to be built in the coastal province of Manabi, would cost around \$5 billion, increasing to \$10 billion if the partners decided to add a petrochemical plant on the site.

## **MIDDLE EAST**

### **51. Iran Battles Pollution with 'Clean Petrol'**

Tehran — Iran is turning to environmentally friendly Euro-4 emissions standard petrol in major cities to battle worsening air pollution which claims thousands of lives every year, according to media reports. “Some eight million liters (two million gallons) of clean gasoline was distributed to 90 gas stations in Tehran on Saturday,” the Ettelaat daily reported Morteza Abedini, head of Tehran’s Oil Products Distribution Company, as saying.



"In order to reduce environmental pollution... all petrol stations are expected to distribute clean gasoline by February 20," he said.

Pollution is a constant woe for Tehran's more than eight million residents. It is caused by bumper-to-bumper traffic and the city's location between two mountains, ensuring that fumes from both cars and factories blanket the city.

Since the last Iranian year began in March 2013, residents have endured polluted air for 143 days, media reports said.

The poor air quality is made worse by reliance on domestic production of lower quality and therefore more polluting petrol.

Daily petrol consumption in Tehran is around nine million liters, according to official figures. Iran currently produces 16 million liters of Euro-4 gasoline daily. Euro-4 fuel has also been distributed in other major cities including Karaj west of Tehran and in the central province of Arak.

Other major cities such as Mashhad, Isfahan and Tabriz also suffer from air pollution caused by lower emissions standard Euro-2 fuel.

In 2012, air pollution contributed to nearly 4,400 premature deaths in Tehran alone and nearly 80,000 nationwide, according to health ministry figures.

## 52. Experts Call For Careful Eye to Be Kept On UAE Air Pollution Levels

Air quality in the UAE is generally good – but the issue will probably need more attention as the country grows, a prominent researcher has said. "There are national guidelines and most pollutants are within these standards but some pollutants are above the standards," said Dr Alena Bartonova, research director of the Abu Dhabi branch of the Norwegian Institute for Air Research.

"I definitely think we should pay attention. We have great cities here, which are growing and every time there is growth in human activity, there is an increase in pollution," she said.



"In general, I do not think people should be scared, but they should be aware that some of their activities – like driving a car or building a new house – contribute to air pollution," she said, adding that some industrial activities were also significant sources of pollution.

Particulate matter (PM) – tiny particles of sand, dust or chemicals – is one pollutant that registers elevated levels.

Nitrogen oxide, usually released in the combustion of fossil fuels, and ground-level ozone, or smog, which is formed when some chemicals released from human activities react with substances already in the atmosphere in the presence of sunlight, are two other substances that show elevated concentrations, Dr Bartonova said.

Reem Deed, a project manager for a Dubai-based supplier of air-quality monitoring equipment and services, Enviro & Industrial Solutions, also said that PM and ground-level ozone, especially in the summer, were the two pollutants most commonly registering high concentrations in Dubai.

Local authorities have taken steps to measure pollution levels with Abu Dhabi and Dubai providing real-time information, publicly available online, on the concentration of common pollutants, with measurements taken regularly at stations throughout the two cities.

In the capital, the Environment Agency – Abu Dhabi (Ead) has also started detailed monitoring of particulate matter pollution, looking at levels of particles, known as PM10, which are only 10 micrometers in size. There are also monitoring levels of the even smaller PM2.5 particles, which experts believe are especially harmful as they are able to penetrate in the lungs when inhaled.

“PM is a difficult pollutant because it is directly emitted by natural sources and man-made sources but it is also formed in the atmosphere,” said Dr Bartonova, explaining that more studies are necessary into the subject as well as into the formation and transport of other pollutants. Overall, there is a need to know more about how air pollution is tied to human activities, what are the processes that contribute to forming it in the atmosphere and how much of it is generated locally and how much from abroad, she said.

Both ozone and particulate matter are what scientists call secondary pollutants – substances that form in the atmosphere through reactions with primary pollutants. This is why the issue needs to be looked at in the context of the whole region, not just the UAE. But, at the same time, “ozone-forming or particle-forming substances” are emitted locally by the transport, mineral excavation and hydrocarbon industries, she said.

Dr Bartonova recommended setting up a framework within which local governments, research bodies and industries that contribute to pollution coordinate their efforts to share data. A similar approach was adopted when Ead drafted Abu Dhabi’s first inventory of greenhouse gases. Achieving cleaner air for the UAE would also require regional cooperation to make sure other countries also better understand their responsibilities and contributions, she said.

### **53. Abu Dhabi Plans Aviation Biofuel Project With Boeing and Total**

With its huge oil reserves, Abu Dhabi has ample access to cheap jet fuel, but it has said it wants to develop sustainable energy sources to diversify its economy. Biofuels could also help Etihad Airways, the national airline, meet targets in the aviation industry for curbing emissions of greenhouse gases.

Etihad expects to start commercial flights of aircraft with bio jet fuel in five years, chief operations Officer Richard Hill told reporters.

Abu Dhabi Oil Refining Co (Takreer) and the Emirate's Masdar Institute of Science and Technology will also take part in the project. The venture is looking at various raw materials to produce biofuel including agricultural waste, date palm leaves, and plants tolerant to salt water such as salicornia that could be grown in coastal areas of the United Arab Emirates, officials said.

## GENERAL

### **54. CCAC Marks Two Years of Rapid Growth in Action on Short-Lived Climate Pollutants**

The Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants (CCAC) celebrated two years of rapid growth, during which dozens of governments and organizations have worked together to target swift reductions in atmospheric pollutants that threaten human health and the environment.

The CCAC was originally launched as a partnership between six countries and the United Nations Environment Programme (UNEP), who all recognized that fast action to reduce short-lived climate pollutants-particularly methane and black carbon (soot)-has the potential to slow down the global warming expected by 2050 by as much as 0.5°C.

"The Coalition works on a triple-benefit agenda: better health, increased crop yields and food security, and near-term climate protection," said Helena Molin Valdes, Head of the CCAC Secretariat. "Black carbon, methane, tropospheric ozone and hydrofluorocarbons (HFCs) are having an impact in all these fields, and we can have quick gains if we act now. And the solutions are all available - this is what the partners in the Coalition are focusing on."

"This year we will focus to a great degree on the health aspects of air quality and short-lived climate pollutants, together with our partner the World Health Organization, and, increasingly, with the agriculture sector," she added. "We have some very able partners to count on. As one of our founding ministers put it, 'We are a Coalition of the Working.' Anyone who is willing to act in that spirit is welcome to join us."

The coalition has gained momentum swiftly: 36 countries and 44 institutions and organizations are now lending their weight to tackling the issue, and a \$50 million Trust Fund has been created to support and conduct emissions reduction work.

Concrete actions range from working with more than 30 cities to assess the growing problem of methane and black carbon emissions from municipal landfills to promoting more stringent vehicle emissions standards, with initial successes in Asia and Latin America.

Other accomplishments of the CCAC over the last two years include:

- Ten transformative initiatives, including work to reduce short-lived climate pollutants in municipal solid waste, oil and gas, diesel engines, brick production, HFCs, cook stoves and agriculture, with additional progress in finance, regional SLCP assessments and national planning;
- Giving grants to entrepreneurs to develop cleaner cook stoves, for which capital investments are lower than for other black carbon-reduction measures;
- Showcasing alternative technologies to replace high-global-warming-potential HFCs;
- Gathering oil and gas companies under the umbrella of the CCAC Oil and Gas Methane Partnership, to be launched officially in 2014;

- Making tools available to national governments to assess the benefits of emission reductions and national planning;
- Conducting the first region-wide review of short-lived climate pollutants in Latin America;
- Beginning a public health campaign with the World Health Organization to make clear the connection between pollution and health. More than six million people die each year from indoor and outdoor air pollution, and many more are affected by non-communicable diseases from pollution;
- Helping to shape the policies and investment portfolios of the World Bank and other development banks.

### **55. University of Toronto Report Says Better Monitoring of Oil Sands Emissions Needed**

A study from the University of Toronto released on February 3<sup>rd</sup> said officially reported emissions of certain air pollutants in Alberta's oil sands have been greatly underestimated. The researchers said their model indicates that better monitoring data and emissions information are needed to improve understanding of the environmental impact of the oil sands.

The study, conducted by environmental chemistry professor Frank Wania and graduate student Abha Parajulee at the University of Toronto Scarborough, used a model to assess the plausibility of reported emissions of atmospheric pollutants known as polycyclic aromatic hydrocarbons (PAHs), many of which are highly carcinogenic.

The study, which was published in the Proceedings of the National Academy of Science, said PAHs are released during the process of extracting petroleum and that environmental impact assessments so far have only considered the PAHs released directly into the atmosphere. The risk associated with the direct releases has been judged to fall within acceptable regulatory limits, the study said.

The researchers found that evaporation from tailings ponds may actually introduce more PAHs into the atmosphere than direct emissions.

“Our study shows that emissions of polycyclic aromatic hydrocarbons estimated in environmental impact assessments conducted to approve developments in the Athabasca oil sands region are likely too low,” the assessment said. “This finding implies that environmental concentrations in exposure-relevant media, such as air, water, and food, estimated using those emissions may also be too low.”

The impact is that risk to people and animals has been underestimated, the report said.

The study raises new questions about the accuracy of environmental impact assessments on the tar sands, just days after a US State Department report said the controversial Keystone pipeline project to bring oil from Canada to Texas would have little impact on climate change or the environment.

Environment Canada is interested in the findings and has agreed to fund more research going forward, Wania said.

With the third largest crude oil reserves in the world after Venezuela and Saudi Arabia, Canada has predicted that oil sands development will bring in about \$2 trillion over the next two decades.

## **56. HFCs, Renewable Energy, Air Quality Dominate India-U.S. Talks on Climate**

Discussions between influential U.S. and India nongovernmental organizations on opportunities for the two countries to collaborate on climate change and energy are likely to center on hydrofluorocarbons (HFCs), air quality and renewable energy, according to participants in an Aspen Institute panel.

It will be important to capitalize on the anti-pollution movement that is currently active in India, as well as in China, said Carol Browner, who previously served as assistant to President Barack Obama and director of the White House Office of Energy and Climate Change Policy, during the panel discussion.

Additionally, California could contribute ideas about how to improve India's air quality, which a representative from India highlighted as a top priority, and California could learn from India's energy efficiency efforts — a top priority for the state, Mary Nichols, chairman of the California Air Resources Board, said.

The panel, "India-U.S. Perspectives on Energy and Climate Change: Opportunities for Cooperation," preceded the start of the fourth session of "Track II Dialogues." The "Track II" talks from February 11 through 14 are organized by the Aspen Institute Energy and Environment Program and the Ananta Aspen Centre to foster trust between the two societies and to come up with opportunities for the nations to effectively collaborate on climate change and energy efforts.

Putting India and the U.S. on the same page on ways to move forward on climate change and energy could significantly bolster international discussions on similar actions, the panelists said.

"The fact is that if you look at what's going to affect the quality of life for people of our state, and around the world, it is climate change," Nichols said.

Speakers — and Track II participants — from the U.S. included Browner, who also is a former EPA administrator and co-chairman of the Track II talks, and Nichols, who is a former assistant EPA administrator for air and radiation under President Bill Clinton. Browner replaced as Co-chairman John Podesta, who recently returned to work at the White House.

Jamshyd Godrej, co-chairman of the Track II talks and chairman and managing director of Godrej & Boyce Manufacturing Co., and Suresh Prabhu, previously union minister for industry, environment and forests and power, represented India on the panel and in the talks. Manish Bapna, executive vice president and managing director for the World Resources Institute, moderated the panel.

The panel discussed the importance of limiting hydrofluorocarbons, a short-lived greenhouse gas often used as a refrigerant, and what technologies are available to achieve that goal. All panelists agreed that potential collaboration on HFC solutions would be a part of the week's Track II discussions.

Parties to the Montreal Protocol agreed in October to have a panel prepare a report on the economic costs and environmental benefits of various approaches to reducing the production and use of hydrofluorocarbons (HFCs) after India blocked formal talks on managing the greenhouse gases. Additionally, the panelists discussed the significant opportunities to learn from each other's successes.

For instance, Nichols highlighted California's need to make buildings more energy-efficient and the financial tools and incentives for existing building owners on that front, something parts of India have accomplished well. Meanwhile, Nichols's state has had significant success with reducing its air pollution, a problem Godrej said is resulting in more instances of cancer in India and "skyrocketing health care costs."

Godrej and Prabhu both emphasized the need to make India more independent in its energy needs. The country imports large amounts of coal, but ultimately the country's citizens, especially those currently without access to electricity, will be better served economically and environmentally by a shift to renewable energy, Prabhu said.

Godrej said the country is on a trajectory to have renewable energy provide at least 30 percent of the nation's energy in 10 years "with the right policies." Efforts to create a market for solar and wind power in the country are already under way, the representatives from India said.

Working together on these energy solutions with the U.S. would also provide an opportunity for the U.S. to improve its reputation abroad, Prabhu said.

### **57. Polluted Cities May Be More Harmful To Pregnant Women Than Smoking Cigarettes.**

Heavy intake of air pollutants from car exhausts could lead to an increased risk of developing high blood pressure disorders during pregnancy, according to a recent study

The mother's health during pregnancy plays a crucial part of the future baby's overall well-being. As previous studies have shown that breathing in cigarette smoke can increase a mother-to-be's risk of such complications as preeclampsia, researchers from the University of Florida discovered that air pollution may be even more toxic to the baby's health.

For their study, researchers compared birth data with Environmental Protection Agency estimates of air pollution in the United States. They found that exposure to four air pollutants in particular led to a significantly increased risk for developing a high blood pressure disorder during pregnancy. Such pollutants related to health issues in pregnant women included types of fine and coarse particulate matter, sulfur dioxide and carbon monoxide.

"Fetal development is very sensitive to environmental factors," said Xiaohui Xu, M.D., Ph.D., an assistant professor of epidemiology in the colleges of Public Health and Health Professions and Medicine, via Science Daily. "That is why we wanted to do this research. Hypertension (high blood pressure), in particular, is associated with increased morbidity and mortality, causing a lot of problems for the mother and fetus, including preterm delivery."

Background information from the study notes that approximately 10 percent of pregnancies are affected by hypertensive disorders, including gestational hypertension and preeclampsia.

The researchers also examined data from women who gave birth in Jacksonville, Florida, between 2004 and 2005, along with environmental conditions in those communities. Analyzing this information helped them to get a better grasp of certain factors that may play a role in increased health risks during pregnancy. The sample included over 22,000 pregnant women. However, mothers with chronic hypertension were not included, and neither were those who had previously given birth prematurely or those whose babies were born with other complications in the sample.

While gauging how much pollution the women were exposed to during their pregnancies, they found that 4.6 percent developed a hypertensive disorder during pregnancy. According to Xu, exposure to air pollutants throughout the first two trimesters increased this risk along with a number of other health conditions.

"It looks like the whole period has impacts for hypertension," he said. On the basis of these findings, the researchers say more air pollution control is necessary to prevent dangerous complications in pregnant women and babies.

### **58. Global Warming Slowdown Likely To Be Brief: U.S., UK Science Bodies**

A slowdown in the pace of global warming so far this century is likely to be only a pause in a longer-term trend of rising temperatures, the science academies of the United States and Britain said recently. Since an exceptionally warm 1998, there has been "a short-term slowdown in the warming of Earth's surface," Britain's Royal Society and the U.S. National Academy of Sciences said in a report. But, they said, that "does not invalidate our understanding of long-term changes in global temperature arising from human-induced changes in greenhouse gases."

The warming slowdown has emboldened those who question the evidence about climate change and ask whether a shift in investments towards renewable energies such as wind and solar power, advocated by many experts, is really needed. But the report said that scientists were "very confident" that the planet would warm further this century, causing more extreme heat waves, droughts and rising seas.

A build-up of greenhouse gases from human activities, mainly the burning of fossil fuels, is warming the atmosphere and the oceans, raising sea levels and melting Arctic ice, the report said, supporting the long-held view of a U.N. panel of climate scientists.

It projected that temperatures would rise by between 2.6 and 4.8 Celsius (4.7-8.6 F) by 2100 unless governments took strong action to limit rising emissions of greenhouse gases, broadly in line with U.N. estimates. Almost 200 nations have agreed to work out a deal by the end of 2015 to combat climate change. So far there has been little progress in negotiations, partly because weak economic growth has sapped government interest.

The warming hiatus may be caused by shifts in the oceans that are absorbing more heat from the atmosphere, the report said. Other studies suggest that sun-dimming volcanic eruptions or a lower output from the sun may contribute.

### **59. Hong Kong, Stockholm Ranked Highest For Sustainable Urban Mobility**

Hong Kong topped the ranking due to its strong performance in terms of the financial attractiveness of public transport, its share in the modal split, smart card penetration, the low number of vehicles per capita, and the overall low climate impact. Meanwhile, Europe remains

the region of the world with the most developed sustainable urban mobility systems, according to a survey of 84 cities worldwide. But Athens, Rome and Lisbon need to do more to improve, said consultancy Arthur D Little in a study for UITP, the international trade association for public transport companies.

Stockholm was ranked second in the world to Hong Kong, up from fourth place when the study was last carried out in 2011. Around 67% of journeys are made using environmentally friendly modes, while transport-related CO<sub>2</sub> fell from 1.4 tons per capita in 2011 to 1.3 tons in 2013, the researchers said. Biofuels are widely used for the bus fleet.

Stockholm's good performance pushed Amsterdam – 2011's runner up – into third place. Transport emissions in Amsterdam are significantly lower than the European average of 1.3t/CO<sub>2</sub> per year due to the high rate of car sharing and the high proportion of cycling in the modal split at 33%. The city has also used low-emissions zones to cut air pollution.

The majority of the cities surveyed need to do more to increase public transport usage. Most EU cities already have high shares of sustainable transport modes but need to better integrate them to make them more attractive to consumers, the researchers said.

Far more cars and bikes are being shared in cities worldwide now than in 2011 via both peer-to-peer and business-to-consumer models, the study noted.

The ranking criteria took account of the share of public transport compared with other modes as well as its frequency and financial attractiveness, transport related CO<sub>2</sub> emissions, concentrations of NO<sub>2</sub> and PM<sub>10</sub>, car sharing, and the density of cycle paths. It also took account of the rate of improvement of some of these factors over time.

## **60. UN Climate Chief Urges Investors to Bolster Global Warming Fight**

Institutional investors managing trillions of dollars should shift their portfolios away from fossil fuel investments toward cleaner energy sources to put a stop to the dangerous rise in global temperatures causing climate change, Christiana Figueres, executive secretary of the UN Framework Convention on Climate Change, told an investors conference at the United Nations. She noted that their investment decisions should reflect the latest scientific evidence of dangerous climate change to protect the health and financial savings of ordinary citizens well into the future.

"The pensions, life insurances and nest eggs of billions of ordinary people depend on the long-term security and stability of institutional investment funds," she said in prepared remarks. "Climate change increasingly poses one of the biggest long-term threats to those investments and the wealth of the global economy," Figueres added.

She said the private sector will need to play a crucial role to ensure that global temperatures do not rise more than 2 degrees Celsius (3.6 degrees Fahrenheit), a threshold that UN scientists have said would avoid catastrophic climate change even as nearly 200 countries continue to negotiate a global deal to rein in global greenhouse gas emissions.

The fraught UN climate negotiations have a 2015 deadline to agree in Paris on a global plan to address climate change set after an eleventh-hour agreement at the last UN summit in November in Poland. The 2015 deal will consist of a patchwork of national plans to curb emissions that could blur a 20-year-old distinction between the obligations of rich and poor nations.



Figueres said she expects the first of the national contributions to trickle in around September, when U.N. Secretary General Ban-Ki Moon hosts a United Nations climate change summit that will involve heads of state, business and civil society groups. She said she is already aware that some countries will need until the first part of 2015 to ready their national plans.

### **61. IMO Priorities Include Reaching Global Consensus on Monitoring, Reporting Shipping**

In 2014, the International Maritime Organization will renew efforts to reduce global shipping's carbon dioxide emissions and improve the energy efficiency of ships, according to a spokeswoman for the London-based United Nations agency. In addition, the shipping industry will need to address the impact of future regulations covering pollutants such as nitrogen oxides and sulfur oxides as well as the cost of compliance with regulations.

This wide range of issues will be debated at the 66th and 67th meetings of the IMO's Marine Environment Protection Committee (MEPC) March 31-April 4 and October 13-17, respectively. In addition, the IMO will discuss the implementation of all maritime conventions, which will include environment-related issues, during World Maritime Day scheduled for September 25<sup>th</sup>.

One important first step will be for the MEPC to update estimates of greenhouse gas emissions from shipping based on both fuel sales and ship activity data. International shipping accounted for 870 million metric tons of carbon dioxide emissions in 2007, or about 2.7 percent of the world's total, according to most recent IMO statistics available. The European Commission put the figure at 1 billion metric tons of carbon dioxide-equivalent, or about 3 percent of the world's total.

Uncertainty over the NO<sub>x</sub> regulations must also be resolved after the IMO's 2013 decision to delay the implementation of stricter limits on nitrogen oxide emissions for ships operating in Nitrogen Oxides Emission Control Areas from 2016 to 2021. There is likely to be a push at MEPC 66 [in March] to overturn this delay.”

In 2008, the IMO agreed on measures to lower the allowable level of sulfur in fuel from the current 3.5 percent to 0.5 percent starting Jan. 1, 2020. Shippers are eagerly awaiting a study which will clarify issues related to the availability of the cleaner fuel.

### **62. Pattern of Rising Temperatures Continued In 2013, Seventh Warmest Year on Record**

The long pattern of steadily rising global temperatures continued in 2013, with last year tying 2009 and 2006 for the seventh warmest years since 1880, NASA's Goddard Institute for Space Studies said on January 21<sup>st</sup>. The Goddard Institute, which compiles and updates the figures each year, said the global temperature in 2013 was 58.3 degrees Fahrenheit (14.6 Celsius), which is 1.1 F (0.6 C) above the mid-20th century baseline.<sup>6</sup>

Global temperatures have increased about 1.4 degrees F (0.8 C) since 1880, the first year detailed records were kept, the National Aeronautics and Space Administration said.

NASA said in its analysis that weather patterns will always cause fluctuations in average temperatures from year to year, “but the continued increases in greenhouse gas levels in Earth's atmosphere are driving a long-term rise in global temperatures.” “Each successive year will not

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<sup>6</sup> “NASA Finds 2013 Sustained Long-Term Climate Warming Trend”

necessarily be warmer than the year before, but with the current level of greenhouse gas emissions, scientists expect each successive decade to be warmer than the previous" one, it said.

The report also noted that temperatures have been rising steadily over the last century or so, consistent with increasing emissions of greenhouse gases including carbon dioxide, much of it from the burning of fossil fuels to produce power and fuel vehicles. NASA noted that in 1880, the first year recorded in the Goddard Institute's records, the carbon dioxide level in the atmosphere was about 285 parts per million; by 1960, it had climbed to about 315 parts per million. In 2013, the concentrations crested the 400 parts-per-million mark.

Using the same data but different analysis processes, the U.S. National Oceanic and Atmospheric Administration said 2013's average temperature was 58.12 degrees Fahrenheit, which tied what NOAA considers to be the fourth hottest year on record.

The agencies differ in their analysis techniques. NASA for example uses more temperatures from Antarctica, but said the overall trend remains what has been measured every year since 1976 when global temperatures first surpassed the 20th Century's global average of 57 degrees Fahrenheit (13.9 degrees Celsius).

"The patterns of temperature change are very similar across the different analyses, but rankings and the exact numerical value are a function of some of the small differences that we have in the processing," Gavin Schmidt, deputy director of NASA's Goddard Institute for Space Studies in New York, told reporters on a conference call.

Global temperatures began climbing in the late 1960s, a phenomena that has been tied to heat-trapping greenhouse gases in Earth's atmosphere.

NASA, or the National Aeronautics and Space Administration, said the amount of carbon dioxide in Earth's atmosphere is higher now than at other time in the last 800,000 years. Carbon dioxide levels were about 285 parts per million in 1880, the first year in the global temperature record. By 1960, levels reached 315 parts per million. In 2013, the amount of carbon dioxide peaked at more than 400 parts per million.

The relationship between greenhouse gases and global temperatures is complicated. In 2013, for example, the continental United States experienced its 42nd warmest temperature on record while Australia had its hottest year ever, NASA and NOAA data shows.

Ice in the Polar Regions presents another puzzle. The amount of Arctic sea ice in the northern hemisphere continued its ubiquitous and well-documented decline, while sea ice in Antarctica in the southern hemisphere increased a record amount, scientists said.

"The situation in the southern hemisphere is more complicated," Schmidt said, noting that wind patterns are impacted by the region's ozone hole and other factors. "There's a lot of complicated physics going on," he added. "It's not a clean picture."

Ocean temperatures, including El Nino and La Nina warming and cooling patterns in the equatorial Pacific, also disconnect regional, seasonal and yearly temperatures with overall global trends, the scientists said.

"The long term trends in climate are extremely robust," Schmidt said. "There are times, such as today, when we can have snow, even in a globally warmed world. But the long-term trends are very clear. They are not going to disappear. It isn't an error in our calculations."

A third study on 2013 global temperatures is due to be released later this month by the Met Office Hadley Center in the United Kingdom.

### 63. Worldwide Sales of Toyota Hybrids Top 6 Million Units

Toyota Motor Corporation has announced that cumulative global sales of its hybrid vehicles topped the 6 million unit mark as of December 31, 2013, reaching 6.072 million units<sup>7</sup>. The latest million-unit milestone was achieved in the fastest time yet for Toyota, taking just nine months.

As of this month, Toyota sells 24 hybrid passenger car models and one plug-in hybrid model in approximately 80 countries and regions around the world. Furthermore, within the next two years, Toyota will launch a total of 15 new hybrid vehicles worldwide.

Toyota calculates that as of December 31, 2013, Toyota hybrid vehicles<sup>8</sup> have resulted in approximately 41 million fewer tons<sup>9</sup> of CO<sub>2</sub> emissions than would have been emitted by gasoline-powered vehicles of similar size and driving performance. Toyota also estimates that its hybrid vehicles have saved approximately 15 million kiloliters of gasoline compared to the amount used by gasoline-powered vehicles of similar size.

In August 1997 in Japan, Toyota launched the "Coaster Hybrid EV" and launched the "Prius"—the world's first mass-produced hybrid passenger vehicle—in December.

	Toyota Hybrid Vehicle Sales			
	Based on TMC data (Unit = 1,000 vehicles)			
	Global	Japan	North America	Europe
1997	0.3	0.3		
1998	17.6	17.6		
1999	15.2	15.2		
2000	19	12.5	5.7	0.7
2001	36.9	18.4	15.9	2.3
2002	41.3	19.9	20.3	0.8
2003	53.2	27.1	24.8	0.8
2004	134.6	68.7	55.9	8.1
2005	234.9	58.5	149.9	23.3
2006	312.5	72.4	197.6	36
2007	429.4	81.9	287.8	48.9
2008	429.7	104.4	254.9	57.8
2009	530.1	251.1	205.2	54.7
2010	690.1	392.2	195.8	70.1
2011	628.9	316.3	185.1	82.8
2012	1219	678	344.6	106.8
2013	1279.4	679.1	358.1	153

<sup>7</sup> Including plug-in hybrid vehicles

<sup>8</sup> Excluding the Coaster Hybrid EV and Quick Delivery 200

<sup>9</sup> Number of registered vehicles × distance traveled × fuel efficiency (actual fuel efficiency in each country) × CO<sub>2</sub> conversion factor

Total	6072.9	2814.2	2302.4	646.6
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#### **64. ExxonMobil's New Singapore Hydrotreater Begins Operation**

ExxonMobil has announced that a new hydrotreater at its Singapore refinery is on line and producing ultra-low sulfur diesel. Completion of this new unit will increase the facility's low-sulfur diesel capacity to around 25 million liters a day, more than nine million liters of which can meet ultra-low sulfur diesel specifications.

"The addition of the new hydrotreater to our Singapore refinery will help meet the growing demand for fuels in Asia Pacific. When the product is used with today's engines, it will contribute to lower emissions and improved air quality," said Matthew Aguiar, chairman and managing director, ExxonMobil Asia Pacific Pte Ltd. "This new unit, along with the recently completed petrochemical expansion project at our Singapore complex, positions ExxonMobil competitively in the Asia Pacific markets for fuels and chemicals."

When used in modern engines, ultra-low sulfur diesel, commonly used to fuel vehicles and equipment such as tractor trailers, buses, marine vessels, locomotives, and backhoes, can greatly reduce emissions and improve air quality. ExxonMobil's annual Energy Outlook projects that demand for diesel will grow sharply between 2010 and 2040 — by about 75 percent — to power the rise in activity in trucks and other commercial transportation. Diesel will also play a more significant role in the marine sector in the latter half of the Outlook period, in response to stricter marine emissions standards. The strongest growth for transportation demand is in Asia Pacific, which remains the largest consumer of heavy-duty vehicle energy and will see a significant increase in personal vehicle ownership, about 500 million vehicles, during the Outlook period.

The Singapore diesel hydrotreater project, which broke ground in May 2011, achieved more than 13 million safe hours during its construction.

In addition to the new unit in Singapore, ExxonMobil has also constructed diesel hydrotreaters at its refineries in Baytown and Baton Rouge in the United States, Antwerp in Belgium, Sriracha in Thailand and Yanbu in Saudi Arabia.

The Singapore Refinery is ExxonMobil's largest in the world, with a pipestill capacity of 592,000 barrels per day. It is fully-integrated with the recently-expanded Singapore Chemical Plant – a world-scale petrochemical complex – to form ExxonMobil's largest integrated manufacturing site in the world.