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1. European Environment Agency Says Air Pollution Costs EU Up to $235 Billion

Air pollution, chiefly from coal-fired power plants, cost society up to 189 billion euros ($235 billion) in 2012 - equal to the gross domestic product of Finland, the European Environment Agency (EEA) said in a new report.

The agency provides research to guide EU policymakers, who are reconsidering proposals put forward last year by the European Commission, the EU executive, to tighten laws on air quality. It analyzed the impact of air pollution from industry on health costs, lost working days, damage to buildings, reduced agricultural yields and other costs and found the cost was at least 59 billion euros and up to 189 billion euros in 2012.

The wide range reflects different ways of calculating costs and compares with estimates of between 79 billion and 251 billion euros in 2008 at the start of the 2008-2012 period analyzed.

Costs fell as EU environment law and an economic downturn curbed emissions including carbon dioxide, nitrogen oxides, sulfur oxides and particulate matter, but the researchers said it would be a challenge to maintain progress in reducing emissions during times of economic growth.

The EU and its member states should clamp down on air pollution from a small number of firms causing most of the multi-billion euro damage each year, the director of the European Environment Agency (EEA) said. Half of the €59-189bn air pollution cost burden for 2012 identified by the EEA was caused by just 1% of installations, mainly power-generators running on coal and lignite. Of the 30 biggest facilities it identified as causing the most damage, 26 were power plants, mainly fueled by coal in Germany and Eastern Europe.

Some industrial sectors say they are struggling to be competitive and that EU regulation risks driving them out of Europe. The coal sector says it offers a cheap, secure fuel source, indigenous to many European nations, and that the cost of switching to alternatives is high.

Policymakers can cut the overall cost burden by “setting standards higher and making sure companies get a better stimulus to use best available technologies”, EEA director Hans Bruyninckx told reporters, adding that member states must take action against specific polluting installations.

Costs are highest for the main air pollutants – SO2, NOX, PM10, NH3 and NMVOC – and CO2, the estimates show. Heavy metals and organic pollutants contribute less to health and environmental costs, but their share is still in the hundreds of millions of euros and local impacts can be significant, the EEA said.

The clean air policy package currently on the table would contribute to reducing the cost burden, Mr. Bruyninckx said. The policy package is still being considered by lawmakers and by the new European Commission, which will decide next month whether it fits with its wider economic growth and ‘better regulation’ agenda. The new Commission, in office since the start of November, is considering changing or even scrapping the proposed new air quality law, according to press reports. The Commission said it had not yet made a decision.
The EU is currently reviewing performance standards for large combustion plants that would help reduce emissions from coal plants. The EEA figures show that as much as €55bn could be saved annually if these plants operated in line with the current best available techniques.

The EEA report updates a 2011 assessment using up-to-date methodology and for the first time using data for five consecutive years.

2. U.K. Must Show How It Can Quickly Meet European Union Clean Air Rules, Court Rules

The U.K. must show how it can meet clean air rules, the top European Union court said in a judgment that may force British authorities to speed up efforts to reduce dangerous pollutants in London and other cities. The nation—which is overshooting levels agreed on for health-damaging air pollutants—must “ensure that the period during which the limit values are exceeded is as short as possible,” the EU Court of Justice said.

The judgment, which also applies to the rest of the 28-nation EU, was triggered by environmental group ClientEarth. The organization is suing the U.K. over its failure to meet a deadline to cut levels of nitrogen dioxide to a level imposed by EU law.

The ruling may force the U.K. government and local authorities to devise plans to reduce levels of NO2 more quickly. Non-compliance with EU regulations can lead to fines that are determined by the size of a country’s economy and scale of the infraction. Transport for London has said fines could amount to 300 million pounds ($470 million) a year.

“The government is fully committed to ensuring compliance with EU air quality standards,” the U.K. Department for Environment, Food and Rural Affairs said in an e-mailed statement. “We are revising our plans to reflect recent action so we can be compliant as soon as possible.” The department said the problem is a “common challenge” across Europe, with 17 nations breaching limits.

“This ruling is a big victory for the millions of people who want to live healthy lives in the U.K.’s towns and cities,” Alan Andrew, a lawyer for ClientEarth, said on the group’s website. “This will force the government to finally take this issue seriously and come up with an urgent plan to rid our towns and cities of cancer-causing diesel fumes.”

Under EU rules, the U.K. was required to comply with NO2 limits by 2010, and could apply for a five-year extension by submitting air quality plans to show how it would achieve them by 2015. Britain met its deadline for three of its 43 zones and applied for 24 extensions, according to the court. In the remaining 16 zones, it didn’t request an extension because it predicted compliance only later than 2015. Defra in July said that zones including London, Birmingham and Leeds aren’t predicted to meet the limits until after 2030, with Manchester, Liverpool and Sheffield failing to comply until 2025.

Recently, 25 lawmakers in the upper and lower Houses of Parliament signed a letter calling for a public inquiry into air pollution in the U.K., according to a statement posted on the website of John McDonnell, one of the parliamentarians.

ClientEarth said the case will now return to the U.K. Supreme Court for a ruling next year. “This should see the U.K. Supreme Court ordering the government to take action to meet limits in a much shorter timeframe,” it said.
National courts should take steps to ensure governments come up with plans to comply with the EU’s air pollution laws, the European court (CJEU) has ruled in a case against the UK.

The UK Supreme Court had asked the European court (CJEU) to clarify national courts’ obligations when air pollution limits are exceeded. The Supreme Court declared the UK in breach of the 2008 Air Quality Directive last year, in a case brought by NGO ClientEarth. As part of this case, the UK court asked the CJEU whether the establishment of an air quality plan was relevant to the question of compliance with the directive. The CJEU ruled that having a plan does not mean a member state has satisfied its obligations. In cases of non-compliance, national courts should order the relevant authorities to establish a plan that will ensure that the period in which the pollution limits are exceeded is as short as possible.

The European Commission welcomed the ruling, which it said “appears to confirm the duty of all EU member states to protect European citizens and deliver on air quality standards within a reasonable time”.

ClientEarth had asked the British courts to require the government to revise its air quality plans to show how the NO2 limit values could be met by the 2015 deadline set out in EU law. The UK is likely to fail to comply with these limits in cities including London for a number of years, with diesel vehicles the main problem.

ClientEarth’s lawyer said the ruling put the onus on the UK court to make the government come up with a plan for complying as soon as possible. This could take the form of a binding court order, he suggested, adding that the case opened up the possibility of further action by citizens in other EU countries.

3. Countries Threatened With Court Over PM10

The European Commission has threatened Germany, Austria and Slovakia with court action over their failure to tackle air pollution. The Commission believes the countries have failed to take the necessary measures that should have been in place since 2005. This alleged failure has led to illegal PM10 levels in Graz in Austria, in Stuttgart and Leipzig in Germany and in six areas of Slovakia including Bratislava.

Bulgaria has been given another warning to reduce sulfur dioxide levels or be taken to court. It has two months to act. Citizens in one area of Bulgaria have been exposed to excessive levels of the air pollutant from industrial installations since 2007.

Bulgaria and Hungary have been asked to fully transpose the 2012 Energy Efficiency Directive. Almost all member states missed the transposition deadline of 5 June. Greece has been asked to comply with the Energy Performance of Buildings Directive’s requirement to set a minimum energy performance requirement for new and renovated buildings.

4. Emissions ‘Significantly Lower’ From Retrofitted Euro III Buses

Further evidence has emerged that older buses designed to meet Euro III emissions standards – which are then retrofitted with after-treatment technology – produce fewer exhaust emissions than newer Euro V standard buses, according to a study conducted in Brighton.
One of the test buses in Brighton fitted with PEMS equipment

Published by consultancy Ricardo-AEA, the report is based on real-world testing of buses in Brighton and builds on another report from July, which demonstrated the emissions benefits from a range of buses of improving traffic flow.

As a follow up to the traffic flow study, Ricardo-AEA has since carried out measurements on an older Euro III bus that has recently been retrofitted with a selective catalytic reduction (SCR) and continuously regenerating particulate trap system.

The research found that, when averaged across the bus route on which tests were taken, the total emissions results of the Euro III retrofitted bus were substantially below those of all of the other buses tested, including the Euro V hybrid vehicle.

Data also indicated that of the nitrogen oxides (NOx) remaining in the exhaust, the nitrogen dioxide (NO2) fraction was substantially lowered to below 10% of total NOx. The findings follow similar suggestions regarding the benefits of modifying older Euro III buses made last year by the head of retrofit engineering at exhaust technology firm Eminox.

EU Euro III emissions bus standards for carbon monoxide, hydrocarbon, oxides of nitrogen (NOx) and particulate matter came into force in 2000, while Euro V standards setting tougher emissions limits came into force in 2008. Tougher Euro VI standards for new buses came into force just under a year ago.

However, the retrofitted after-treatment system required a ‘considerable’ period of warm-up before its full emissions control functionality could be achieved – typically 5-10 minutes from cold start, the Brighton study found. According to Ricardo-AEA, this may have implications for bus operators with depots in, or close to, low emissions zones.

In addition, the firm said, scope was also seen both for “further optimization of the system calibration by improving the dosing of the SCR system in uphill stop-start traffic, and improving thermal management of the exhaust”.

Jon Andersson, manager of after-treatment and chemical analyses at Ricardo-AEA, said: “As bus operators attempt to balance their fleet replacement cycles with the imperative to reduce pollution and hence improve urban air quality, the optimal use of retrofit clean technologies of this nature may be an attractive and highly effective alternative to the early replacement of older vehicles. Local authorities are examining the potential of such retrofit solutions in the rules governing future Low Emissions Zones, as these may provide a highly practical path to reducing emissions at source.”

5. EC Hopes for Ship Pollution Law Compliance

The shipping industry has warned of problems in meeting strict new sulfur emissions limits just over a month before they come into force, but the European Commission says 100% compliance
is possible. All member states bordering the seas where the new emissions limit will apply from 1 January have now transposed the new Sulfur Directive, except Belgium.

The European Commission is finalizing with member state representatives strengthened provisions on inspections of sulfur in marine fuel through an implementing act requiring enhanced documentation checks and physical sampling of fuels, an official said. But the shipping industry, particularly in the UK, complains that the price of low-sulfur fuels remains very high as the 1 January deadline approaches.

The Commission acknowledged the “relatively limited time available to ensure compliance” but emphasized “positive signals that the markets are adapting quickly”, including falling prices for low-sulfur fuel and additional refinery capacity.

Industry also warns that the problem of discharge from ‘scrubbers’ used to clean emissions being banned in some ports has still not been resolved. Uncertainty about the legal status of scrubbers is preventing uptake, the European Community Shipowners’ Association said. The alternative is to buy the more expensive low-sulfur fuel.

The problem continues to be discussed in the European Sustainable Shipping Forum, an EU committee of industry, NGOs and national administrations. These talks are aimed at providing legal certainty to ship-owners, the Commission official said.

“There has been also an increasing demand from those ship operators which have invested so as to be ready for compliance, that regulators ensure appropriate monitoring and enforcement of the Directive to avoid distortion of competition,” the official added.

6. EU Provisionally Agrees to 2018 Emissions Reporting Requirement for Ships in Port

Beginning in 2018, ships docking in European Union ports will be required to record and report their greenhouse gas emissions, under an EU regulation provisionally adopted by negotiators from the European Parliament and the EU Council. The measure, which was informally agreed to on November 18th and is subject to ratification, would apply to vessels weighing over 5,000 gross tons, irrespective of their country of origin. According to the commission, the 5,000 gross-ton cutoff point would mean that about 55 percent of ships entering the EU would be covered. Ship owners would have to report their ships’ emissions for journeys starting or ending in EU ports.

The measure doesn't include any obligation for greenhouse gas emissions from shipping to be cut but is seen as a preparatory step to possible implementation of emission reduction measures for ships, such as potential eventual inclusion in the EU emissions trading system (ETS).

The regulation was proposed by the European Commission in June 2013. The European Parliament's Environment Committee will vote on the informal agreement on December 3rd; if approved, it will still have to be ratified by a plenary session of the parliament and by EU member states in the EU Council.

The European Commission previously considered inclusion of shipping in the EU ETS, but it opted for emissions monitoring and reporting after warnings from the International Maritime Organization that inclusion could put at risk international measures to control shipping emissions. The commission also wanted to avoid a repeat of the international disagreement about inclusion of aviation emissions in the ETS, which ultimately resulted in the EU backing down and granting
an exemption for intercontinental flights, pending an International Civil Aviation Organization decision on emissions-cutting measures.

MEPs backed down from their demand that the scope of the law be widened through a lower threshold for inclusion of 400GT. A request by the European Parliament’s environment committee to also include monitoring of air pollutant NOx in addition to CO2 was already overturned in a Parliament plenary vote in April.

The agreed text requires the Commission to review the regulation in the event that an international agreement to cut shipping emissions is reached at the International Maritime Organization.

The European Commission will also have to carry out biennial assessments of the sector’s impact on global greenhouse gas emissions. The Commission tabled the proposal in 2013 because international talks to reduce shipping emissions had failed to make progress. The legislators have simplified the Commission’s proposal to minimize administrative burden on companies, and strengthened enforcement provisions, parliamentary sources said.

The agreement was reached after two rounds of negotiations, which MEP José Inácio Faria (ALDE), who led the Parliament’s negotiating team, described as “difficult”. He added that the law was likely to “encourage the adoption of new technologies and operating measures to improve ships’ fuel efficiency”.

7. Rotterdam to Tackle Air Pollution, Ban Old Cars from City Centre

Rotterdam council plans to improve the city’s air quality and has drawn up a €12m package of measures which locals will be asked to approve, Dutch media has reported. The plans include getting rid of polluting cars and slashing pollution levels. In addition, the council’s own fleet of vehicles will be overhauled to reduce its pollution rate by 25%. The council is also considering financially rewarding owners to get rid of polluting cars. In addition it suggests that no more parking permits will be given for diesel vehicles built before 2005 and petrol-driven cars predating 1992. More charging stations will be built for electric vehicles and there will be better bike facilities. The council also wants to ban lorries from the city’s most polluted road and a major highway that leads to the Maas tunnel. Transport organizations have already criticized the lorry ban proposal, saying it will force freight firms to use longer, more expansive routes, the Financieele Dagblad reports. Research shows Rotterdammers live three years less than the average Dutch national, which is partly due to road pollution. Utrecht and Amsterdam have already taken steps to reduce the number of polluting cars in their city centers.

8. Germany’s Bundesrat Criticizes Target for Electric Cars as ‘Not Realizable’

Germany’s upper house of Parliament, the Bundesrat, has criticized the government’s strategy of promoting electric vehicles in the country, calling its target of having 1 million e-cars on the road by 2020 “not realizable” under the current program. It also said a new bill intended to boost sales of such cars through tax incentives and financial breaks will not increase demand, according to a November 7th opinion on the bill.

The E-Mobility Act, if passed in its current form, would give municipalities the power to abolish parking fees and car access restrictions for electric cars in areas with noise and air pollution limits. The German Cabinet adopted the measure on September 24th, but it must still be approved by Parliament.
The Cabinet is expected to consider the Bundesrat's comments in the next few weeks before the measure goes to Germany's lower house, the Bundestag, for debate.

Analysts have criticized the government's strategy for promoting the purchase and use of electric vehicles, calling it uncoordinated and underfunded.

Germany's National Platform for Electromobility (NPE) however claims that despite limited progress so far, the country can still realize its goal of having 1 million electric vehicles on its roads by 2020. Germany has just 24,000 e-vehicles on its roads now—less than a quarter of its 2014 goal of 100,000—said the December 2\textsuperscript{nd} report by the NPE, comprised of seven working groups. It noted that 17 German e-vehicle models are being produced, and said the country could meet its 2020 goal by “removing everyday hurdles,” letting drivers charge cars at work, and building 70,000 public AC charging stations and 7,100 DC stations. In a December 2\textsuperscript{nd} statement, Minister for Economics and Energy Sigmar Gabriel and Minister for Transport Alexander Dobrindt said Germany would build 400 charging stations at highway rest areas. And on September 24, the German Cabinet adopted the E-mobility Act to introduce tax and financial incentives for electric vehicles.

9. EEA Warns Of Gap to ‘Safe’ Air Pollution Levels

Over 90\% of European city dwellers continue to be exposed to air pollution above levels deemed safe by the World Health Organization (WHO), according to an EU report. Most air pollutants are on a downward trend, including particulate matter and ozone, the European Environment Agency (EEA) said. But nitrogen dioxide has not fallen as fast as expected; this is thought to be partly because vehicle emission standards have not always led to the anticipated reductions.

The EU’s long-term policy goal is to meet the WHO guideline levels for human health, which are more stringent than EU target levels. For example, the EU annual mean limit for coarse particulates (PM10) is 40 micrograms per cubic meter, but the WHO guideline is half that.

A package of measures proposed by the last European Commission in December 2013 aimed to “set a pathway” towards meeting the WHO guideline levels, including measures that would improve health outcomes by a third and halve eutrophication by 2030. But the new Commission is considering whether to carry these proposals forward, in a move that has been criticized.

The EEA reports that 14\% of the EU urban population lives in areas where the EU ozone target value threshold for protecting human health was exceeded in 2012. But under WHO guidelines this rises to 98\% of the population. The sustained ambient levels of ozone are affecting vegetation growth and crop yields.

The agency also warns that emissions of benzo-a-pyrene (BAP), an indicator for polycyclic aromatic hydrocarbons, grew by 21\% over 2003-12 as urban use of woodstoves and biomass heating increased. In 2012 almost 90\% of city dwellers were exposed to benzo-a-pyrene concentrations above WHO guideline levels.

The EEA describes exposure to benzo-a-pyrene as “significant and widespread” especially in central and eastern Europe. As much as 88\% of the EU urban population is exposed to concentrations above the WHO guidelines and 25\% above EU limits.

10. MEPs Asked To Block Fuel CO2 Law
MEPs will vote next month on a proposal to block implementing rules for the Fuel Quality Directive (FQD), which the objectors say undermine the EU’s goal of reducing greenhouse gas emissions from transport. Bas Eickhout and Gerben-Jan Gerbrandy of the Green and ALDE groups have tabled an objection to the European Commission’s proposal on calculating the greenhouse gas intensity of fuels under the FQD.

The support of MEPs from other political groups will be needed for the objection to be carried at a vote in the European Parliament’s environment committee on 3 December. In a debate, members of the S&D and EPP groups indicated they do not approve of some elements of the Commission proposal but have yet to decide a firm position. “Many MEPs in the committee would be concerned if the EC proposals were rejected altogether, but there is an appetite to have changes made,” one Parliament source said.

But the Parliament only has the power of veto over the proposal and cannot propose specific changes. If the environment committee vote is carried the objection would go forward for a plenary vote next year. A negative plenary vote would block the proposal.

The objection is based on the fact that the Commission proposes using an average emissions factor for fuels, rather than differentiating between the greenhouse gas intensity of different feedstocks or requiring the reporting of fuels’ actual emissions.

That means fuels could be derived from highly polluting tar sands, shale oil, heavy crude, and liquids produced from coal and gas but this would not be accounted for. The MEPs also object to the fact that the Commission proposal does not contain a review clause. They say the proposal is a sop to the Canadian government and its oil industry, which have lobbied against EU measures to restrict the use of tar sands.

Member states are also currently negotiating the Commission proposal in talks led by the Italian EU presidency. They failed to reach agreement on a previous implementing law in 2012. The latest Commission proposal is significantly weaker than the 2012 text.

11. Russia's Environmental Watchdog Blames Moscow Refinery for Air Pollution

Russia's environmental watchdog, Rosprirodnadzor, has noticed an increase in air pollutants to above permitted levels in Moscow coming from the area of the local region's oil refinery, the ministry for natural resources said recently. It alleged that the air near the plant was contaminated with cumene, or isopropylbenzene, a colorless liquid used mainly to produce phenol and acetone.

However, Gazprom Neft, the oil producer which controls the refinery on the south of Moscow, denied the allegations. "Isopropylbenzene is not used in the Moscow refinery production ... The Moscow refinery cannot be the source of the air pollution by these substances," the company said in a statement.

An unpleasant smell was noticed in some parts of the city recently and an official with Moscow's Emergency Ministry was also quoted earlier by the Interfax news agency as saying that a malfunction at a Moscow refinery was to blame.

12. Russia Raises Penalties for Environmental Damage

Russia will impose stiffer penalties on business that cause environmental damage beginning January 1, 2015. Decree No. 1219, released on November 24th, stipulates that in 2015 penalties
for businesses that cause air pollution, water pollution, or environmental damage associated with liquefied natural gas or compressed natural gas will essentially double—increasing 1.98 times—compared with the level set forth by Decree No. 344, dated Jun. 12, 2003. Penalties then will rise 2.56 times in 2016 and up to 2.67 times in 2017, the Russian government press-service said in a statement.

13. Latvia Seeks Deals on ETS Reform, Industry Emissions

The incoming Latvian presidency of the EU Council aims to reach agreements on the reform of the EU emissions trading scheme (ETS) and pollution limits for medium combustion plants.

When it takes the helm in January, Latvia will need to broker a deal among the member states for a position on the market stability reserve (MSR), which aims to reduce surplus allowances in the ETS. The European Parliament’s environment committee will vote on its position in February.

Countries are still divided on key issues including a start date and a review. Fourteen member states forming the Green Growth Group called for a swift adoption of the MSR and said a majority of them favor an early start in 2017.

The Council has adopted a position on a draft law setting air pollutant emission limits for medium combustion plants. But negotiations will not start until the Parliament has finalized its position with a vote expected in April.

Latvia recently presented the environmental priorities of its six-month Council presidency to the environment ministers. It plans to put the mid-term review of the EU’s 2020 strategy for growth on the agenda of the next Environment Council meeting in March. Work will also continue on-going international talks, including preparations for the UN climate conference in Paris in December.

Latvia takes over from Italy, which negotiated agreements on reducing plastic bags and on the member states’ right to ban genetically-modified crops in their territory. EU leaders also set the bloc’s 2030 climate and energy targets under Italy’s watch.

Environmental NGOs urged Latvia to focus on “defending EU environmental policy-making from the Juncker Commission’s deregulation agenda”. The European Environmental Bureau called on the presidency to insist that negotiations on new air quality and waste laws continue on the basis of proposals already on the table instead of replacing them.


On December 16th, the European Commission said it will withdraw draft European Union legislation on air quality and waste to review them and re-propose legislative texts that are at least equally “ambitious.” The commission, the EU's executive arm, gave few details but said that the proposals could be revised to be more focused on promoting economic growth and employment in the 28-country bloc.

One draft law slated for withdrawal revises the 2001 EU National Emissions Ceiling Directive (NEC Directive, 2001/81/EC), which the commission originally published in December 2013. The second draft directive would have amended a number of laws on waste, including by introducing a 70 percent recycling target for 2030.
The withdrawals of the proposals were included in the commission's 2015 work program, the first work program prepared by the commission under Jean-Claude Juncker, a former prime minister of Luxembourg who took over as European Commission president on November 1st.

Juncker’s deputy, Frans Timmermans, presenting the work program to the European Parliament on December 16th, said that the withdrawals of the air and waste proposals would be discussed with lawmakers before being confirmed. Timmermans said that the waste proposals would be revised and re-published during 2015 but didn't give a date for publication of revised proposals for the NEC Directive. The NEC Directive sets limits for each EU member state on emissions of ammonia, nitrogen oxides, non-methane volatile organic compounds and sulfur dioxide.

On the waste proposals, Timmermans said “we are going to have an overhaul of the waste package to make it complete for the circular economy.” The revised waste proposals would be “broader and more ambitious,” he added.

On the NEC Directive, Timmermans said that the commission wanted to link it better with EU plans for greenhouse gas emission reductions through 2030. EU leaders have agreed that the bloc should reduce greenhouse gas emissions by 40 percent by 2030 compared to 1990, but the details of how the reduction will be achieved haven’t been agreed upon.

“We will not lower our ambitions” for either the air or waste proposals, Timmermans said.

The Commission could face difficulties in securing the agreement of EU member states and European Parliament lawmakers for the withdrawal of the proposals. Environment ministers from 11 countries, including France, Germany and Italy, wrote to the Commission on December 1st saying that negotiations on the air and waste proposals had already started in the European Parliament and EU Council, which represents the governments of member states. The environment ministers also expressed concerns that the delays sent a “negative signal” about Europe’s ambition to curb climate change and were at odds with a push for growth. Environment Minister Gian Luca Galletti of Italy, holder of the rotating EU presidency, summing up a debate of the 28 member states, said a majority of ministers believed legislation on waste was an “absolute priority”.

Galletti had just returned to Brussels from U.N. talks in Lima, which made only modest progress towards a new global deal on climate change, meant to be reached in Paris at the end of 2015. He said the withdrawal of the draft law on waste in particular "would be contrary to what we did in Lima". "It would certainly not help the road to Paris," he said.

Britain, nervous over the rise of Euroscepticism, was a lone voice in support of the Commission's work plan. David Lidington, Britain's Europe minister, issued a statement saying he welcomed the aim to scrap "a number of costly and unnecessary draft laws" and it would help business.

Environment Commissioner Karmenu Vella said he agreed with ministers that green technology and recycling could spur growth, but the Commission would next year propose a more effective plan than the one put forward by its predecessor.

Critics counter there is no logic in starting an already lengthy process from scratch.

Greater recycling and resource reuse would create green jobs, while tighter controls on air pollution would reduce public health care costs and lost working days, the letter from the environment ministers said. It added that the European Parliament and the Council of the EU,
which represents member state governments, have started negotiations on the air and waste packages.

Vella, speaking at a December 1st conference organized by advocacy group, the European Environmental Bureau (EEB), offered some reassurance to environmental groups and lawmakers concerned by the review of air and waste policies. The aim of the review was “increasing the environmental standards while reducing the administrative burdens,” Vella said. “There is no intention to weaken any environmental regulation.” He added, however, implementation of current EU environmental legislation in some countries was poor and “adding layer upon layer of environmental legislation could be economically unproductive.”

Danish environment minister Kirsten Brosbøl, though not a signatory to the ministers’ letter, also supported maintenance of the air and waste proposals. Also speaking December 1 at the EEB conference, she said the air and waste packages were “exactly what we need for the EU to move to a circular economy and cleaner production.” She added that she was “confident” that the air and waste packages would not be replaced by weaker standards because of opposition from some member states and the European Parliament.

Some members of the European Parliament are also calling on the Commission to go ahead with the waste and air law. “Over 600,000 deaths across the EU are attributed to poor air quality annually,” Fredrick Federley a Swedish politician from the Group of the Alliance of Liberals and Democrats for Europe told reporters. “The European Commission has a moral responsibility not to withdraw measures that could improve this appalling situation.”

The 2015 work plan contains 23 new measures to be introduced in 2015, including a framework for an ‘energy union’. A much longer list of proposals tabled by previous Commissions will be withdrawn or amended to focus on major priorities set out in the new Commission’s ‘jobs and growth’ agenda.

A proposal to strengthen organic farming rules was given another six months for lawmakers to find agreement, rather than being scrapped. The Energy Taxation Directive will be withdrawn.

NGOs condemned the Commission’s decisions on the two environmental packages as a “colossal strategic blunder”. They noted that it is now unclear whether talks on the NEC Directive can continue before the legislative proposals on climate and energy for 2030 are finalized. Pieter de Pous of European Environmental Bureau said withdrawing the circular economy package on the grounds that there is no foreseeable agreement just six months after it was published represents a “mind-blowing” waste of resources.

A position on designating the Baltic Sea as a Nitrogen Oxide Emissions Control Area will also be scrapped.

15. Ministers Want Weaker Combustion Plant Pollution Limits

EU environment ministers have agreed to weaken emission limits and provide more flexibility to operators of medium-sized combustion plants. They also want to exempt a range of plants from compliance, including refineries and other installations already covered by the Industrial Emissions Directive, and plants located on remote islands.

The new emission limits would apply as a general rule from 2025 for existing plants larger than 5MW while smaller ones would have until 2030 to comply, with complex transitional arrangements
mooted. The position also contains a last-minute amendment allowing member states to exclude plants above 5MW providing steam or hot water for public district heating until 2030.

The European Commission’s original proposal seeks to bridge a legislative gap by limiting air pollutant emissions from plants with a thermal input of 1-50MW.

Environment commissioner Vella regretted that member states had weakened “several substantive provisions”. Several countries shared his view and said they expected the draft law to be improved during negotiations with the European Parliament. The Dutch and Czech ministers said the position would scarcely reduce emission for another fifteen years while the German minister said he was “far from happy with the level of ambition” and would have preferred tighter limits.

Others said some of the emission limits remained too stringent. Finland and Denmark voiced concerns about the impact on the use of biomass while Estonia said the particulate matter values will restrict its use of domestic gas from shale oil, with implications for energy security.

The agreement follows months of negotiations to accommodate a wide range of views among member states. It will serve as the basis for the incoming Latvian presidency to negotiate a deal with MEPs.

**16. A Plan to Limit Cars (Especially Diesels) in Paris Generates Debate**

The mayor of Paris has proposed banning certain high-emissions vehicles, particularly those that run on diesel, from the city center by 2020. Praised by public health officials, the plan has been called elitist by its critics.

When the mayor detailed plans to ban diesel and other vehicles from the center of Paris by 2020, she framed the measures as a public health imperative in a country that has grown increasingly worried about the quality of its air.

But if passed by the City Council after debate in February, the proposals could also keep a large portion of vehicles out of parts of the city center.

The measures would be among the most far-reaching in Europe for reeling in the harmful particulates from diesel fuel and high-emission vehicles that burden its cities.

Yet even as the proposals were praised by public health officials, they raised questions about whether the mayor, Anne Hidalgo, is catering to the interests of elite city dwellers who dislike traffic over the needs of lower-income Parisians — people who live on the edges of the city and whose cars probably would not pass stricter environmental controls.

“The language chosen by the mayor of Paris to talk about her antipollution plans has the air of being more of a war against automobile owners rather than an ecological battle for the capital,” wrote Le Figaro, a right-leaning newspaper.

The city has already had its share of alarming pollution peaks, including one last March, when pollution was so severe that the city offered free rides on subways and buses for three days to help clear the air amid public health concerns, particularly for the elderly, pregnant women, young children and those with respiratory ailments. The World Health Organization has said that diesel exhaust causes lung cancer, and some experts say it is more carcinogenic than secondhand...
smoke. A 2005 European Commission study cited by City Hall said an estimated 40,000 people in France die prematurely from fine particle air pollution each year.

France has one of the highest concentrations of diesel cars in Europe. According to the European Automobile Manufacturers Association, 53.3 percent of new car registrations in Western Europe in 2013 involved diesel power.

Under the Paris proposals, only vehicles with low-particulate emissions would be allowed on some of the capital’s main boulevards, while large areas in the city center would be off limits to vehicles other than local residents’ cars, taxis, buses, emergency or delivery vehicles; trucks and tourist buses would be restricted in some areas.

Christophe Najdovski, Paris’s deputy mayor in charge of transport and a member of the Green Party, said the health threat posed by air pollution affected all Parisians, and he rejected criticism that the measures were elitist. The city, he noted, recently voted to slash the price of monthly transit passes for zones outside the city as an incentive for those living outside the center to leave their cars at home. The rapid transit system, however, does not operate 24 hours a day.

During a peak last December, the air pollution in Paris was so dense that breathing its air was akin to inhaling secondhand smoke in a 20-square-meter room in which eight smokers were puffing cigarettes, Mr. Najdovski said, citing a study from the National Center for Scientific Research and Airparif, an organization that monitors air quality in Paris.

The latest plans are part of a continuing effort by local authorities to make Paris more pedestrian friendly by reducing the number of cars. Already, electric cars and recharging stations pepper the
city. The city’s popular Vélib bicycle rental program, through which residents can rent a sturdy bicycle from hundreds of public stations, is popular and a forerunner to bike-sharing programs in New York and other cities.

Benoît Hartmann, a spokesman for France Nature Environnement, an environmental defense group that supports Ms. Hidalgo’s plan, noted that such transportation alternatives were available for everyone. “This isn’t an elitist measure reserved for the rich,” he said.

Nevertheless, opponents of the diesel car ban say it smacks of hypocrisy given that, until recently, policy makers in France and across Europe were extolling diesel cars as cleaner and more fuel efficient compared with gas-guzzling vehicles, emitting less carbon dioxide per kilometer. The promotion of diesel fuel has been especially notable in France, where it is less expensive than unleaded gas.

Stephen Joseph, chief executive of the Campaign for Better Transport in London, an environmental group, said that governments across Europe had helped create a generation of hazardous cars and were now being forced into an urgent about-face. “The science on the effects of air pollution on health, and in particular the hazards posed by diesel cars, is hardening up,” he said.

In proposing a raft of anti-pollution measures, Hidalgo is building on the efforts of her predecessor and mentor, the former Paris mayor Bertrand Delanoe. He championed bike and car rental schemes, expanded bus and bicycle lanes, and reduced speed limits, as he sought to wean Parisians off cars in a bid to make the city more livable.

Some 84 percent of Paris residents see fighting pollution as a priority and 54 percent supported a diesel ban in the city by 2020, according a poll of 804 people carried out by Ifop for the Journal de Dimanche. "Today 60 percent of Parisians already do not have cars, compared with 40 percent in 2001. Things are changing quickly," said Hidalgo.

Next year, the government will launch a car identification system that will rank vehicles by the amount of pollution they emit, Prime Minister Manuel Valls said in a speech. This will make it possible for local authorities to limit city access for the dirtiest cars. “In France, we have long favored the diesel engine. This was a mistake, and we will progressively undo that, intelligently and pragmatically," Valls said. About 80 percent of French motorists drive diesel-powered cars.

Valls said taxation would have to orient citizens toward more ecological choices, notably the 2015 state budget measures to reduce the tax advantage of diesel fuel versus gas. The government has announced it will raise the so-called TICPE excise tax on diesel by 2 euro cents per liter, bringing in 807 million euros to state coffers in 2015.

Valls also said the government was working on plans to widen the number of beneficiaries of a subsidy for the conversion of old diesel engines in areas with anti-pollution plans. Energy Minister Segolene Royal announced earlier this year that drivers scrapping diesel-powered cars to buy an electric one would be entitled to a bonus of up to 10,000 euros ($13,500).

17. UK Motor Industry Wants To See London 2020 ULEZ Include All Vehicles, All Fuels

The UK motor industry has written an open letter to the London Mayor calling for a rethink on the proposed 2020 Ultra Low Emissions Zone (ULEZ) plan. Transport for London (TfL) and the Mayor
are engaged in public consultation over plans for the ULEZ until January 2015, which mainly focusses on diesel vehicle emissions.

The Society of Motor Manufacturers and Traders (SMMT) said it welcomes the ULEZ plans in principle, but in the open letter Mike Hawes, Chief Executive of SMMT, asked to include all "latest European emission standards [Euro 6/VI] across all vehicle classes regardless of fuel type." Mr. Hawes added, this would "accelerate improvements in air quality for all Londoners, safeguard jobs in the capital and ensure the ULEZ is simple to understand and endorse."

Current ULEZ proposals allow 2006-standard Euro 4/IV petrol vehicles to be operated in London, while diesel vehicles need to comply with 2014-standard Euro 6/VI.

18. B-Class Electric Drive Reduces CO2 Emissions by As Much As 64 Percent

Locally emission-free, significantly more eco-friendly over its complete life cycle thanks to 64 percent lower CO2 emissions than the equivalent B 180 petrol model, generous in terms of space and range (200 km) and still dynamic on the road (output of 132 kW): the B-Class Electric Drive is a convincing proposition in all sorts of ways according to its developer Daimler AG. Its high environmental compatibility has been confirmed by the inspectors at the TÜV Süd technical inspection authority, who have awarded the electric-drive Sports Tourer from Mercedes-Benz the environmental certificate in accordance with ISO standard TR 14062. This certification is based on a comprehensive life-cycle assessment of the B-Class Electric Drive, documenting every detail of relevance for the environment.

Mercedes-Benz analyses the environmental compatibility of its models throughout their entire life cycle – from production, through their years of service, to recycling at the end of their lives. Over its entire life cycle, comprising production, use over 160,000 kilometers and recycling, the B-Class Electric Drive produces emissions of CO2 that are 24 percent (7.2 tonnes – EU electricity mix) or 64 percent (19 tonnes – hydroelectricity) lower than those of the B 180 – despite the higher emissions generated during the production process. This is due primarily to the exceptional efficiency of the electric motor, which gives rise to significant advantages during the use phase. One key factor here is its energy management system: the optional radar-based regenerative braking system, for example, ensures the optimal recuperation of braking energy back into the battery. This further enhances the efficiency of the drive system and enables even greater ranges.

CO2 emissions during the use phase depend upon the method used to generate electricity. In 160,000 kilometers of driving use, the new B-Class Electric Drive (NEDC combined consumption from 16.6 kWh/100 km) produces 11.9 tonnes of CO2, assuming use of the EU electricity mix. When electricity generated by hydroelectric means is used to power the electric vehicle, the other environmental impacts relating to electricity generation are also almost entirely avoided. The B 180 (NEDC combined consumption 5.4 l/100 km) on the other hand emits 23.8 tonnes of CO2 during the use phase.

19. EU Seeks To Reduce Marine Sulfur to 0.1%, Invests €2.5m on LNG Terminal in Germany

The European Union’s TEN-T programme will invest almost €2.5 million for studies and pilot construction of an LNG terminal in the Port of Bremen, Germany. European regulations require the shipping sector to reduce marine sulfur emissions in the North Sea to 0.1% as of 1 January 2015. One of the ways to reach this objective is to use cleaner fuel such as LNG. This project responds to the TEN-T programme goal to provide publicly accessible LNG refueling facilities in
all main European ports by 2030, leading to improved market acceptance and availability of LNG as an alternative fuel.

The project features a study and pilot construction of a flexible, multi-modal LNG terminal that could provide a reliable supply of LNG to maritime, road and rail users in a geographical area of approximately 300 – 400 km. It covers planning, design and engineering, as well as the construction and operation of an LNG filling station. While the initial size will be relatively small, the flexible approach ensures that effective market demand can be accommodated by enlarging the facility at a later stage.

Simultaneously, the availability of low sulfur bunker fuel is expected to improve in northwest Europe with BP and Totsa resuming loadings in Rotterdam and Antwerp, according to traders. Rotterdam bunker suppliers have been out of stocks of LSFO recently as BP, the only LSFO supplier left in Rotterdam, had off-spec material in its tanks. LSFO supply was dry but traders have reportedly heard that BP had tackled the off spec problem and will start to supply soon.

20. Risks of Extreme European Summer Heat Waves Rise Sharply: Study

The chances of extremely hot summers in parts of Europe have risen tenfold this century because of man-made global warming, a study by British scientists said. Average summers in an area covering Central and Mediterranean Europe have warmed considerably, far faster than the global average and adding to risks of severe heat waves, according to the study in the journal Nature Climate Change.

The report, released during United Nations talks in Lima on a deal to combat global warming, said the rising heat meant an extremely warm summer, which had been expected once every 50 years in the early 2000s, could now be anticipated every five years.

The study defined an extreme summer as one that is 1.6 degrees Celsius (2.9 Fahrenheit) above the average for 1961-90. In the last decade, average summers in Europe have warmed by 0.81 degree C, it said.
"Our vulnerability to heat extremes is rapidly changing, and we expect that to continue," study co-author Peter Stott of the British Met Office Hadley Center said in a statement.

The U.N.'s weather agency said last week that world temperatures this year were on track to be the hottest, or among the very warmest, on record.

Stott led a study in 2004 that concluded man-made global warming had doubled the risks of an extreme heat wave like one that struck Europe in 2003. That hot spell, believed to be the most severe in 500 years, killed about 70,000 people, hitting France hardest.

Since the early 2000s, chances of such a heat wave had risen to about one in 100 years from about one in 1,000, the new study said.

21. EU Committee Puts Canadian Tar Sands Label Back; Full Parliament Demurs

Europe moved a step back towards a plan to stigmatize Canada's tar sands as highly polluting, despite years of Ottawa's lobbying the EU bloc as part of its export drive when European Parliament lawmakers voted in Committee against the EU executive's proposal to abandon the scheme.

In October, the executive Commission published a new plan for reporting the greenhouse gas intensity of transport fuels, which removed a requirement to have separate values for different types of oil. That meant tar sands, also known as oil sands, would no longer have to be differentiated from conventional crude, with lower overall greenhouse gas emissions, and that it would make it much easier for the unconventional oil to reach the European market.

Canada and representatives of the oil industry have said unconventional oil has a valuable role in diversifying EU supplies and that Canada's deposits of oil sands, being developed by oil majors such as ExxonMobil, BP and Royal Dutch Shell, were being unfairly singled out by the original EU plan. Environmentalists and some politicians cited research findings that over its life-cycle oil sands crude emits more carbon dioxide because of the amount of energy required to separate the crude from the bituminous deposits in which they are found.

However, the proposal to veto implementing rules for the Fuel Quality Directive was rejected in the Parliament. The final vote was 337 in favor of the veto, with 325 against and 48 abstentions. It needed 376 votes to pass.

22. Dutch Car Tax Regime Leaves Germany Far Behind in Curbing CO2 Emissions

The Netherlands had the lowest CO2 emissions from new cars in the European Union last year, thanks to its tax regime favoring fuel economy and low-carbon vehicles. Germany and Poland are among the countries with the highest CO2 emissions from new cars and the weakest national tax policies, a report by NGO Transport & Environment has found.¹

Cars are responsible for 15% of Europe's total CO2 emissions and are the single largest source of emissions in the transport sector.

¹ ‘How clean are Europe’s cars 2014’
The best performing countries in T&E’s Green Car Tax ranking, such as the Netherlands, Denmark and France, had vehicle registration and company car taxes that incentivized buyers to pick low carbon vehicles.

But car taxes pinned to CO2 emissions in many EU countries have skewed the market in favor of diesel, with diesels now representing about half of all new cars sold in the EU. Besides lower fuel duty, diesels emit about 15% less CO2 than petrol cars.

But the lowest emissions are found in countries with the lowest share of diesels, such as Denmark and the Netherlands. That dispelled the myth that increasing diesel cars in national fleets is needed to comply with CO2 emissions laws, according to T&E, which branded them a major cause of urban pollution. Only one new Dutch car in four is a diesel, and one in three new Danish cars are diesel because both countries have taxation surcharges on the fuel.

In 2013, the Netherlands achieved the lowest CO2 emissions from new cars of all 28 EU countries at 109 g/km. It also shows the second best overall reduction across Europe since the introduction of binding CO2 limits for new cars in 2008, at 30.4%.

Germany’s 2013 average CO2 emissions from new cars was 136.1 g/km, by far the worst performer of the EU15. The largest European car market, with almost three million new cars registered in 2013, does not have a significant car registration tax, T&E said. Annual circulation taxes in Germany were too weak on CO2 emissions to have any significant effect on consumer choice, T&E said.

Greg Archer, clean vehicles manager at T&E, said: “This report shows that effective vehicle and fuel taxes can drive the market for lower carbon, fuel efficient vehicles and avoid the air pollution caused by high number of diesels. By graduating company car and registration taxes strongly with CO2 emissions, and taxing diesel vehicles and fuel at a higher level than gasoline cars, both CO2 and air pollution emissions can be sharply reduced.”

The Netherlands also has a strong differentiation against CO₂ emissions of the taxation of ‘benefit in kind’ payments for company cars, which were further revised downwards in 2012.

The EU’s first obligatory rules on carbon emissions require car manufacturers to limit their average car to a maximum of 130 grams of CO2 per kilometer by 2015, and 95g by 2021.

Car manufacturing countries were also offering huge subsidies for the private use of company cars, said Archer. This encouraged the use of larger, more polluting cars. “Governments should bring an end to these polluting handouts by increasing company car tax,” he said.

The Organization for Economic Co-operation and Development ranked Germany third highest among its members for its company car subsidies. Belgium was the worst OECD member, followed by Portugal. "Environmental outcomes across the OECD would be greatly improved by ending the undertaxation of company cars, particularly the distance component," it said.
The benefit-in-kind for a German company car is at 12% of the car price per year, and is not graduated for CO2. On top of that, the federal government promotes a labelling scheme so counterintuitive that it rates a 191g/km Porsche Cayenne the same as a 114g/km Citroen C3, T&E said.

Key points of the report include:

- Green Car Tax rating highlights EU countries with the most and least supportive tax arrangements to encourage low-carbon, fuel efficient cars.
- Initial registration taxes (purchase taxes) and company car taxes that are steeply differentiated by CO₂ boost the purchase of lower-emissions cars in the Netherlands, Denmark and France.
- Germany, Poland, Czech Republic, Sweden, Finland and Austria amongst the countries with the highest CO₂ emissions from new cars and weakest national tax policies.
- Current vehicle and fuel tax policies in most countries skewing the market in favor of diesels, exacerbating air pollution problems associated with them.
- Lowest emissions found in countries with the lowest share of diesels (Netherlands, Denmark and Japan) dispelling the myth that dieselization (higher number of diesel cars in the fleet) is required to achieve CO₂ laws.
- Countries failing to encourage fuel efficient vehicles must import more oil harming growth and job creation as money pours out of the economy.

In 2013, the average CO₂ emissions from all new cars across the EU (as measured by the official test) was 127g/km, a 4% reduction on 2012. On average, therefore, the 2015 target has already been met two years ahead of schedule. Five out of seven European carmakers are on track to meet their 2021 targets if they keep progressing as they have since the introduction of the law in 2008.
However, official data must be taken with a pinch of salt since only half of the measured improvement in test results is being realized on the road. This is because there is a steeply widening gap (now 31%) between the official test and real-world CO2 fuel economy.

Cars are responsible for 15% of Europe’s total CO2 emissions and are the single largest source of emissions in the transport sector.

23. EU Ministers Finalize Legislation on Shipping Emissions

A majority of European Union member states on December 17th ratified bloc-wide rules on the monitoring and reporting of maritime emissions, overruling the objections of some Mediterranean countries with significant shipping interests.

Meeting in Brussels, environment ministers from the 28 EU countries ratified a regulation on the monitoring, reporting and verification of carbon dioxide emissions, under which ships docking in EU ports from Jan. 1, 2018, will be obliged to report their fuel consumption and a calculation of their emissions.

The rule will apply to all journeys made by ships over 5,000 gross tons to and from EU ports, irrespective of the country of ownership of the vessel.

The Council of the EU, which represents the governments of member states, said in a statement that the regulation would be “a contribution to the international negotiations at the International Maritime Organization, aimed at a global monitoring, reporting and verification system.”

The ministers' ratification confirms a November 18 informal agreement on the regulation with the European Parliament, and clears the ways for its finalization.
The regulation, which was proposed by the European Commission, the EU’s executive arm, in June 2013, does not include any obligation for greenhouse gas emissions from shipping to be cut. However, the commission said in a statement December 17 that it was “a first step to reduce these emissions at the EU level.”

But some countries said the EU rules will not help the international process.

Greece and Malta issued a statement saying that the discussions within the IMO “follow a less complex and easy to implement approach” than collecting data on fuel consumption. Some data required under the EU law is not relevant for the purpose of monitoring CO2 emissions and the focus should have been on fuel consumption and distance travelled, they argued.

Cyprus said it would have preferred a broader international MRV system. It argued that requirements to publish information on ships’ energy efficiency will require operators to disclose commercially sensitive information and distort competition.

A Polish statement stressed that “any legislative solutions should be of a global rather than a regional nature”. Poland argued that decisions in the IMO have the advantage of not risking reactive measures against unilateral EU decisions and said the agreed law will not facilitate a global agreement.

Meanwhile, Sweden, Finland and the Netherlands also issued a statement to request a ship’s ice class to be added to the monitored data to level the playing field for ships operating in cold conditions. They also want further work done on the energy efficiency calculation method.

24. One Quarter of Europeans Exposed To Harmful Noise Levels

Over 125 million Europeans are exposed to noise levels above EU guidance, causing at least 10,000 cases of premature death each year, according to the first assessment of the problem by the European Environment Agency (EEA). Noise pollution causes 43,000 hospital admissions per year and 900,000 cases of hypertension, the agency said.

The main culprit is road traffic, which is estimated to cause 89% of the resulting premature deaths, due to coronary heart disease and stroke. It is followed by railways, airports and industry.

Nearly 20 million European adults living in urban areas or near major noise sources are annoyed by the noise. Some eight million adults suffer from sleep disturbance caused by night-time noise, mainly from road traffic.

Belgium, Bulgaria and Luxembourg reported more than three-quarters of inhabitants to be exposed to road traffic noise above the EU threshold in urban areas.

The report draws on data reported by member states, but for some sources more than half of the data is still missing, the EEA said. The findings on health impacts could therefore be significantly underestimated, potentially by more than a factor of two, it added.

The World Health Organization classifies noise pollution as a major environmental cause of ill health, second only to ultra-fine particulate matter air pollution. The EU’s Environmental Noise Directive requires member states to assess exposure to environmental noise using thresholds on harmful noise levels, but it does not set binding limit values.
There is a growing body of evidence showing that wildlife may also be seriously affected by noise, but further work is needed to determine the extent, the report says.

The report recommends that city planners take greater account of noise and protect quiet areas.

Various pieces of EU legislation seek to address noise, including noise limits for vehicles, tire labelling and airport operating restrictions.

25. Truck Cab Design Deal Reached But Further Talks Loom on Details

The controversial issue of truck cab design changes to reduce fuel consumption will remain open for several more years, after MEPs and member states decided that the details of the new design should be agreed through co-decision. That means the lawmakers will negotiate the detail of the changes themselves, rather than delegating the work to the European Commission.

Lawmakers agreed that the new truck cab design rules, which are also intended to improve safety, should not come into force before 2022 to give manufacturers time to adapt. The Commission will table a proposal on the design changes in 2016.

However, rear flaps to improve aerodynamics will come in earlier, possibly by 2017, and will not be agreed through co-decision.

Under the original proposal from the Commission, supported by MEPs, the new cab design would have hit the roads around 2017. Member states had pushed for a 2025 implementation date.

Campaigner William Todts of T&E said the co-decision element of the deal was worrying as it created “a lot of room for delay and confusion”. “We’ve already seen how controversial this already is. It is perfectly possible that there will be another demand for delayed implementation,” he said.

Manufacturers have already warned that the lead-time between the expected decision on cab design details and implementation in 2022 may be too short for them. “Many of the aerodynamic and safety requirements are as yet unknown. Without knowing the technical requirements, it is difficult for the industry to conduct coherent product planning,” a spokeswoman for ACEA said.

Improved cab design and rear flaps could cut CO2 emissions from long-distance truck journeys by 7-10%.

26. Airlines Fined In Belgium Over CO2 Market Non-Compliance

Airlines including Saudi Arabia’s national carrier have been fined in Belgium for failing to comply with the EU emissions trading system (ETS); fines were issued for failure to comply with requirements for 2012, a spokeswoman for the Flemish environment ministry said.

The government intends to disclose which airlines have been fined in line with the “name and shame” provisions in the ETS Directive, but will not do so until the 2012 compliance procedure has been finalized, she added. The number of airlines fined and the amount of money are also confidential for now.

However, sources confirmed to the press that Saudia is one of the firms in question.
Other member states have also initiated proceedings against non-compliant airlines for 2012.

Saudi Arabia was one of the countries strongly opposed to the EU’s attempt to include flights to and from international destinations in the ETS. Media reports in 2012 suggested the government had instructed airlines not to comply.

NORTH AMERICA

27. US Reaches Settlement with Hyundai and Kia in Historic GHG Enforcement Case

The U.S. Environmental Protection Agency (EPA) and the U.S. Department of Justice have announced an historic settlement with the automakers Hyundai and Kia that will resolve alleged Clean Air Act violations based on their sale of close to 1.2 million vehicles that will emit approximately 4.75 million metric tons of greenhouse gases in excess of what the automakers certified to EPA.

The automakers will pay a $100 million civil penalty, the largest in Clean Air Act history, to resolve violations concerning the testing and certification of vehicles sold in America and spend approximately $50 million on measures to prevent any future violations. Hyundai and Kia will also forfeit 4.75 million greenhouse gas emission credits that the companies previously claimed, which are estimated to be worth over $200 million. Automakers earn greenhouse gas emissions credits for building vehicles with lower emissions than required by law. These credits can be used to offset emissions from less fuel-efficient vehicle models or sold or traded to other automakers for the same purpose. The greenhouse gas emissions that the forfeited credits would have allowed are equal to the emissions from powering more than 433,000 homes for a year.

“Greenhouse gas emission laws protect the public from the dangers of climate change, and today’s action reinforces EPA’s commitment to see those laws through,” said EPA Administrator Gina McCarthy. “Businesses that play by the rules shouldn’t have to compete with those breaking the law. This settlement upholds the integrity of the nation’s fuel economy and greenhouse gas programs and supports all Americans who want to save fuel costs and reduce their environmental impact.”

“This unprecedented resolution with Hyundai and Kia underscores the Justice Department’s firm commitment to safeguarding American consumers, ensuring fairness in every marketplace, protecting the environment, and relentlessly pursuing companies that make misrepresentations and violate the law,” said Attorney General Eric Holder. “This type of conduct quite simply will not be tolerated. And the Justice Department will never rest or waver in our determination to take action against any company that engages in such activities – whenever and wherever they are uncovered.”

The complaint was filed jointly by the United States and the California Air Resources Board in the U.S. District Court for the District of Columbia. It alleged that the car companies sold close to 1.2 million cars and SUVs from model years 2012 and 2013 whose design specifications did not conform to the specifications the companies certified to EPA, which led to the misstatements of greenhouse gas emissions. These allegations concern the Hyundai Accent, Elantra, Veloster and Santa Fe vehicles and the Kia Rio and Soul vehicles.

Additionally Hyundai and Kia gave consumers inaccurate information about the real-world fuel economy performance of many of these vehicles. Hyundai and Kia overstated the fuel economy by one to six miles per gallon, depending on the vehicle. Similarly, they understated the emissions
of greenhouse gases by their fleets by approximately 4.75 million metric tons over the estimated lifetime of the vehicles.

In order to reduce the likelihood of future vehicle greenhouse gas emission miscalculations, Hyundai and Kia have agreed to reorganize their emissions certification group, revise test protocols, improve management of test data and enhance employee training before they conduct emissions testing to certify their model year 2017 vehicles. In the meantime, Hyundai and Kia must audit their fleets for model years 2015 and 2016 to ensure that vehicles sold to the public conform to the description and data provided to EPA.

EPA discovered these violations in 2012 during audit testing. Subsequent investigation revealed that Hyundai’s and Kia’s testing protocol included numerous elements that led to inaccurately higher fuel economy ratings. In processing test data, Hyundai and Kia allegedly chose favorable results rather than average results from a large number of tests. In November 2012, Hyundai and Kia responded to EPA’s findings by correcting the fuel economy ratings for many of their 2011, 2012 and 2013 model year vehicles and establishing a reimbursement program to compensate owners for increased fuel costs due to overstated fuel economy.

This case involves five different entities: Hyundai Motor Company, Hyundai Motor America, Kia Motors Corporation, Kia Motors America, and Hyundai America Technical Center, Inc.

The California Air Resources Board joined the United States as a co-plaintiff in this settlement, and will receive $6,343,400 of the $100 million civil penalty.

“It's important to remember this settlement is about EPA having a robust audit process. We identified this misstatement of the fuel economy very early in the model year,” EPA Administrator Gina McCarthy said during the press conference.

The $100 million civil penalty is a record for fines brought under the Clean Air Act. The largest individual fines previously levied under the Clean Air Act were against Cummins Engine Co. Diesel Engine and Caterpillar Inc., each of which were subject to $25 million penalties, according to the EPA. The two companies were both a part of a 1998 settlement, where several diesel manufacturers were subject to a cumulative $83.5 million in civil fines for installing rigged computer chips into 1.1 million diesel trucks and circumventing air pollutant emission requirements.

Violations included testing the vehicles at temperatures intended to maximize fuel economy, using the wrong size tires on testing vehicles and testing with a tail wind, administration officials said.

28. EPA Proposes Tougher Smog Limit, Saying Health Depends On It

Based on extensive recent scientific evidence about the harmful effects of ground-level ozone, or smog, EPA is proposing to strengthen air quality standards to within a range of 65 to 70 parts per billion (ppb) to better protect Americans’ health and the environment, while taking comment on a level as low as 60 ppb. The Clean Air Act requires EPA to review the standards every five years by following a set of open, transparent steps and considering the advice of a panel of independent experts. EPA last updated these standards in 2008, setting them at 75 ppb.

"Bringing ozone pollution standards in line with the latest science will clean up our air, improve access to crucial air quality information, and protect those most at-risk. It empowers the American people with updated air quality information to protect our loved ones - because whether we work
or play outdoors – we deserve to know the air we breathe is safe,” said EPA Administrator Gina McCarthy. “Fulfilling the promise of the Clean Air Act has always been EPA’s responsibility. Our health protections have endured because they’re engineered to evolve, so that’s why we’re using the latest science to update air quality standards – to fulfill the law’s promise, and defend each and every person’s right to clean air.”

EPA scientists examined numerous scientific studies in its most recent review of the ozone standards, including more than 1,000 new studies published since the last update. Studies indicate that exposure to ozone at levels below 75 ppb – the level of the current standard -- can pose serious threats to public health, harm the respiratory system, cause or aggravate asthma and other lung diseases, and is linked to premature death from respiratory and cardiovascular causes. Ground-level ozone forms in the atmosphere when emissions of nitrogen oxides and volatile organic compounds “cook” in the sun from sources like cars, trucks, buses, industries, power plants and certain fumes from fuels, solvents and paints. People most at risk from breathing air containing ozone include people with asthma, children, older adults, and those who are active or work outside. Stronger ozone standards will also provide an added measure of protection for low income and minority families who are more likely to suffer from asthma or to live in communities that are overburdened by pollution. Nationally, 1 in 10 children has been diagnosed with asthma.

According to EPA’s analysis, strengthening the standard to a range of 65 to 70 ppb will provide significantly better protection for children, preventing from 320,000 to 960,000 asthma attacks and from 330,000 to 1 million missed school days. Strengthening the standard to a range of 70 to 65 ppb would better protect both children and adults by preventing more than 750 to 4,300 premature deaths; 1,400 to 4,300 asthma-related emergency room visits; and 65,000 to 180,000 missed workdays.

EPA estimates that the benefits of meeting the proposed standards will significantly outweigh the costs. If the standards are finalized, every dollar invested to meet them will return up to three dollars in health benefits. These large health benefits are valued at $6.4 to $13 billion annually in 2025 for a standard of 70 ppb, and $19 to $38 billion annually in 2025 for a standard of 65 ppb. Annual costs are estimated at $3.9 billion in 2025 for a standard of 70 ppb, and $15 billion for a standard at 65 ppb.

A combination of recently finalized or proposed air pollution rules – including “Tier 3” clean vehicle and fuels standards – will significantly cut smog-forming emissions from industry and transportation, helping states meet the proposed standards. EPA’s analysis of federal programs that reduce air pollution from fuels, vehicles and engines of all sizes, power plants and other industries shows that the vast majority of U.S. counties with monitors would meet the more protective standards by 2025 just with the rules and programs now in place or underway. Local communities, states, and the federal government have made substantial progress in reducing ground-level ozone. Nationally, from 1980 to 2013, average ozone levels have fallen 33 percent. EPA projects that this progress will continue.

The Clean Air Act provides states with time to meet the standards. Depending on the severity of their ozone problem, areas would have between 2020 and 2037 to meet the standards. To ensure that people are alerted when ozone reaches unhealthy levels, EPA is proposing to extend the ozone monitoring season for 33 states. This is particularly important for at-risk groups, including children and people with asthma because it will provide information so families can take steps to protect their health on smoggy days.
The agency is also proposing to strengthen the “secondary” ozone standard to a level within 65 to 70 ppb to protect plants, trees and ecosystems from damaging levels of ground-level ozone. New studies add to the evidence showing that repeated exposure to ozone stunts the growth of trees, damages plants, and reduces crop yield. The proposed level corresponds to levels of seasonal ozone exposure scientists have determined would be more protective.

EPA will seek public comment on the proposal for 90 days following publication in the Federal Register, and the agency plans to hold three public hearings. EPA will issue final ozone standards by October 1, 2015.

By itself, the standard does not require any specific action; it is meant as a science-based statement of how much ozone is safe for people to breathe. Independent, volunteer scientists who spent three years reviewing and debating published ozone research unanimously recommended that McCarthy lower the standard. But the standard’s impact is huge, since it sets the bar for future federal, state and local clean-air efforts, including those governing vehicle and industrial emissions. And it marks a major new public-health goal.

Health and environmental groups swiftly praised McCarthy for protecting the breathing public, while Texas regulators and business groups condemned her plan as a potential drag on the economy.

“As pediatricians, we can prescribe inhalers and treat asthma attacks, but unfortunately we cannot reduce the risk that ozone pollution poses to our young patients,” the 62,000-member American Academy of Pediatricians said. “The EPA’s proposed new lower standard is a step in the right direction to help limit the amount of ozone our children are exposed to on a daily basis, whether during their walk to the bus stop or their outdoor sports activity. Every child deserves the opportunity to play outside without the risk of breathing in harmful air, and pediatricians will continue advocating for clean air until we achieve that goal.”

29. Lawsuit Calls on EPA to Clean Up Lead Air Pollution Across United States

Environmental and public-health groups have filed a lawsuit challenging the Environmental Protection Agency’s failure to ensure that people across the country are protected from dangerous lead pollution in the air. The Clean Air Act requires that states must have approved plans in place to reduce lead pollution; at least six states and Puerto Rico have failed to meet that standard.

In 2008 the EPA revised 30-year-old air standards for lead, lowering allowable airborne lead levels by 90 percent to protect health and environmental quality. Under the Clean Air Act, the agency had three years to ensure that all 50 states submitted effective plans to meet the new standards; but six states - Florida, Texas, Iowa, Minnesota, North Carolina, Ohio - and Puerto Rico do not have approved plans, and the EPA has failed to keep critically important lead reductions on track.

The lawsuit is aimed at spurring the EPA to require that states have adequate plans that will cut lead pollution. “There’s no safe level of lead in our air, because lead’s highly toxic to wildlife and people — especially children,” said Jonathan Evans, toxics and endangered species campaign director at the Center for Biological Diversity. “The EPA must take decisive action to force polluting facilities to reduce or eliminate the lead pollution contaminating our communities and our environment.”

The Clean Air Act requires the agency to identify and set “National Ambient Air Quality Standards" for harmful pollutants such as lead, a neurotoxin that causes a wide range of severe health...
problems and reduces young children’s IQs. Since the phase-out of leaded automobile gasoline, most airborne lead emissions come from lead smelters, waste incinerators, utilities, lead-acid battery makers and leaded aviation fuel.

“Children and families living near polluting facilities must be protected from airborne lead poisoning threats,” said Caroline Cox, research director for the Center for Environmental Health. “Clearly we can’t rely on industry to clean up its act without oversight. EPA must act now to enforce the law and end this serious health threat to children.”

Lead is an extremely toxic element that threatens the health of children disproportionately. It disrupts their development, causing slow growth, development defects and damage to the brain and nervous system; it does not break down in the environment. Ecosystems near lead sources experience decreases in biodiversity and ecosystem production and increases in invasive species. Many scientific studies have also expressed concern about sub lethal effects of atmospheric lead on wildlife.

30. California Postpones Greenhouse-Gas Credits Auction

Hoping to inaugurate a historic link with a Canadian province in the fight against global warming, California officials were forced instead to call off a scheduled auction of carbon-emissions allowances due to technical problems. The California Air Resources Board said the carbon credits auction was postponed due to “technical difficulties.” It hasn’t yet been rescheduled.

The auction was supposed to be the first sale extending beyond California’s borders by including the province of Quebec. Carbon credits purchased in California could be used by companies to emit carbon in Quebec, and vice versa. Linking to another state is considered crucial in fighting climate change. State officials say that bringing more states and provinces into the fold will strengthen the overall fight against global warming.

The postponement was a rare hiccup for the California carbon program, which held its first auction two years ago through an elaborate computerized system.

David Clegern, a spokesman for the Air Resources Board, said there was a problem with access to the electronic auction platform. “Some participants could get in, some couldn’t, and everyone needs the same opportunity to participate,” Clegern said in an email. He said the first-time inclusion of market participants from Quebec wasn’t a factor. The auction platform is overseen by a Sacramento nonprofit called Western Climate Initiative Inc.

While the system has worked smoothly so far, the entire carbon program has come under increasing scrutiny in recent months because, starting on January 1st, motor-vehicle emissions will become part of the carbon initiative, meaning that gasoline wholesalers will have to purchase credits. That’s expected to increase gas prices, although the amount of increase is the subject of considerable disagreement.

The carbon allowance auctions, held quarterly, are at the heart of the state’s climate-change initiative. Under the rules of the so-called “cap and trade” system, more than 400 industrial users in California are subject to a ceiling on the amount of carbon they can emit into the atmosphere. The ceiling falls slightly every year. The affected industries get many of their credits for free, but have to buy the rest, either at the state-run auctions or on the open market.
The idea behind the market is to put a price on the right to emit carbon – currently about $12 a ton – in order to give companies an incentive to reduce their emissions.

The government of Quebec said the new date “will be announced as soon as possible.”

31. Two California Cities Weigh Putting Climate-Change Warning On Gas Pumps

Officials in San Francisco and Berkeley are considering what they say would be a first-in-the-nation move to require warnings about climate change to be placed at gas pumps at filling stations in the two California cities. In famously liberal Berkeley, the City Council has voted to draft an ordinance that would require labels warning consumers that burning fossil fuels contributes to climate change.

Nearby San Francisco was also considering a proposal to require labels, and the city's Board of Supervisors was due to vote on a proposed ordinance early next year despite opposition from the petroleum industry.

"Every day, people can make choices," said San Francisco Supervisor John Avalos, who sponsored a proposed city ordinance that was introduced a few weeks ago. "I think it's important that there are reminders about the choices people can make. Driving vehicles that use fossil fuels increases the carbon output and contributes to climate change."

Avalos said he hoped to work with Berkeley officials to come up with common language and that he hoped the climate-change warning labels would spread beyond the Bay Area. After the city manager prepares Berkeley's ordinance, it will be sent to a City Council committee before going to a full vote. "Just like we have on all packs of cigarettes, smoking cigarettes has been known by the surgeon general to cause cancer. We would love to see this idea spread all over the country," Avalos said.

The Western States Petroleum Association, which opposes the labels, said in a letter to the Berkeley City Council that such an ordinance "would be an illegal attempt to require compelled speech" in violation of constitutional protections.

San Francisco is still working on the language of what a label sticker, which would be placed on the gas pump hose or nozzle, would say. A public hearing on the issue will be held.

32. China, US Set Out Surprise Climate Deal

China and the US have announced climate goals agreed in private bilateral talks, in a move that could accelerate progress at the UN climate negotiations. China says it "intends to achieve the peaking of CO2 emissions around 2030 and to make best efforts to peak early". It also "intends to increase the share of non-fossil fuels in primary energy consumption to around 20% by 2030".

This is the first time China has referred to a date for peaking, albeit still an approximate one.

The US says it intends to achieve an economy-wide target of reducing emissions by 26-28% below its 2005 level in 2025 and to make best efforts to reduce its emissions by 28%. This represents a step up in ambition from its existing 17% pledge for 2020 relative to 2005. But there are likely to be battles ahead at home in delivering such a target, because the US congress is now in Republican hands after mid-term elections.
US president Barack Obama and Chinese president Xi Jinping issued the joint declaration following bilateral talks in Beijing. They “hope that by announcing these targets now, they can inject momentum into the global climate negotiations and inspire other countries to join in coming forward with ambitious actions as soon as possible, preferably by the first quarter of 2015”.

The two countries pledge their support for a “protocol, another legal instrument or an agreed outcome with legal force” under the UN climate convention. Their announcement comes three weeks before the next round of UN climate talks in Lima.

The US and China together account for 42% of global emissions. Taken together with the EU’s 40% emissions reduction target, 52% of global emissions are now covered by reduction pledges by these three blocs alone.

The reaction to the announcement from European politicians and from NGOs was generally positive. But Greenpeace said the level of ambition needed to be raised, and the announcement should “only be the floor and not the ceiling of enhanced actions”.

33. Barack Obama Tells G20 A Global Climate Change Deal Is Possible and Vital

Barack Obama has stared down both Republican hostility at home and the reluctance of his Australian G20 hosts to insist that the world can clinch a new climate change deal next year. The president used a speech on the sidelines of the G20 in Brisbane, Australia, to confirm that the US would be contributing $3bn to the Green Climate Fund that aims to help developing nations cope with the effects of global warming. And he insisted nowhere had more to lose from rising temperatures than the Asia Pacific region and Australia in particular.

“No nation is immune and every nation has a responsibility to do its part,” Obama said. “You will recall at the beginning I said the US and Australia has a lot in common. Well one of the things we have in common is we produce a lot of carbon … which means we’ve got to step up.”

In the backrooms of the G20 meeting, Australia was continuing to resist language in the official communique encouraging countries to make pledges to the Green Climate Fund, but to a rousing reception at a local university, Obama announced the $3bn US commitment.

Obama said the new funding would help vulnerable communities with early-warning systems, stronger defenses against storm surges, and climate-resilient infrastructure, while supporting farmers to plant more durable crops.

He hailed the deal he struck in Beijing, saying China’s pledge to ensure its carbon emissions peaked by 2030 was historic. “The reason that’s so important is because if China as it develops adapts the same per capita carbon emissions as advanced economies like the US or Australia, this planet doesn’t stand a chance because they’ve got a lot more people,” Obama said. “So them setting up a target sends a powerful message to the world that all countries, whether you are a developed country, a developing country or somewhere in between, you’ve got to be able to overcome old divides, look squarely at the science and reach a strong global climate agreement next year.

Obama faces domestic political challenges implementing greater curbs on greenhouse gas emissions in the US after the Republicans won control of both houses of Congress in mid-term elections last week. Mitch McConnell, who will take over as the majority leader of the Senate, has
called the China deal part of Obama’s “ideological war on coal” and signaled that Republicans would seek to ease the burden of power station emission regulations.

The Australian Prime Minister, Tony Abbott, told G20 counterparts earlier on Saturday they could raise any issue they liked during the leaders’ retreat.

Abbott has previously resisted calls to make climate change a substantive agenda item at the G20, arguing the summit should focus on economic issues including increasing global growth.

Abbott himself referred to his government’s domestic policies, including the abolition in July of Australia’s carbon pricing scheme, when he spoke at the leaders’ retreat.

Obama struck a markedly different tone in his speech to students and invited guests at the University of Queensland. “I know that there has been a healthy debate in this country about it,” the president said. “Here in the Asia Pacific nobody has more at stake when it comes to thinking about, and then acting on, climate change. “Here a climate that increases in temperature will mean more extreme and frequent storms, more flooding, rising seas that submerge Pacific Islands. “Here in Australia it means longer droughts, more wildfires. The incredible natural glory of the Great Barrier Reef is threatened. Worldwide this past summer was the hottest on record.”

The president made a direct pitch to young people in the audience, urging them to speak up in support of strong action on climate change because they deserved to inherit a clean, healthy, sustainable world. He said it was natural “that those of us who start getting grey hair are a little set in their ways” and had entrenched interests. Companies had made investments in certain energy sources, the president said, so change could be “uncomfortable and difficult”.

“That’s why it’s so important for the next generation to be able to step in and say, you know, it doesn’t have to be this way,” Obama said.

China’s vice minister of finance, Zhu Guangyao, told reporters at the G20 that China would work hard to ensure its emissions peaked before 2030. He said that if the Chinese economy developed too fast for the environment to sustain “we must make adjustments to our policies in a timely way so we can minimize the impact on our environment”.

34. EPA’s McCarthy: China Deal Won’t Affect Stringency of Power Plant Carbon Rules

The recent U.S. climate agreement with China won’t drive the stringency of the Environmental Protection Agency’s proposed carbon dioxide standards for power plants, Administrator Gina McCarthy said on November 17th. “We are not going to let what our end goal is on climate intervene in a way that's inappropriate,” McCarthy said at a forum sponsored by the Christian Science Monitor and America’s Natural Gas Alliance. “We're not shooting for outside targets. We're shooting for the target we're supposed to on the implementation of the rule.”

McCarthy said the EPA will approach its carbon dioxide rules for power plants as it would any other Clean Air Act regulations and would not allow the administration’s climate targets to dictate the rules’ requirements. No single EPA rule will be able to achieve the greenhouse gas emissions reductions necessary to meet the target, she said.

“We're implementing the individual rules and efforts under the Climate Action Plan, including the Clean Power Plan, in a way that's consistent with the underlying rules, the way we would always
do it, to try to achieve what's aggressive, that's intended under the statute, to meet our mission but to also do it in a way that's as smart as we could,” McCarthy said.

The EPA in June proposed carbon dioxide emissions standards for existing power plants, known as the Clean Power Plan. The rule would set state-specific carbon dioxide emissions rates for the power sector. Additionally, the EPA has proposed carbon dioxide standards for new power plants, those that have been modified and facilities on tribal lands and in territories. Those rules demonstrated the U.S. commitment to addressing climate change, which helped to facilitate the deal with China, McCarthy said.

Analysts have suggested that the EPA’s power plant rules alone won't be enough to reach the greenhouse gas reductions set out in the agreement and that other measures, such as regulating methane from oil and natural gas wells, also would be necessary.

35. Mexico Proposes US 2010/Euro VI Emission Standards for Heavy-Duty Engines

According to the latest policy update from ICCT, on December 1, 2014, COMARNAT, the national regulatory committee of Mexico's Secretariat of Environment and Natural Resources (SEMARNAT), approved a proposed update by SEMARNAT to existing emissions standards regulating particulate matter (PM), nitrogen oxides (NOX), hydrocarbons (HC) and carbon monoxide (CO) from heavy-duty diesel engines and vehicles, including trucks, buses and large pickups and vans.

The proposed modification of NOM-044-SEMARNAT-20061, published on 17 December in the Diario Oficial de la Federación, establishes maximum permissible emissions limits of total hydrocarbons, non-methane hydrocarbons, carbon monoxide, nitrogen oxides, and particles from the tailpipe of new motors that use diesel fuel and that are used in new vehicles with a gross vehicle weight greater than 3,857 kilograms, as well as new complete vehicles with gross vehicle weight greater than 3,857 kilograms that are equipped with these motors.

Publication opens a 60-day public comment period, after which another vote will be required in COMARNAT to finalize the standard.

The new standards would require new heavy-duty diesel vehicles sold after 1 January 2018 to meet emissions standards equivalent to those in the United States (EPA 2010) or European Union (Euro VI). The proposal to fully align with the prevailing US and European standards in 2018 will require new vehicles to be equipped with diesel particulate filters (DPFs), advanced NOX aftertreatment, full on-board diagnostic (OBD) systems, and failsafes which ensure correct operation of emissions control systems.

Mexico currently requires either US 2004 or Euro IV emission standards. An estimated 90% of vehicles comply with the US 2004 option, because most Euro IV engines are equipped with SCR systems and are more expensive than US 2004 engines. Under the new standards, the emission technology and cost of the US 2010 and the Euro VI options are expected to be comparable.

36. California Air Pollution Regulations Lead to Reduction in Air Pollution

With a specially outfitted research van equipped with sophisticated monitors for several pollutant types, Lawrence Berkeley National Laboratory (Berkeley Lab) scientist Thomas Kirchstetter and his team are studying emissions levels from diesel trucks to understand and analyze the impact of new control technologies and California air pollution regulations. “We’re measuring a range of
pollutants relevant to public health and the environment,” said Kirchstetter, an air quality scientist who also serves as an adjunct professor in UC Berkeley’s Department of Civil and Environmental Engineering. “Heavy-duty diesel trucks are major sources of nitrogen oxides, which are a precursor to the formation of ozone and particulate matter (PM) in the atmosphere, and of black carbon PM, which, according to climate scientists, contributes to global warming and regional changes in climate, such as precipitation and snow melting.”

Outdoor air pollution is linked to 100,000 premature deaths per year in the United States, according to published studies. While the U.S. Environmental Protection Agency (EPA) has set emissions standards for new engines, most trucks and buses run for several decades, so the California Air Resources Board (CARB) has sought to accelerate emissions reductions with aggressive new regulations in recent years. As a result growing numbers of heavy-duty diesel trucks in California are using two control technologies, a diesel particle filter, which removes most particulate matter, and selective catalytic reduction, which targets emissions of nitrogen oxides (NOx).

The good news is that these regulations are having their intended effect, Kirchstetter and his collaborators, Rob Harley, professor of civil and environmental engineering at UC Berkeley, and Phil Martien of the Bay Area Air Quality Management District (BAAQMD), have found. “At the Port of Oakland, we measured dramatic reductions of nitrogen oxides and black carbon PM, indicating a large degree of success which should translate into local improvements in air quality, especially as more trucks on the road use these technologies,” he said.

Between 2009 and 2013, the fraction of trucks at the Port of Oakland equipped with a diesel particle filter increased from 2 to 99 percent, and the median engine age fell from 11 to 6 years. During the same period, the emission factor (or average emission rate) decreased by 76 percent for black carbon and by 53 percent for NOx.

The researchers monitored drayage (short distance) trucks at the Port of Oakland in 2009, before a new emissions rule was implemented, in 2011 during the rule’s phase-in, and in 2013, after the rule was implemented.

California’s program of accelerated vehicle emissions reductions is especially important because fuel consumption is rising, and diesel fuel consumption is growing at an even faster rate than that of gasoline. “These new control technologies on trucks improve air quality despite increases in vehicle miles traveled and fuel consumption,” said Kirchstetter, who has been studying air pollutant emissions and controls in the transport sector for more than 20 years.

The technologies come with some trade-offs that the research team is investigating. Selective catalytic reduction can cause some trucks to have increased emissions of nitrous oxide (N2O), a potent greenhouse gas. With diesel particle filters, the catalytic oxidation process leads to increased tailpipe emission of nitrogen dioxide, NO2, which is a toxic air contaminant and is involved in the formation of ozone. While these were known side effects, the research team is measuring the amounts of these increases.

This summer Kirchstetter brought his research van to the Caldecott Tunnel, which connects Oakland to Contra Costa County, to measure emissions from a larger sampling of heavy-duty trucks. On a sunny weekday morning graduate student Chelsea Preble and undergraduate Troy Cados are in the van, having arrived at 6 a.m. to tune the instruments and catch the morning rush hour.
The equipment includes an air sampler hanging directly above the right lane, a video camera that records the truck and its license plate as it passes under the sampling location, and state-of-the-art monitors to capture several species of pollutants.

“Our measurements are very fast. We measure concentrations at a rate of one or two times a second, which is near real-time,” Preble said. “That allows us to link the emissions profile to the attributes of each passing truck, which we get from its license plate. So our methodology allows us to understand emissions changes associated with technologies.”

The team plans to return to the Caldecott next summer and again in 2017 when nearly all heavy-duty trucks will have diesel particle filters installed. CARB’s Truck and Bus Regulation applies to approximately 1 million trucks and buses operating statewide.

“Our study is an important verification of the impacts of California’s air quality regulations,” Kirchstetter said. “California tends to lead the way in air quality. The technologies we’re evaluating will eventually dominate truck fleets nationwide, so the significance of our study extends far beyond California.”

37. DOE Determines Nearly 50 Percent of EVs Bought In California

As fuel prices keep falling across the US, sales of fuel efficient vehicles keep going with them. By AutoblogGreen's tally, the market for green cars, which includes diesels, is down 6.4 percent through November 2014. However, there is a bright spot in the bleak news. Plug-in sales are actually up for the year by about 30 percent. A report from the US Energy Information Administration, a branch of the Department of Energy, finds that this segment is still growing. Though, their popularity is still largely a West Coast phenomenon.

When looking at registrations as of 2013, the study found about 70,000 battery electric vehicles and 104,000 plug-in hybrids nationwide. While still a tiny percentage of the 226 million total, the segment shows expansion. The total for all plug-in vehicles (PEVs) among new sales was 0.4 percent in 2012, 0.6 percent in 2013 and 0.7 percent through 2014 so far.

About half of the nation's plug-ins reside in California, and the state boasts the highest rate of them in the US with about five out of every 1,000 vehicles there using an outlet to charge. Although, there are very good reasons for this, like the state's laws that mandating automakers sell zero-emissions models with the Zero Emission Vehicle (ZEV) Program. While some other states have decided to follow California's lead, most plug-in vehicles are not sold outside of the Golden State. California wants at least 15 percent of the cars there to be emissions-free by 2025.

Other states are showing improvement too. According to the study, Washington and Hawaii are the only two other places with three or more PEVs per 1,000 vehicles. Oregon, Georgia and Maryland come close though, with between two and three per thousand.

The figures also suggest the interesting effects that incentives can have on PEV sales. In addition to federal money, Californians can claim up to $2,500 for electric vehicles and $1,500 for plug-in hybrids. However, Washington puts more motivation behind pure EVs by making them exempt from the state's 6.5 percent sales and use tax. The intriguing result is pure electric vehicles actually outnumber plug-in hybrids in the state – a rather unique situation. Scroll below to read the EIA's full report.

California leads the nation in the adoption of electric vehicles
In 2013, there were about 70,000 battery electric vehicles (EVs) and 104,000 plug-in hybrid electric vehicles (PHEVs)—small numbers compared to around 226 million registered vehicles in the United States. Total U.S. sales of plug-in electric vehicles (PEVs) have increased in recent years, but still represent only about 0.7% in 2013 and 0.4% in 2012. California is home to almost half of all of the nation’s PEVs, but even in California, only about 5 out of every 1,000 registered vehicles are PEVs.

Several states offer tax incentives to reduce the upfront cost of PEVs to consumers. These incentives are in addition to a federal (nationwide) tax credit, which ranges from $2,500 to $7,500 depending on battery capacity and gross vehicle weight. Examples of incentives include the following:

- California offers rebates of up to $2,500 for EVs that run only on a charge, and $1,500 for PHEVs, which can also run on gasoline.

- Washington has exempted EVs from the state’s 6.5% sales and use tax. However, the incentive does not apply to the purchase of PHEVs. While PHEV ownership is higher than that of EVs for the United States, the reverse is true in Washington.

- Georgia offers a zero emissions vehicle (ZEV) tax credit of 20% of the cost, up to $5,000. ZEVs include vehicles powered by electricity or hydrogen fuel cells.

- Maryland offers a tax credit of $125 for each kilowatt-hour of battery capacity of an EV, up to $3,000.

Many EVs have a battery capacity sufficient to obtain the full credit. PHEVs have a lower capacity and therefore secure a lower credit; the state estimates that a consumer purchasing a plug-in Toyota Prius would get a credit of $550.

The District of Columbia has a tax credit of 50 to 8% depending on vehicle weight.
Some utility companies offer special electricity rate structures for PEV owners to incentivize vehicle charging during off-peak hours, generally in the evening. For instance, DTE Energy in Michigan offers customers discounted electricity rates at off-peak hours if they install a 240-volt Level 2 charger, which powers a PEV more quickly than a 120-volt Level 1 charger. The ratepayer must also install a separate meter dedicated to the PEV. Customers also have the option of paying a flat $40 monthly fee for charging.

California implemented a ZEV mandate that requires automobile companies to produce for sale a certain percentage of zero emission vehicles, such as electric and hydrogen fuel cell. By 2025, approximately 15% of all new light-duty vehicles sold in the state must be either electric or fuel-cell powered.

Nine states have agreed to follow California's ZEV mandate: Connecticut, Maine, Maryland, Massachusetts, New Jersey, New York, Oregon, Rhode Island, and Vermont. These ten states represent close to one-quarter of the U.S. light-duty vehicle market.

38. Consumers Hold onto Cars Longer, Making Exhaust Dirtier

The 2008 recession hammered the U.S. auto industry, driving down sales of 2009 models to levels 35% lower than those before the economic slump. A new study\(^2\) has found that because sales of new vehicles slowed, the average age of the U.S. fleet climbed more than expected, increasing the rate of air pollutants released by the fleet.

Passenger cars and trucks in the U.S. are the second-largest emitters of nitrogen oxides and volatile organic compounds, precursors to harmful smog. The age distribution of the vehicle fleet is an important variable that scientists use in their models to determine if emissions regulations will deliver on promises of cleaner air, says Gary A. Bishop, an atmospheric scientist at the University of Denver and lead author of the study. If drivers buy newer, cleaner cars, then older, dirtier ones get taken off the road, and air quality improves.

Since 1995, Bishop and his colleagues have collected real-time data on vehicle exhaust at sites throughout the western U.S. In 2013, he and U of Denver emeritus professor Donald H. Stedman hit the road with a remote exhaust detector that shoots infrared and ultraviolet light across the road to sensors on the other side. As cars pass through the beam, the sensors measure levels of pollutants in the exhaust plumes. By measuring carbon dioxide in the plumes, the scientists can also calculate the amount of fuel being burned. A video camera snaps a photo of the license plate, matching the make, model, and age of each vehicle with its pollutant emissions. The scientists captured data on more than 68,000 vehicles at sites in three cities—Los Angeles, Denver, and Tulsa.

Bishop and Stedman then plotted the number of cars and trucks on the road for each model year. Los Angeles had 30% fewer 2009 models than 2007 cars and trucks, whereas Denver and Tulsa had 40% and 35% fewer, respectively. On the basis of these observations, the scientists determined that the mean age of the 2013 fleet was nine years old. For nearly two decades before the recession, the average age had remained stable at seven years old.

Next, the researchers calculated the average amount of pollution released per kilogram of fuel burned for the 2013 fleet and compared the rates to those that would have occurred if the 2013 fleet had the same age distribution as the prerecession fleet. For the three cities, carbon monoxide

emissions were greater by 17 to 29%, hydrocarbons by 9 to 14%, nitrogen oxide emissions by 27 to 30%, and ammonia by 7 to 16%.

Bishop cautions that the study looks only at emissions per kilogram of fuel burned and not the total amount of pollution emitted by the fleet. “Because people were driving less after the recession, the aging of the fleet may not have worsened air quality,” he says.

“This paper shows that a small change in consumer behavior can have an unexpectedly large impact on average fleet age,” says Russell R. Dickerson, an atmospheric chemist at the University of Maryland, College Park. The findings suggest that air quality modelers should examine their assumptions about the stability of the age distribution of the vehicle fleet, he says.

39. Boeing Conducts First Flight Using Green Diesel

Chicago-based Boeing said it has completed the first test flight using green diesel, a fuel blend of oils and fats already used in trucks and other ground transportation. Boeing officials have said the use of green diesel for jets is a "major breakthrough" in the industry's quest to wean itself off fossil fuels and reduce harmful emissions.

Boeing used the fuel to power a 787 Dreamliner test airplane, using a blend of 15 percent green diesel and 85 percent petroleum jet fuel in the left engine.

First green diesel flight of the 'ecoDemonstrator' 787. (Boeing)

"Green diesel offers a tremendous opportunity to make sustainable aviation biofuel more available and more affordable for our customers," said Julie Felgar, managing director of environmental strategy and integration at Boeing's airplane unit.

The goal is to get the fuel approved for use in commercial aviation.

Sustainable green diesel, chemically different than biodiesel, is made from vegetable oils, waste cooking oil and waste animal fats.

Unlike some other alternative fuels, green diesel is already being produced on a relatively large scale and with current government subsidies approaches the price of traditional jet fuel, called Jet-A, Boeing said.

Green diesel produces half the carbon emissions of fossil fuels. And it would allow airlines, cargo carriers and the military, for example, to use the same alternative fuel blend in their trucks and planes.
If approved, the fuel could be blended directly with traditional jet fuel in a ratio of up to 50 percent, according to Felgar, without modifications to aircraft engines.

Commercial aviation and the U.S. military consume 20 billion gallons of jet fuel a year.

The aviation industry has proved in tests that it can fly airplanes safely and efficiently on fuels made from cornhusks, algae or many sources other than crude oil. But adoption of biofuels to fly jets ultimately comes down to economics. In the case of green diesel, also called renewable diesel, its wholesale cost at about $3 a gallon is at least close to petroleum jet fuel, including U.S. government incentives. Green diesel plants around the world, including two in Louisiana, have the capacity to produce 800 million gallons — not near enough to meet the demand of the aviation industry but ahead of other alternative fuels. Green diesel could supply as much as 1 percent of global jet fuel demand, Boeing said.

"The airplane performed as designed with the green diesel blend, just as it does with conventional jet fuel," said Mike Carriker, chief pilot of product development and the 777X at Boeing test and evaluation. "This is exactly what we want to see in flight tests with a new type of fuel."

40. GE Delivers First US EPA Tier 4 Marine Diesel Engines

GE Transportation has announced the first delivery of its latest marine diesel engines to GE Marine distributor Cummins Mid-South. The new engines meet EPA Tier 4 and IMO Tier III Emissions standards (ABS Certification and Green Passport) --reducing NOx emissions by 70 percent when compared to EPA Tier 2 or IMO Tier II.

Cummins is integrating the five 12V250 engines into gensets designed to power Oceaneering’s new vessel, MSV Ocean Evolution, which is expected to launch in early 2016. Oceaneering is a global oilfield provider of engineered services and products primarily to the offshore oil and gas industry with a focus on deep-water applications. "The GE Transportation team is very proud of this major milestone marking the first delivery of our Tier 4 emissions compliant diesel engines," said Afra Gerstenfeld, General Manager of Transportation’s Marine group. "Our investment in this technology helps our customers meet their emissions requirements in the most efficient manner possible today."

GE Marine’s breakthrough engine technology eliminates the need for a Selective Catalytic Reduction system (SCR) for exhaust gas after-treatment and for storing or using urea aboard a vessel. The result preserves valuable cargo and tank space.

A study to be published in early 2015 commissioned by GE Marine from Jensen Maritime, a leading naval engineering and architectural firm, compared GE Marine’s in-engine Tier 4 solution to a competitor’s solution requiring urea after-treatment on a typical line-haul tug. A few of the highlights cited in the study include:

- GE Marine provides a significantly less complex solution with no additional onboard equipment or storage for urea as well as no dockside support infrastructure for urea storage and processing.
- GE Marine’s engine takes up about only 25% of the engine room space required by the competitive solution.
- GE Marine’s engine weighs about only 25% of the competitor’s solution.
The study also noted GE Marine’s engine advantages in fuel savings and operational capability due to lower exhaust emissions at ambient temperatures.

**41. Utah Emissions-Testing Program Sees Few Snags in First Year**

It has been a year since the implementation of the county’s new emissions-testing program, and although there were a few kinks along the way, it seems to have been successful, according to officials.

Since the program requires residents to test even-year vehicles older than six years every even year, and test those with odd years every odd year, 2015 will bring a new wave of vehicles to be tested.

Norman Larsen, the owner of CarSmart in Logan and Smithfield, said this new program has been a different experience for most residents and everyone is still getting used to it. “It’s just getting over the learning curve,” he said. “I think this next year will be a little better.”

The program was started to help clean up the air in Cache Valley, especially during inversion season. The Cache County Council passed the program by a 5-2 vote in May 2013. The testing requirement went into effect on Jan. 1, 2014. Similar policies were already in place in other parts of the state, such as Weber, Salt Lake and Davis counties.

The council didn’t want the regulations to be a financial burden on residents, members said at that time. To that end, the council capped the fee shops are allowed to charge at $15-$20 depending on the type of test, made the tests mandatory only every two years and provided an opportunity for a waiver.

The waiver allows a car to be registered even if it failed the emissions test once and at least $200 has been spent to try to solve whatever is preventing it from passing. This waiver is only given once per vehicle, meaning even if you sell the car, the car only gets one opportunity to be waived. After receiving the waiver, the car can be registered for the next two years. If the car doesn’t pass emissions after those two years, no additional waivers will be granted.

County Executive Lynn Lemon said one of the biggest problems he has dealt with is that people still don’t understand or know about the waiver. This waiver, he said, is to help residents who don’t have enough money to either fix the vehicle or buy a new car that will pass.

Josh Greer, an environmental scientist for the Bear River Health Department, said the difference between that $200 repair waiver and what it costs to completely fix the problem, is minimal. Generally, people are just opting to fix the problem completely instead of getting the waiver to fix it later, he said.

Lloyd Berentzen, the director of the health department, said residents have been very understanding of the program and the health department hasn’t received too many complaints. “The community as a whole has been pretty good,” he said.

One of the upsides to this program is cars getting tested every other year, he said. Making it every other year, he said, ensures that everyone isn’t going in all at once and that makes it easier on residents as well.
Greer said this year has proven to be a good kickoff for the program. Around 84 percent of tested vehicles passed, he said. By the end of November, he said, over 34,000 initial emissions tests were done. That isn’t individual vehicles initially tested — it is the number of initial tests that have been administered. “Some people might have taken their car in to one shop where it didn’t pass,” he said. “Then after doing some work on it, they took it into another place that didn’t already have that vehicle’s information.”

While an 84 percent pass rate is good news, he said, there is a higher pass rate for vehicles newer than 1996. Those older vehicles, he said, have to do the tailpipe test instead of the computer test. These vehicles just tend to release more emissions.

Larsen said the majority of the cars that go through his shop pass the test the first time. Many residents have gone through the process already, he said, so they tell people what needs to be done to pass. With many residents owning more than one vehicle, this helps residents understand what to do to take care of those vehicles, he said.

“I don’t know that it will completely solve the problem,” Larsen said. “But it also makes people more aware of their check engine light. In return it makes their car run better and last longer.” If a vehicle comes into the shop for a test with the check engine light on, he said, that vehicle will not pass emissions.

Another issue he has seen, he said, is that vehicles aren’t ready to be tested. When the battery of a vehicle is taken out or the system is reset, he said, the computer doesn’t have enough data for the test to be done. Educating the public about making sure the vehicle goes through a drive-cycle before the test can be done, he said, has been a big push not only for the auto shops but for the health department as well.

Greer said the health department is still trying to get the word out about what to do to prepare vehicles for the emissions test. On the health department’s website, he said, there is an entire section dedicated to the steps to get vehicles ready for testing. “People are learning and the education is working,” he said. Continuing to educate the public, he said, is something that is very important to the health department. When people know what’s going on and what needs to be done, more vehicles are likely to pass.

“The main message is to keep vehicles maintained,” he said. “That’s why understanding that check engine light is so important.”

42. Chinese, Texas Companies Fined $1.26 Million for Selling ‘Dirty’ ATVs and Motorcycles

The EPA has dinged two Texas companies and four manufacturers in China with $1.26 million in civil penalties after selling more than 11,000 motorcycles and ATVs that violated clean air rules. The companies will also be banned from selling 2015 vehicles in the U.S.

“EPA’s vehicle certification regulations are an important way we help reduce air pollution and protect public health,” said Cynthia Giles, assistant administrator for EPA’s Office of Enforcement and Compliance Assurance. “Failing to provide honest and accurate information to EPA compromises our ability to protect clean air for Americans.”
The two Texas companies are Jonway Motorcycle (USA) Co., Ltd. and Shenke USA. The Chinese companies are Jonway Group Co., Ltd., Shanghai Shenke Motorcycle Co., Ltd., Zhejiang JMStar Shenke Motorcycle Co., Ltd., and Zhejiang Jonway Motorcycle Manufacturing Co., Ltd.

Under the Clean Air Act, vehicle manufacturers must show their products will meet applicable federal emission standards to control air pollution. Every vehicle sold in the U.S. must be covered by an EPA-issued certificate of conformity. To obtain certificates of conformity, manufacturers or importers must submit an application to EPA that describes the engine or vehicle, including its emission control system. The application must also provide emissions data demonstrating that the engines and vehicles will meet applicable federal emission standards.

EPA inspections discovered that Jonway and Shenke imported 11,043 noncompliant highway motorcycles and 226 ATVs beginning in model year 2009. The companies illegally imported and distributed over 80 models of uncertified vehicles, which were available for purchase across the U.S. The motorcycles and ATVs had undersized catalysts, adjustable carburetors. Jonway and Shenke also imported ATVs that lacked proper warranties and labels.

EPA's investigation also showed the companies were trying to sidestep record-keeping related to emissions testing and certification and tried to stonewall EPA requests for information to assess their compliance.

Highway motorcycles and recreational vehicles emit carbon monoxide, as well as hydrocarbons, and nitrogen oxides that contribute to the formation of ground-level ozone. Breathing carbon monoxide can cause harmful health effects by reducing oxygen delivery to the body's tissues and organs, like the heart and brain.

Nitrogen oxides can cause or contribute to a variety of health problems and adverse environmental impacts, such as ground-level ozone, acid rain, water quality deterioration and visual impairment. Breathing ozone can trigger a variety of health problems, including chest pain, coughing, throat irritation and congestion, and can worsen bronchitis, emphysema and asthma.

43. America Is an Arctic Nation
Climate change is bringing longer, hotter summers to the Arctic, and driving glaciers to retreat. (U.S. Department of State)

There are only eight countries in the world whose territory above the Arctic Circle grants them the title of “Arctic Nation.” The United States is one.

Today climate change is transforming the Arctic region at an unprecedented pace. Temperatures in the Arctic are rising at twice the rate of the rest of the world on average. And though the region seems remote to most Americans, other parts of our country are also being impacted by Arctic climate change. The entire US experienced abnormal weather as the result of a storm that passed through the Bering Sea in Alaska recently. Melting glaciers and land-based ice sheets are contributing to rising sea levels. The future of America is inextricably linked to the future of the Arctic.

Recognizing the profound and urgent need to address the opportunities and challenges arising in the region, Secretary Kerry has appointed the country’s first Special Representative for the Arctic in July.

The United States will have the opportunity to tackle Arctic challenges when it takes over the chair of the Arctic Council for two years starting in April 2015. Its leadership of the Arctic Council will focus on three issues:

- Arctic Ocean safety, security, and stewardship
- Economic and living conditions of Arctic communities
- Climate change mitigation and adaptation

The Arctic is quickly becoming a global cornerstone for scientific and academic research, trade, and tourism. Four million people live in the region across 24 time zones.

ASIA PACIFIC

44. Recent Developments in China

China Takes ‘Zero Tolerance’ Approach To Regional Polluters: Cabinet

China will take a "zero tolerance" approach to a wide range of environmental violations and has promised stronger action against regional governments that protect polluters or hinder inspections, according to a Cabinet document. Authorities across China have been ordered to
take part in a comprehensive inspection program to be completed by the end of 2015, said the policy document that was recently released on the official government website.

The program's findings will be released publicly under a policy of enhanced transparency and accountability, it said, and any regional regulations that hinder enforcement of national environmental legislation must be annulled by June 2015.

The cabinet also approved draft amendments to China's air pollution law that include unlimited daily fines if violators do not rectify problems, the China Daily newspaper reported. Polluters currently pay a one-off fine of up to 200,000 yuan ($32,595).

Enforcement remains one of the government's main concerns, with the Ministry of Environmental Protection complaining last month that some regions preferred "form over substance" when it came to implementing new guidelines.

The proposed changes include making local governments more responsible for air pollution in their regions, according to experts. That complements moves to incorporate protection of the environment into the criteria used to assess local leaders’ performances.

In announcing the changes, the State Council said those enterprises with excessive emissions or that counterfeit data should be punished. Some environmental experts have previously said enforcement of existing laws has been spotty, and that companies routinely flout pollution regulations.

Wang Canfa, an environmental specialist at China University of Political Science and Law, highlights that the announcement of the new environment law was made by the State Council - China's top policy making body. "This shows that the state has placed great emphasis on the execution of the law," he tells The Paper.

In addition to strengthening environmental laws, China’s government is undertaking relatively aggressive action to change its energy sources, moving away from coal and relying more on hydropower, natural gas and other lower-emission sources of energy. Leaders have pledged to stem growth in coal consumption as a way to fight pollution and curb carbon emissions.

In April, the legislature amended the country’s environmental-protection law, strengthening the enforcement powers of regulators, among other changes.

**China Uses APEC Meeting to Push Pollution Curbs**

Several regions in China have failed to take steps to cut smog during a major meeting of global leaders set to start this week in Beijing, the environment ministry said. To ensure clean air during the Asia-Pacific Economic Cooperation (APEC) summit, China said it would thin traffic and close hundreds of factories within a 200-km (124-mile) radius of the capital over the period from November 1 to 12. Sixteen inspection teams from the Ministry of Environmental Protection (MEP) fanned out to Beijing and surrounding provinces and regions to check if emergency curbs were being properly implemented.

But many firms had not followed orders to close and many more were still exceeding permitted emission levels, the ministry said in a notice on its website:

- It said one coking firm in the central province of Henan failed to install mandatory real-time monitoring facilities and refused to let inspectors access polluting equipment.
• Another coking firm, in northern Shanxi province, was found to have turned off its dust abatement facilities at night, creating a "pungent, choking odor".
• The report also drew attention to the widespread failure of firms to meet a requirement to cut emissions by 30 percent over the APEC period.
• The ministry summoned the mayor of the city of Anyang in Henan to discuss its implementation problems, saying the city had not supervised or punished polluters vigorously enough, the official Xinhua news agency reported.

With weather conditions expected to become less favorable by the end of the week, local authorities faced pressure to try to limit smog build-ups during the APEC summit.

Some cities near Beijing delayed the provision of mostly coal-fired winter heating until after the end of the meeting, media have reported.

China's central government this year declared a "war on pollution", but normally struggles to impose its will on growth-obsessed local authorities. Beijing has since promised to beef up its powers and monitoring capability. Local officials are still making economic growth their main priority, rather than environmental protection, a Chinese parliamentary report revealed recently.

In mid-October, the MEP criticized cities in the industrial province of Hebei for not taking emergency measures during a heavy build-up of smog that engulfed Beijing.

Government efforts to control smog ahead of the November 5–11 Asia-Pacific Economic Cooperation events in Beijing had gained so much attention that the clearer skies got a nickname, "APEC blue." President Xi Jinping mentioned the phrase when he spoke before other APEC leaders, saying he had checked the pollution every morning the past few days in hope that the smog wouldn't be too bad.

Chinese state media has defended the smog-control efforts as a sign the government was a good host to leaders from the 20 other APEC economies, including President Barack Obama and Russia's Vladimir Putin. "To have friends come from away—isn't that a joy?" is a famous saying attributed to Confucius," China Daily writer Wang Yiqing wrote in a commentary on November 7th. "China believes in it and, hence, has taken all the necessary measures to ensure the 'APEC guests' enjoy their stay in Beijing."

The phrase "APEC blue" began to catch on as the leadership summit ended. One shop on Alibaba Group Holdings Ltd.'s Taobao online mall offered a string of beads whose color it describes as APEC blue. The same description was given to a pair of GPS-equipped sneakers designed to track a child's whereabouts.

Several media outlets are also discussing a proposal to introduce stricter controls on the use of cars in Beijing as it did during the APEC summit. This comes after Beijing's executive Vice-Mayor Li Shixiang said that the city was studying the feasibility of allowing the use of odd and even number plate cars on alternate days.

Noting the unhappiness of some car users over the proposed scheme, the Xinhua News Agency says some drivers may feel that they are being asked to "sacrifice their interests". "The main concern of the public over the restriction is that the authorities should not place all pressure of cleaning up the air on the public," says the news agency. The commentary urges the government to "lessen the price that the public has to pay" to curb pollution.
NRDC Urges Chinese ECA to Combat "Severe Air Pollution Crisis"

U.S. environmental campaign group Natural Resources Defense Council (NRDC) in a new report has called on China to introduce an Emissions Control Area (ECA) as part of a solution to alleviate the country's air pollution woes. According to NRDC, most ships at China’s ports, which include seven of the world's 10 busiest ports, emit high levels of diesel particulate matter, nitrogen oxide, and sulfur oxide. Although Chinese authorities have recently hailed the introduction of ambient air quality standards for the county, NRDC says few notable air pollution schemes are underway at its ports.

The new report suggests that one box ship navigating the Chinese coast is free to pollute as much as 500,000 trucks under current rules.

The organization said that declaring an ECA for China's waters could be one long-term strategy for the country, citing expectations of a 74 percent reduction in North American particulate pollution by 2020 as a result of its ECA.

"China's container ports are among the busiest in the world, yet their pollution is mostly unmonitored and uncontrolled" said Barbara Finamore, NRDC's Asia director. "By embracing 21st century port and shipping emissions control systems, China can clean up its air pollution while enabling sustainable shipping industry growth for decades to come," she continued.

"China is paying a high price for pollution associated with shipping," the NRDC report said, citing studies in Hong Kong and Shenzhen. "An estimated 1.2 million premature deaths in China in 2010 were caused by ambient air pollution, and shipping is a significant source of these air pollution and health problems..."

More than a quarter of the planet's maritime cargo passing through China, and the heavily populated coastal cities such as Guangzhou, Shanghai and Shenzhen are among the most polluted.

Most ships at Chinese ports use cheap bunker fuel, which is high in sulfur, and port vehicles and equipment are powered by diesel fuel. The combined exhaust from ships and ports contain high levels of diesel particulate matter, oxides of nitrogen and oxides of sulfur, said the NRDC. "These emissions are known to cause cancer and are associated with a wide range of respiratory and cardiovascular illnesses," said the report.

But little has been done to stem shipping pollution on a national level in China, and only a few cities have begun drawing up plans to address the problem, according to the NRDC.

Hong Kong is enforcing strict low-sulfur standards for local vessels, while Shenzhen has announced clean-up plans. Other port cities and regions like Shanghai, Qingdao, Guangdong, Jiangsu, and Shandong provinces have issued plans to promote shore power, electrification of port equipment, and the use of electric or natural gas-powered trucks. But the report questions the effectiveness of such plans without detailed, and agreed to, goals, penalties and incentives by ports and city authorities.

Globally, environmental regulations for ships are overseen by the International Maritime Organization (IMO). But while the IMO has cut pollution by implementing special emissions control zones in America and Europe, which use low-sulfur marine fuels as standard, Asia has been left...
untouched. And the concern is that Chinese ports will be reluctant to implement pollution controls for fear of losing trade.

"Unless port cities cooperate on regional emission control measures, the fear that ships will shift to less regulated ports could prevent port cities from adopting stricter measures," the report said. "If regulation were to drive ships to other ports, such "leakage" would only shift pollution from one port to another and seriously undermine the overall effectiveness of clean port and shipping measures that have been adopted."

**China's Light-Vehicle Sales Are Better Than They Seem**

Since summer, China's light-vehicle market has been losing momentum. Sales of sedans, SUVs, multipurpose vehicles and microvans grew only 6 percent in September and October, down from an 11 percent growth rate in the first half of the year. But even though sales growth has slowed significantly over the past two months, not every product segment has run out of steam. In October, for example, SUV sales surged 36 percent to 387,300, and MPV sales jumped 36 percent to 184,300.

Chinese consumers, supported by rising income, are migrating from cheap compact sedans and microvans to higher-priced SUVs and MPVs. The shift is occurring mostly in urban areas, where more than one-third of buyers are choosing SUVs -- especially compact SUVs -- instead of sedans when they shop for their second vehicle.

According to the China Association of Automobile Manufacturers, the 10 best-selling SUVs are all compacts, led by Great Wall's Haval H6. Compact SUVs offer a higher seat position than sedans, and they allow more variations in design, said Jochen Siebert, head of JSC Automotive, a Shanghai consultancy. They also make drivers feel more secure. Whether this is true doesn't matter, Siebert adds. It's the buyer's perception that counts.

As urban motorists switch to SUVs, China's rural consumers are abandoning microvans for MPVs.

This trend is good news and bad news for SAIC-GM-Wuling Automobile Co., China's largest microvan maker. After the company launched its Baojun 730 MPV in August, sales topped 25,500 in October. The new model's success has transformed Wuling into China's largest MPV producer. On the other hand, the company's microvan sales have tumbled. As a result, Wuling's overall deliveries dropped 10 percent year on year last month.

Another reason for the slowing light-vehicle sales in China lately is that two major players in the market are experiencing production bottlenecks.

Volkswagen Group is China's largest automaker, while Ford Motor Co. is the fifth-largest. In October, VW Group's sales growth in China slowed to 7 percent year on year, down from 18 percent in the first six months of the year. Meanwhile, Ford's sales declined slightly in the past two months after surging 35 percent in the first half of this year. Last month, a Ford spokeswoman blamed her company's weak sales on capacity limits. This week, VW China chief Jochem Heizmann gave a similar reason for his company's weaker sales growth.

Both companies are ramping up production in their existing factories, and each plans to open a new assembly plant next year. So both companies expect to reinvigorate their sales.
China's slowing economy is expected to grow 7.5 percent this year and next, down from 7.7 percent in 2013. That will inevitably affect China's vehicle sales. But with consumers switching to bigger and better products, automakers can still expect to make good profits as long as they adapt to the market's changing demands.

**China V Approved For Guangdong**

The State Council has approved Guangdong's application for early implementation of China V. It can implement the China V standard for gasoline vehicles on Dec 1, 2014, and for all diesel vehicles on July 1, 2015. And Guangdong EPB has proposed "investigating the feasibility of" early implementation of China VI in GD's preliminary 13th Five Year Plan!

**China to Increase National Fuel Tax**

China increased its fuel-consumption tax for the first time in five years amid falling global oil prices as part of its efforts to fight pollution and cut carbon emissions. China will boost the tax on gasoline, naphtha, solvent oil and lubricating oil by 0.12 yuan a liter, according to a statement posted on the Ministry of Finance's website on November 28th. The levy on diesel, jet fuel and fuel oil will increase by 0.14 yuan a liter. The new levels are effective starting November 29th.

The government will use the added fuel-consumption tax revenue to combat pollution, address climate change and improve public health and the environment, according to a separate statement. The fund will also be used to encourage new-energy car development, the ministry's tax division said in a statement.

"Increasing the fuel consumption price to a suitable level can not only help to curb pollution, reduce emissions, guide rational consumption demand, promote efficient usage of oil, but also can help the development of a new-energy industry," the tax division said.

The price of gasoline and diesel will be unchanged after the increase due to falling global oil prices, the ministry said. The tax rise is the first in five years, according to Shandong-based energy consultancy SCI99. Brent crude, one of several crude grades monitored by the government in Beijing, has fallen 30 percent this year.

The country will also stop collecting some taxes on small displacement motorcycles to aid low income groups, the ministry said. Consumption taxes on vehicle tires and alcohol and leaded gasoline will also be scrapped.

In a separate report, Xinhua said that China, the world’s largest net oil importer, imports nearly 60 percent of its oil needs. Global oil prices plummeted to four-year lows following a decision by the 12-nation Organization of Petroleum Exporting Countries to hold output. OPEC decided to maintain its output ceiling at 30 million barrels per day, where it has stood for three years, sending prices plunging in an oversupplied market.

China in 1994 introduced a consumption tax on consumer goods with a high energy cost and high pollution to influence production and consumption in an environmentally friendly direction as well as to promote sustainable economic growth, Xinhua said.

**China’s EV Output Rises Fivefold In First 10 Months**

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Automakers in China produced 47,000 electric vehicles and plug-in hybrids in the first 10 months, nearly five times the output in the same period last year, reflecting government subsidies. Approximately 22,200 electric passenger vehicles were produced during the period, a sevenfold increase. Plug-in hybrid passenger vehicle output totaled 11,100 units, 20 times the number a year earlier.

Automakers also built four fuel-cell powered passenger vehicles, according to the Ministry of Industry and Information Technology, which regulates China's auto industry. No fuel-cell vehicles were built in the same period last year.

Production of electric commercial vehicles jumped 133 percent to 5,723 units, while output of plug-in hybrid commercial vehicles rose 181 percent to 7,972 units.

While production is up sharply, the China's auto industry remains well short of production and sales goals announced by the central government. Beijing wants to have 5 million EVs and plug-ins on the road by 2020.

In China, only pure electric vehicles, plug-in hybrids and fuel cell vehicles qualify for government subsidies. Conventional hybrids do not.

**China Could Set Annual Caps From 2016 on Regional Coal Consumption**

China is expected to set binding targets on coal consumption for state-level municipalities, provinces and autonomous regions as early as 2016 as a way to fight air pollution, reduce water consumption and slow the growth of carbon dioxide emissions, officials said in Beijing. The caps on coal consumption would be spelled out in China's forthcoming 13th Five-Year Plan (2016-2020), officials said, speaking during a two-day forum held by the Natural Resources Defense Council.

“Annual targets will be a breakthrough,” said Yan Gang, deputy director of the Pollution Emissions Control Department of the Ministry of Environmental Protection. “We have never asked for binding annual targets from these localities.”

But China is by far the world's largest consumer and producer of coal, and the country's ability to cut back in any significant way on coal use will depend on how fast it can substitute natural gas for coal-fired sources, and whether renewable energy sources such as wind, solar and hydropower can reliably feed the growing energy demands of an increasingly wealthy populace, officials said.

China hopes to reduce coal-fired power as part of the national energy mix to around 62 percent by 2020, Yan said. Coal consumption accounted for more than 68 percent of the country's energy use in 2011, according to the government.

China announced on November 12th that it hoped to peak carbon emissions by 2030, if not earlier, and increase non-fossil fuels as a proportion of its national energy mix to 20 percent by 2020. It marked the first time China's top leadership gave an expected peak year for emissions, which some expect could give new momentum to climate change negotiations in Lima starting December 1, a year ahead of a major international climate conference in Paris.

Coal consumption targets will be most stringent in the country's three key air pollution control regions, Yan said. Those regions were outlined in the 2013 air pollution action plan released by
the central government: the state-level municipalities of Beijing and Tianjin, along with the surrounding province of Hebei in northeast China; the Yangtze River Delta region around Shanghai; and the Pearl River Delta Region in the southern province of Guangdong.

China will try to cut coal consumption in these areas by banning or severely restricting additional coal-fired units, trying to confine coal use to the power sector by limiting residential uses, adding more natural gas to the energy mix, and decommissioning smaller coal-fired boilers, Yan said. Beijing has already announced it will ban coal burning in certain parts of the municipality starting in 2015. Beijing and Tianjin municipality aim to cut 83 million tons of coal consumption, and Hebei province 40 million tons, by the end of 2017, as part of their air pollution action plans.

Su Ming, a researcher from the Energy Research Institute of the National Development and Reform Commission, outlined eight mega-regions in the country whose coal consumption targets will depend in large part on regional air quality, water resources, and greenhouse gas emissions. “There is still a lot of room for debate on what the coal caps should be for provinces,” Su said. “The fundamental goal is to improve the regional environmental quality and cope with climate change.”

Su also said there is a “possibility that China may roll out more stringent GHG control objectives” to meet its 2030 peak carbon emissions goals. Areas like the three key air pollution control areas and other parts of eastern coastal China will face the most restrictions on coal use and the earliest peak coal consumption targets between 2020 and 2025, followed by areas in central China that would peak between 2025 and 2030, then stabilize, Su said.

Parts of western China that are less developed but seen as drivers of future growth such as the Xinjiang-Uighur autonomous region will likely see continued coal consumption growth beyond the national 2030 target. But industries—particularly coal-to-chemical production—could be constrained by water resource limitations there, according to Su. “Water resources will be a major constraint for the coal-to-chemical industry, and this is already starting to be a constraint in Xinjiang, which has to divert water from other regions,” Su said. “There are these large, mega projects, but availability of water resources is becoming a bottleneck for their operations.”

**In Step to Lower Carbon Emissions, China Will Place a Limit on Coal Use in 2020**

China plans to set a cap on coal consumption in 2020, an important step for the country in trying to achieve a recently announced goal of having carbon dioxide emissions peak by around 2030. The State Council, China’s cabinet, released details of an energy strategy recently that includes capping coal consumption at 4.2 billion tons in 2020 and having coal be no more than 62 percent of the primary energy mix by that year.

Worldwide, coal burning for industrial use is the largest source of carbon dioxide emissions, which are the biggest catalyst of global climate change. China is the biggest emitter of greenhouses gases in the world, and it uses as much coal each year as the rest of the world combined.

In theory, coal consumption might increase beyond 2020, but some researchers say economic trends show the rate of growth in coal use slowing in coming years and peaking about 2020. That means the State Council’s timeline is consistent with the findings of those researchers. The numbers for 2020 might be further formalized in China’s next five-year plan, whose details will be released around March.
Chinese Legislature Revising Air Pollution Law to Tackle Smog

A draft amendment to the air pollution prevention and control law was submitted to China's top legislature for a first reading at the start of the bimonthly session Standing Committee of the 12th National People's Congress. China's current air pollution prevention and control law was stipulated in 1987. It was revised in 2000 to strengthen control on the discharge of sulfur dioxide and the law, since then, has been playing an important role in preventing and controlling pollution caused by coal burning.

While the current law has seven chapters and 66 clauses, the draft law contains eight chapters and 100 clauses. The draft amendment adds a new chapter on dealing with smoggy days, stipulating that the country should establish a monitoring and early-warning system for heavily-polluted days.

With the country's rapid economic and social development and the striking increase in the amount of automobiles, China's air pollution is currently caused by a combination of smoke from burning coal and vehicle exhaust, said Zhou Shengxian, minister of environmental protection, when explaining the draft amendment to lawmakers.

"Air pollution problems in certain regions have become prominent and smoggy days are often seen, all of which demonstrate that the existing law cannot fit in the current situation," said Zhou.

China has 244 million people licensed to drive cars, according to the Ministry of Public Security (MPS) in November. There are 264 million civil motor vehicles on roads as of present, including 154 million automobiles, next only to the United States. Now China has 15 percent of total automobiles in the world.

Meanwhile, air pollution has been a very thorny issue grabbing tremendous social attention. Beijing and eight of its neighboring cities were among the 10 Chinese cities with the worst air quality in the third quarter of 2014, the Ministry of Environmental Protection said in October. The ministry said the Beijing-Tianjin-Hebei region on average suffered from air pollution on 45 percent of the days in the third quarter.

In April, China's top legislature adopted revisions to the Environmental Protection Law, which is more comprehensive and also aims to give heavier punishment to environment-related wrongdoings.

The new draft air pollution control law will have the State Council's environmental protection department and meteorological agency, as well as province-level governments in key air pollution control regions, establish a monitoring and early-warning system for heavily polluted days. When a smoggy day is predicted, the province-level government in key areas should be informed. Environmental protection departments and meteorological departments of provinces, autonomous regions and municipalities as well as some large cities, should also establish the early-warning system for heavily polluted days in their own administrative regions.

Tackling heavily-polluted weather shall be included in local government's emergency response plan, according to the draft, adding that governments at county level or above should stipulate a contingency plan for heavily-polluted days. And the contingency plan should be made public.
When an early warning is issued, governments at county level or above shall implement their contingency plans according to the severity level of the early warning. According to the needs for tackling air pollution, certain enterprises should be ordered to suspend or limit production, automobile use could be limited, igniting fireworks forbidden, demolition of buildings suspended and outdoor barbecues eliminated.

Artificial weather modification might be used and outdoor sports activities for kindergartens and schools could be canceled, according to the draft.

After a local government's contingency plan is implemented, it shall evaluate the implementation of the plan in a timely manner, so as to further revise and perfect the contingency plan.

Officials or public workers of local government or organizations in charge of air pollution control who abuse power, neglect their duties or practice favoritism for personal gain, shall be punished according to the Environmental Protection Law and the Civil Servant Law, the draft says.

Those found discharging air pollutants without getting a pollutant discharge permit, exceeding prescribed standards of airborne pollutants, shunning supervision by falsifying data or temporarily suspending production for dealing with on-the-spot inspections will be ordered to stop discharging pollutants, limit or suspend production, and be fined between no less than 100,000 yuan (about 16,340 US dollars) to no more than one million yuan by environmental protection departments of local governments at county level or above.

If the circumstances are serious, law violators will be ordered to close down.

If enterprises are found violating any of the regulations and refuse to make corrections police are entitled to detain the responsible persons, according to the draft amendment.

Enterprises which produce automobiles whose pollutant discharge exceeds prescribed standards will be ordered to make corrections by the environmental protection departments at province-level or above. Illegal profits from such practices will be confiscated and a fine amounting to 1-3 times of the commodity cost will be leveraged, it said.

Automobiles which fail to meet the pollutant-discharge standards will be confiscated and destroyed.

An automobile owner whose car passes a pollutant discharge test by temporarily changing vehicle exhaust control equipment will be fined 5,000 yuan and the related vehicle maintenance factories will be fined between 20,000 yuan to 200,000 yuan.

Departments which falsify vehicle exhaust test results will be fined between 20,000 yuan to 200,000 yuan and have their illegal gains confiscated. If the department refuses to make a correction, its professional qualification will be revoked.

Any organizations, which burn asphalt, rubber, plastic, leather and rubbish in the population-concentrated areas, will be ordered to make correction and fined between 10,000 yuan to 100,000 yuan. For individuals, the fine will be 500 to 5,000 yuan.

Beijing Joins Neighbors in Emissions Control
Beijing will join with its five provincial-level neighbors to build a unified platform that will monitor vehicle exhaust emissions in a bid to protect the environment. It is the first regional joint supervision effort in China, municipal environmental officials said.

The combined effort, which is expected to include unified standards of evaluation and fines, may confront obstacles because of gaps in technology, expertise and financing ability within the group, some officials looking at possible regulations said recently.

The first regional monitoring center, which will cover six areas - Beijing and Tianjin municipalities, Hebei, Shandong and Shanxi provinces, and the Inner Mongolia autonomous region - will create a database that will combine information about vehicles in the region and help set priorities for pollution controls. The group will also look at how to share information more effectively.

"Then we will conduct joint management, including monitoring the emissions of new vehicles and vehicles that run for years, and impose fines under the unified standards," said Li Kunsheng, deputy leader of the project and director in charge of vehicle emissions at the Beijing Municipal Environmental Protection Bureau.

New vehicle standards are crucial in controlling excessive emissions at their source, Li said, adding that some companies have sold higher-emitting vehicles to neighboring areas that have weaker supervision.

"Around 200,000 vehicles from surrounding areas run through Beijing every day, with 5.5 million-plus vehicles registered in the capital already. So vehicle exhaust will contribute more to air pollution," Li said.

Under the unified system's new draft, if a vehicle registered in the region was found to exceed the emission standard in Beijing, the municipal environmental watchdog would send a notice to the place of origin and impose a fine based on the municipal regulation.

The joint supervision and unified punishment for polluting vehicles will help control pollution in Beijing, officials on the panel agreed. Those outside the capital were concerned about the feasibility of implementation because of financing limitations, technology and expertise.

"We need a larger team to perform the joint supervision with more training on the equipment to monitor exhaust," said Mi Hailiang, from the environmental protection bureau of Hebei province, adding that the team for exhaust emission has fewer than 50 members, far less than the 700-member team in Beijing.

The other four areas voiced similar difficulties. The punishment for excessive exhaust in Beijing is higher, making the larger fine from the capital hard to carry out.

An official from the Inner Mongolia autonomous region expressed confusion over which bureau, traffic or environmental protection, should provide the supervision and levy the fines, since the current monitoring belongs to different bureaus. There should be more regulations and laws to designate responsibility, the official said.

"In the long term, the unified platform is to make new joint laws, effective in the six areas," said Fang Li, deputy director of Beijing's environmental watchdog. "It's always difficult for any project in the beginning, but we will continue to push it for better air quality," he said.
China to Increase National Fuel Tax as Part of Its Efforts to Curb Pollution, Emissions

China increased its fuel-consumption tax for the first time in five years amid falling global oil prices as part of its efforts to fight pollution and cut carbon emissions.

China will boost the tax on gasoline, naphtha, solvent oil and lubricating oil by 0.12 yuan a liter, according to a statement posted on the Ministry of Finance's website November 28th. The levy on diesel, jet fuel and fuel oil will increase by 0.14 yuan a liter. The new levels became effective starting November 29th.

The nation is seeking to fight pollution and improve energy efficiency amid record smog levels in cities including Beijing and Shanghai. The government will use the added fuel-consumption tax revenue to combat pollution, address climate change and improve public health and the environment, according to a separate statement. The fund also will be used to encourage new-energy car development, the ministry's tax division said in a statement.

“Increasing the fuel consumption price to a suitable level can not only help to curb pollution, reduce emissions, guide rational consumption demand, promote efficient usage of oil, but also can help the development of a new-energy industry,” the tax division said.

The price of gasoline and diesel will be unchanged after the increase due to falling global oil prices, the ministry said. The tax rise is the first in five years, according to Shandong-based energy consultancy SCI99. Brent crude, one of several crude grades monitored by the government in Beijing, has fallen 30 percent this year.

The country also will stop collecting some taxes on small displacement motorcycles to aid low income groups, according to the ministry. In addition, consumption taxes on vehicle tires and alcohol and leaded gasoline will be scrapped.

China Offers Billions in Government Subsidies As Electric Vehicles Run on Gasoline

China’s ambitious plan to lower pollution by adopting 5 million electric cars is running into a problem—a lack of charging stations. Eddy Wu, a Shanghai resident, bought a plug-in hybrid because the car was eco-friendly, subsidized by the government and exempt from license-plate fees. Now he runs it mostly on gasoline, the electric capabilities largely wasted.

His apartment complex and office won’t let him charge the BYD Co. vehicle in their parking lots, saying it poses a fire risk. Using the nearest public charging station means driving 5 kilometers (3 miles) and paying cash. With gas prices expected to tumble with the almost 40 percent plunge in crude-oil since June, there will even less incentive to charge his Qin sedan.

While a dearth of charging stations is holding back adoption of electric vehicles worldwide, the problem is particularly acute in China because the country has pledged to slash greenhouse emissions and cut a reliance on imported oil, while keeping domestic carmakers competitive amid an industry shift away from conventional gasoline-powered vehicles.

“China needs to succeed in this,” said Klaus Paur, head of the automotive department at market-research company Ipsos. “There’s dependency on oil, with almost 25 percent of the world's
production going to China. I believe it's the only chance for the Chinese car manufacturers to quickly catch up with international car manufacturers."

In the U.S. and Germany, “range anxiety”—or a driver's fear of running out of power before reaching the nearest charging station—has been an obstacle to electric-car adoption. The lack of unified payment systems is another challenge, with different charging networks using incompatible electronic payment cards.

In China, many car owners, like Wu, don't have their own garages or parking spaces at home where they can charge their plug-ins overnight.

Yan Xuefei, also a Shanghai resident, wound up striking a deal that lets him charge his Qin at night at a factory near his apartment. The 27-year-old engineer can't charge the car at his apartment complex because the limited designated parking spots are all taken. Building managers at his office also won't let him do it there, he said.

Still, the factory's parking lot is uncovered, and its managers forbid him from charging the car when it rains, saying they fear safety issues like short circuits.

“The government has given generous subsidies for us to buy the cars and publicized the merits of new-energy vehicles,” Yan said. “But so many car owners can't easily charge their cars as they don't have designated parking spots.”

Demand for alternative-energy vehicles in China has been slow despite government subsidies that can reduce the cost of the cars by about 60,000 yuan ($9,750). As of September, the nation had achieved only 12 percent of its target for alternative-energy vehicles to be introduced by 2015, according to government figures released last month. By 2020, the goal is to have 5 million of these autos on China's roads.

The vehicles also qualify for an exemption from a 10 percent purchase tax, as well as free license plates issued in cities including Shanghai, where plates for a conventional gasoline-powered auto can cost about $12,000.

The EU in October said it will cut emissions by 40 percent in the four decades through 2030. Chinese President Xi Jinping pledged in November that his country's emissions will peak around 2030, as it boosts its use of renewable and nuclear energy. His announcement was made jointly with a pledge by U.S. President Barack Obama to slash emissions by 26 percent to 28 percent in the 20 years through 2025.

Dong Yang, secretary-general of the China Association of Automobile Manufacturers, urged the city of Beijing to speed up construction of charging stations in a blog post on November 24. “When plug-in hybrid owners decide whether to use electricity or gasoline, the determining factor is charging facilities,” Dong wrote. “With the increase of charging facilities, the effects of reduced gas emissions from plug-in hybrid vehicles will become more apparent.”

The government said on November 25th that it will give city governments incentives to speed up construction of vehicle-charging facilities. It also plans to encourage private investment in building charging stations, the Industry and Information Technology ministry said on September 25th.
The central government is considering spending as much as 100 billion yuan to build charging facilities and spur demand for new-energy vehicles, two people familiar with the matter said in August.

In Shanghai, the city's government plans to build 6,000 charging points by 2015, while it has a target of 13,000 alternative-energy vehicles on its roads during the same time frame. It is also working with companies including Bayerische Motoren Werke AG to build charging facilities.

Tesla, the U.S. electric-car maker that started selling its Model S in China in April, has begun its own efforts to make charging easier for customers. The company has deals to build 400 charging points in 120 cities using the outlets of China Unicom, the nation's second-largest mobile phone company.

Tesla also has agreements with real-estate developers Soho China Ltd. and China Yantai Holdings Co. to set up charging points at their properties nationwide.

When hybrid owners like Wu don't plug in their cars, their vehicles actually wind up using more gasoline than conventional cars, according to Hubertus Troska, Daimler's chief executive officer for the greater China region. “You're carrying 150 kilos of electric components with you that add to the fuel consumption,” Troska told reporters in the city of Guangzhou last month. “The effective reduction of emissions will only come if customers actually charge their plug-ins every day.”

APEC Experiment Shows That Pollution Controls Can Work

The mainland has proved that its choking smog is more than just a meteorological hazard during winter. By limiting vehicles in the capital and shutting down factories across the region, the authorities managed to temporarily clear up the sky for foreign leaders attending the Asia-Pacific Economic Cooperation summit last month. Ephemereral as it is, the so-called ”Apec blue" phenomenon shows that curbing pollution is essentially a matter of political will.

So when President Xi Jinping says he believes "Apec blue" can be preserved through unremitting efforts, the people rightly expect better efforts from the government. Understandably, the traffic ban cannot stay every day; nor can factories shut down indefinitely. But last month's crusade shows Beijing's smog is linked to emissions. A crackdown on heavy polluters is the least the government should do.

The case has been made stronger in a study led by the Institute of Public and Environment Affairs. Using pollution data published by government agencies, it found that more than 1,000 listed firms - or 40 per cent - had a record of breaches. The watchdog tracked more than 200 industrial giants, many of which are state-owned, for three months and found rampant environmental violations by their branches and subsidiaries. Some emissions exceeded national standards for most of the study period, suggesting that pollution treatment facilities might not be used at all.

Anti-pollution law on the mainland is not known for being a deterrent. The widespread violations suggest polluters may consider environmental fines as part of their business operation. The watchdog said one steel enterprise plainly replied saying it didn't find the smog issue important.

Adding to the concern is that the polluters are state-owned firms, which may be given privilege despite having better resources for compliance. Xi's remarks on "Apec blue" have given hopes of better efforts to combat smog. A crackdown on polluting state enterprises would be a good start.
Beijing Wins Central Approval for New International Airport

The central government has approved the construction plan for a new international airport in Beijing that will enable the capital to handle 72 million more passengers each year. The project will involve investment of almost 80 billion yuan ($13.1 billion) and take about five years to complete, the National Development and Reform Commission said. It will be located 46 kilometers south of Tian’anmen Square in the Daxing district, and is expected to become operational in 2018.

The airport is designed to handle 2 million metric tons of cargo and 620,000 passenger flights on an annual basis, the commission said. It will include 150 parking aprons for passenger jets, 24 parking aprons for cargo aircraft, 14 maintenance areas as well as a terminal building with a floor area of 700,000 square meters.

The civil aviation administration will provide 18 billion yuan to fund the project, while Capital Airports Holding will invest 6 billion yuan. The rest of the investment will come from bank loans and private capital, according to the commission.

The new airport will serve the rising demand for air transport in Beijing, boost the balanced development of the capital city's northern and southern areas, and strengthen China's competitiveness in the civil aviation sector, it added.

A 66-km rapid transit line will be built to link the city's northern areas to the new airport. Passengers will spend less than 30 minutes getting to the city center from the airport.

"The new airport will become a pillar of Beijing's efforts to form a modern service sector," said Lian Yuming, dean of the Beijing-based International Institute for Urban Development. "It can substantially buoy the development of the city's southern areas that lack growth momentum."

Currently, Beijing has two airports that serve civil aviation flights – Beijing Capital International Airport and Beijing Nanyuan Airport. Beijing Capital International Airport, located in northeastern Beijing, served 83.7 million passengers in 2013 and was listed as the second-busiest airport in the world last year by passengers, behind Hartsfield-Jackson Atlanta International Airport in the United States, according to Airports Council International.

Cao Yunchun, an economics professor at the Civil Aviation University of China, said the new airport will share the heavy burden carried by Beijing Capital International Airport and help reduce the serious flight delays that passengers often complain about during the summer.

The nation's thriving economy and a growing middle class have been fueling a travel boom in the world's second-largest economy. By the end of November, 100 million outbound trips had been made by mainland citizens, according to the China National Tourism Administration.

Shanghai: Staggered Traffic at Rush Hour Under Consideration

The Shanghai municipal government is considering a staggered rush hour to ease mounting traffic congestion in the city, representatives of the people's congress of Shanghai said. Hu Min, a people's representative and an auto engineer, said that the Shanghai municipal government told him his suggestion was constructive, and that relevant departments will listen to advice from various parties as to how to implement it.
"Traffic congestion during the morning and evening rush hours becomes normal in more and more parts of the city, and the congestion usually moves between large residential communities and areas of industrial parks and city business centers," said Hu, who studied the issue in Shanghai for several years.

Although the government continues to build new tunnels, elevated roads and subways, the new infrastructure always lags the increasing traffic.

Hu suggested that the government try a pilot staggered rush hour program in certain areas. The development research center of Shanghai's government said there must be a series of supporting measures and policies before the plan can take effect, because it involves not only traffic but also schedule changes of many interrelated employers, who work at the same time of the day.

The center suggested that the government increase input on public transportation and raise awareness to make it the first option for relieving congestion and cutting carbon emissions. The Shanghai public security bureau said that traffic mainly comes from five groups: people going to schools, factories, entertainment sites, hospitals and governments. The first three groups mainly take buses and subways.

The public security bureau said that white-collar workers in government, companies, banks and public departments should use public transportation more.

Yang Xiaoguang, a professor of transportation studies at Tongji University, said: "One third of employees in the United States have a flexible working schedule, with the assistance of the Internet. As a global city, Shanghai needs to encourage more people to work that way."

**Experts Say Air Pollution Cause of High Lung Cancer Rate in China**

China's chronic air pollution is being named the key culprit behind the prevalence of lung cancer, with cases predicted to top 1 million by 2025, the highest worldwide, according to Chinese-language Economic Information.

Lung cancer has topped the list of cancers in China, passing liver cancer as the number of lung-cancer patients has doubled every 10-15 years in the past decades, according to statistics of the National Cancer Registration Center.
China now has 3.12 million new cancer cases a year and over 2 million Chinese people die of cancer annually. The number of lung-cancer patients has been increasing at an annual clip of 26.9% in recent years, with the disease’s mortality rate surging 465% over the past 30 years, which makes it the most lethal cancer, according to NCRC data.

In the past smoking was a leading cause of lung cancer in the country. But it has become less threatening to government crackdowns on the practice. Air pollution, however, has quickly risen to become the main cause of the disease, as evidenced by the marked increase in lung adenocarcinoma, which has been blamed on the invasion of minuscule PM2.5 particles into pulmonary alveoli, according to a study. There is also the conspicuous growth of lung cancer cases among non-smoking people, as shown by the marked increase of lung-cancer patients among females, and those with little access to second-hand smoke.

It may not be a coincidence that the rate of lung-cancer cases in Beijing, which is plagued by smog, went from 39.56 per 100,000 in 2002 to 63.09 in 2011, an increase rate much higher than the national average.

**As Hong Kong Protests Wind Down, Air Pollution Is Rising**

A yellow campaign sticker is displayed by protesters on the bridge outside the government headquarters in Hong Kong, Tuesday, December 16, 2014.

Hong Kong’s pro-democracy activists may have inadvertently recruited a big group of sympathizers—pedestrians who got used to cleaner air in the city center during the 75-day long protest that barred cars from three major roads in the city. Kwong Sum Yin, head of the Hong Kong-based NGO Clean Air Network, said that just because the main protest areas have been cleared, “we need not ‘return to normal’ with congested roads and filthy air.”
But the city is already returning to normal, which includes bad air and snarled traffic. Kwong’s group compared the amount of particulate matter in the air—particles small enough to enter one’s bloodstream and cause the most harm—on Oct. 1, during the first week of the protests, and again on December 15 and 16, after the protesters were cleared out. All three protest sites have increased their readings of harmful particulate levels by over 40%:

Hong Kong has some of the world’s worst air pollution from car exhaust, thanks to the 325 vehicles per kilometer of road in the territory—the densest in the world according to World Bank data. Narrow roads flanked by tall concrete buildings amplify the effect by trapping pollutants in the air in populated areas. And a bridge under construction that will connect Hong Kong with economic hubs in the mainland Pearl River Delta—the Hong Kong-Zhuhai-Macau Bridge—is expected to bring thousands of more cars into the city.

45. Recent Developments in India

Diesel Car Sales Up 16% in 2014 Over 2010: JD Power

According to the study by international market research firm J D Power all problems are summarized as the number of problems per 100 vehicles (PP100). Lower PP100 scores indicate a lower rate of problem incidence and higher initial quality. The quality of all vehicles sold in India improved to 100 PP100 in 2014, from 115 PP100 in 2013; especially in case of diesel vehicles, quality bettered significantly from 148 PP100 in 2010 to 96 PP100 in 2014.

Diesel vehicle sales has also increased by 16 percent in 2014 as compared to 2010.

The study measures problems owners experience with their new vehicle during the first two to six months of ownership and examines more than 200 problem symptoms covering eight vehicle categories (listed in order of frequency of reported problems): engine and transmission; vehicle exterior; driving experience; HVAC; features, controls and displays; vehicle interior; seats; and audio, entertainment and navigation.

The J.D power study indicated that initial quality has improved as the number of problems with diesel vehicles have decreased to 96 PP100 in 2014 from 148 PP100 in 2010.

Overall initial quality in India averages 100 PP100 in 2014, down from 115 PP100 in 2013. Owners are reporting fewer problems across all eight vehicle categories, with the greatest reduction of 5 PP100 in engine and transmission.
The study finds that the median kilometers driven by diesel vehicle owners in India have decreased in 2014 by 22 percent since 2010. This reduction in usage has contributed to a 24 PP100 decrease in usage-related problem symptoms such as doors are hard to open or door handle is broken/not working (24 PP100 in 2014 vs. 48 PP100 in 2010).

The key findings of the J.D Power India Initial Quality Study also indicated that the entry compact segment improved by 48 PP100 in 2014, compared with 2013, while the MUV/ MPV segment improved by 25 PP100 and the SUV segment improved 20 PP100. The number of reported problems among new-vehicle owners who receive an explanation of their vehicle's operation features at the time of purchase is 94 PP100, compared with 183 PP100 among those who do not receive an explanation.

According to the report, among owners who say they have experienced fewer problems than expected, 79 percent indicate they intend to retain their current vehicles for five years or longer. In contrast, only 58 percent of owners who say they have experienced more problems than expected intend to retain their vehicles for the same period.

Vehicle owners who experience fewer problems than expected are nearly twice as likely to recommend their model to family and friends as owners who experience more problems than expected. New-vehicle owners tolerate a 2 to 3 kilometers per liter (KMPL) variance from what their dealer communicated they should expect from their vehicle. Vehicle owners might allow 2 to 3 KMPL less than what their dealer communicated but when the variation exceeds that range they tend to indicate a fuel consumption problem.

India Court Slams Delhi’s Worsening Air Pollution

India’s environment court has slammed the government over the capital’s horrendous air pollution, which it said was “getting worse” every day, and ordered a string of measures to bring it down. The National Green Tribunal directed all vehicles older than 15 years be taken off New Delhi roads, pollution checks undertaken for all state-run buses and air purifiers installed at the city’s busy markets.

Environmentalists welcomed the decision, saying policymakers were failing to heed the “emergency” facing the city of 17 million people. “We applaud the tribunal’s urgency on Delhi’s pollution which is reaching toxic levels,” said Chandra Bhushan, deputy director general of the Delhi-based Centre for Science and Environment. “But the measures need to go further to deal with issues like the 1,000 new vehicles coming on to the roads each day,” he told reporters. “The government has a legal obligation to introduce the tribunal’s measures,” he added.

The tribunal hit out at Prime Minister Narendra Modi’s government for failing to provide to the court any “substantive” action plans to tackle Delhi’s smog-filled air despite requests. “Nothing substantive has been suggested … for providing and controlling air pollution in Delhi primarily resulting from vehicular pollution and burning of plastics and other materials in (the) open,” the tribunal said in a ruling. “It is undisputed and in fact unquestionable that the air pollution of (National Capital Territory) NCT, Delhi is getting worse with each passing day,” it said.

The WHO said Delhi had the world’s highest annual average concentration of small airborne particles known as PM2.5, following a study this year of 1,600 cities across the globe. These extremely fine particles of less than 2.5 micrometers in diameter are linked with increased rates of chronic bronchitis, lung cancer and heart disease as they penetrate deep into the lungs and can pass into the bloodstream.
Delhi authorities have disputed the WHO’s report and bristled at suggestions the capital was worse than Beijing, where thick smog has triggered public health warnings and concerns that are mostly absent in Delhi.

The tribunal, in a case filed by a lawyer and activist, directed authorities to crack down on burning rubbish in the open, construct cycle tracks and bypasses for heavy vehicles. “It is a constitutional and statutory duty of all the authorities and ministries to provide clean air to the people to breathe,” it said.

The small particles blighting the air of Delhi and other major developing cities around the world are often dust from construction sites, pollution from diesel engines or industrial emissions. The Indian capital also suffers from atmospheric dust blown in from the deserts of the western state of Rajasthan, as well as pollution from open fires lit by the urban poor to keep warm in winter or to cook food.

Air Pollution Set to Soar as Vehicle Population Grows Exponentially in Indian Cities

From 20 million vehicles in 1991 there has been an explosion of vehicular population to 140 million in 2011 on the roads of Indian cities. The vehicle population on Indian roads will increase air pollution three to five times over, says a report from The Energy and Resources Institute (TERI), University of California, San Diego (UCSD) and the California Air Resources Board (CARB).

Under current trends of vehicle population, and existing fuel and emission standards, particulate matter smaller than 2.5 micrometers will increase by a factor of three, while nitrous oxide emissions will rise by a factor of five.

The transport sector contributes about 15% to 50% of small particulates and is a dominant contributor to NOx emissions, says the report.

"In 1991, there were 20 million vehicles in India. The number had skyrocketed to 140 million in 2011, and by 2030, vehicle population is expected to reach a staggering 400 million. We need multiple strategies to bring regulatory agencies and the regulated communities together and provide incentives to reduce the pollution load," said Mary Nichols, Chairman, CARB.

The new report titled 'Options to reduce road transport pollution in India' spells out ways for reducing emissions, the technologies available and governance issues that need to be urgently addressed to improve air quality in Indian cities. These including upgrading fuel quality, tightening vehicle emission standards, shifting transport modes, promoting electric vehicles, etc.

Vehicular emissions contribute to particulate matter (PM 2.5) and to nitrogen oxides, NO and NO2 (NOx). These in turn react in the presence of sunlight to form ozone.

PM 2.5 is the dominant contributor to premature deaths and numerous other illnesses, followed by ozone and NOx, which also adversely impact crop yields, says the report.

Comparing the situation to California, which in the 60s had one of the highest air pollution levels in the world, the report notes how over the past 40-50 years, it has succeeded in reducing the levels of all air pollutions by 75% to 90% through a series of measures. In particular, it has significantly reduced black carbon and particulate pollutants from automobiles.
On the other hand, 80% of cities in India, which have comparatively fewer vehicles, have exceeded the ambient air quality standards prescribed by the Government of India.

The World Health Organization estimates that of the 67 risk factors studied in their Global Burden of Disease project, outdoor air pollution stood fifth in mortality and seventh in health burden in India, contributing to over 627,000 deaths and 17.7 million healthy years of life lost in 2010.

Transportation is also the fastest growing source of carbon emissions and accounted for about 2,300 megatons of CO2 in 2010. India's transport emissions are predicted to go from about 70 megatons today to over 500 megatons by 2050.

**Shiny Cars, Dirty Fumes in Delhi**

While the strengthening of the enforcement of existing PUC norms has been much needed for decades in Delhi, experts said it addresses only half the problem. While PUC norms are concerned with pollution levels of in-use vehicles, emission norms for newly manufactured vehicles continue to be at least nine years behind European emissions norms.

After Delhi was adjudged to have dirtier air than Beijing by the 2014 edition of the Ambient Air Pollution (AAP) database released by WHO, environmentalists said an aggressive plan to combat vehicular pollution was urgent. A source-based plan to combat vehicular emissions was particularly recommended.

Delhi is one of the cities in India that has BS IV or Euro 4 fuel emission norms — which are at least nine years behind Europe. Meanwhile, the much more common BS III or Euro 3 norms (which are 14 years behind Europe) continue to be a cause of problem in Delhi due to the high inter-state movement through the city.

“The PUC norms work through a smoke density test of in-road vehicles to interrogate the maintenance of the vehicle. Without proper maintenance, the vehicle can become a major source of pollution. But the problem is the test isn’t very effective with BS III norms, especially with diesel emissions,” Anumita Roychowdhury of Centre for Science and Environment said.

As per a study released by The Energy and Resources Institute (TERI) and International Council on Clean Transport (ICCT) earlier this year, the mandatory implementation of BS IV fuel quality and vehicle emission standard by 2015 while BS V norms by 2017 would save 18,000 lives each year from 2030. The submission was made to the Auto Fuel Vision Committee earlier in January, but the road map is yet to be adopted by the government of India.

A report by TERI, University of California, San Diego (UCSD) and the California Air Resources Board (CARB) (see story above) says that if current trends of vehicle population, fuel and emission standards persist, PM 2.5 emissions will increase by a factor of three.

“The existing norms for the PUC certificate are antiquated compared to what is being used in the western world, but the aim of this plan is to at least enforce those norms as effectively as possible. Once the system is in place, we’ll look to make advancements in the test itself,” an official of the environment department said.

Roy Chowdhury said a number of problems remained with existing methodology of testing and the technology used. “The technology used measures smoke density, but that isn’t very effective with diesel fumes. Moreover, the testing centers are decentralized and are problematic as the
increased contact between the testing center and the vehicle owners increases chances of corruption," she said.

**Experts Say India Needs Innovative Measures to Check Air Pollution**

A day after the National Green Tribunal ordered a number of steps to check the rising level of air pollution in Delhi, experts demanded innovative institutional measures to address the problem of traffic density and the role of vehicular emission in raising air pollution across India.

The experts also maintained that India should emulate the Singapore model to discourage vehicle ownership to respond to the problem of congested cities.

The country that has cities like Delhi with 7.2 million vehicles on its roads today need a "holistic response" with innovative measures to create a "demand for public transportation" and decongest its cities, said Shreekant Gupta, associate professor at Delhi School of Economics.

At a workshop organized by the Centre for Science and Environment (CSE), the experts discussed the pernicious effects of continued dieselization, dirty diesel, and the road ahead for India to have emission standards that would help the country advance towards Euro V and VI standards.

The transport sector that is the largest user of poor quality diesel is contributing to the problem of foul air that people are breathing, they said.

Though the regulation of diesel price and its consequent drop in the price differential between petrol and diesel has affected the rate of increase in dieselization, low tax diesel continues to lure consumers, a CSE release said. The organization had demanded additional tax measures to control dieselization and create a clean fuel fund to introduce clean diesel, resulting in lowering the health risk to the public.

It is upon the government, said experts, to introduce institutional measures to decongest cities and ensure toxin-free air. Gupta proposed to compliment the move to encourage public transport with measures to discourage private ownership of vehicles. A high fee at the time of vehicle registration as there is competition for limited road space could serve the purpose, he said. Electronic road pricing, a form of congestion pricing in Singapore to control vehicular entry into high traffic zones, is another innovative way that was discussed.

In their contribution toward clean diesel, oil refineries must receive a subsidy to switch to a technology that complies with the Euro V standards to ensure clean air, said RK Malhotra, former director, R&D, Indian Oil Corporation.

**Rickshaw Research Reveals Extreme Pollution**
US scientist Joshua Apte installs air pollution monitoring equipment in an open-air auto-rickshaw as he prepares to take a ride from the landmark India Gate city center to a southeast suburb to test pollution level during rush-hour traffic in New Delhi.

Joshua Apte has alarming findings for anyone who spends time on or near the roads in this city of 25 million. The numbers are far worse than the ones that have already led the World Health Organization to rank New Delhi as the world's most polluted city.

Average pollution levels, depending on the pollutant, were 50 percent to eight times higher on the road than urban background readings, according to research by Apte and his partners at the University of California, Berkeley, and the Indian Institute of Technology in New Delhi.

“And you have to keep in mind that the concentrations at urban background sites, where these official monitors are, are already very high,” he said. The measures “are actually some of the highest levels in air pollution made inside vehicles anywhere in the world.”

The point is particularly important for New Delhi residents, about half of whom live within 300 meters of a major road. New Delhi, like most cities, places their air monitors far from primary pollution sources like highways or industrial plants so that no single source can affect ambient readings, which are meant to represent an average pollution exposure from all sources.

“Official air quality monitors tend to be located away from roads, on top of buildings, and that's not where most people spend most of their time,” Apte said as The Associated Press joined him on a pollution-monitoring ride-along. “In fact, most people spend a lot of time in traffic in India. Sometimes one, two, three hours a day."

Outdoor air pollution kills millions worldwide every year, according to the WHO, including more than 627,000 in India. One of the biggest culprits in fast-growing India is vehicular traffic:

Car ownership in the country of 1.2 billion grew from 20 million in 1991 to 140 million in 2011, and is expected to reach 400 million by 2030.

India’s new Prime Minister Narendra Modi has taken steps to cut down the popularity of cars running on diesel, one of the dirtiest burning fuels, by pegging its cost to world market prices and scrapping a discount that had encouraged diesel consumption. But experts say that, unless India raises fuel standards to international norms, pollution levels that are already often deemed unhealthy or hazardous will escalate. Unchecked, today’s vehicle trends in India could lead to a three-fold increase in levels of PM 2.5 by 2030 - the tiny particulate matter believed to cause the most damage to human health - according to a study this month by The Energy and Resources Institute in New Delhi, University of California, San Diego and the California Air Resources Board.

Still, few Indian cities have air quality monitors. New Delhi officially has 11, though experts say the readings can be erratic and the reporting opaque. The city reports several key pollutants and
this month launched an air quality index, boiling down the ambient readings to a single daily number indicating whether the air is healthy, poor, harmful or hazardous.

Apte, who in January starts as an assistant professor of environmental engineering at the University of Texas, Austin, said that such indices, while perhaps easier for citizens to digest, represent vague urban background readings and can't help residents understand exactly what risks they face. What ordinary people really want to know are answers to questions like, “Should I be taking a walk outside in this neighborhood right now?” ... “Is it safe for my child to be playing cricket on the field here?” he said.

Apte's goal was to highlight the huge differences between the urban background readings and ground-level pollution along roads. His approach to gathering his data involved twice-daily rush-hour drives from the city center to a southeast suburb. He travelled in one of India's typical open- aired auto-rickshaws, which he outfitted with pollution monitoring equipment to gather second-by-second data. On one-quarter of his visits to Delhi, he developed bronchitis.

For comparison, he also took readings from inside regular cars with the windows rolled up, and from a rooftop monitor that stood for ambient air quality readings - or what the government might record and report to the public.

He found average, rush-hour levels of PM 2.5 were about 50 percent higher than ambient air quality readings, according to his team's data. The monitor shot up wildly for brief periods when lumbering vehicles emitting black smoke rolled by.

Levels of black carbon, a good indicator of diesel exhaust and poorly tuned vehicle performance, were more than three times higher than the ambient readings. The average level of ultrafine particles, especially tiny forms of PM 2.5, was more than eight times higher - so high that Apte's equipment broke when he initially tried to measure it. Ultrafine particles have been studied less than other forms of pollution but are believed to be particularly hazardous.

Environmental consultant Ajay Ojha, who works on air quality in the western city of Pune outside of Mumbai, said it will take more work to show policy makers the risks of air pollution and how to address them. "The problem is nobody owns air pollution. Nobody is individually responsible. So unless the public is demanding action, officials have no reason to even bring it up," he said. "... More understanding is needed before people will start to get upset.”

Policy makers disagree about which sources of pollution are the most worrying, with car traffic, industries and power plants, trash burning and small businesses like brick kilns all vying for attention. To Apte, that simply means there are lots of ways to start clearing the air. “The good news about air pollution in Delhi is that there's a lot of really low-hanging fruit in terms of sectors that we can choose to target,” he said.

He added that the US and Europe began cleaning their skies only after incomes rose and people began to demand change: “I expect fully that we'll see the same thing in India.”

**Encourage 'Clean Diesel' To Reduce Public Health Risk: CSE**

Expressing concern over continued 'dieselization' based on outdated vehicle technology and "dirty diesel", a research and advocacy group today demanded creation of a clean fuel fund to introduce clean diesel to cut public health risks. Centre for Science and Environment (CSE) said that though diesel price deregulation and lowering of price differential between petrol and diesel
has made a dent in the rate of increase in ‘dieselization’ of car segment, low tax diesel continues to lure customers.

Dieselization is a term used for the increasingly common use of diesel fuel in vehicles.

Clean diesel fuel - containing 97 per cent less sulfur - is more efficient and reduces emission.

CSE noted that the increasing demand from road based freight and bus transport has made transport sector the largest user of poor quality diesel which is “fouling” up the air and lungs. "CSE demands additional tax measures to control dieselization and create a clean fuel fund to introduce clean diesel quickly to cut public health risks," it said in a statement.

Referring to the air quality data from Central Pollution Control Board (CPCB) which said that diesel emissions related pollutants were a serious concern in Indian cities, the CSE said that while in 2009 about 102 cities monitored exceeded the standard for PM10, in 2012 this has increased to 137.

Referring to Delhi which has begun to report significant increase in pollution level this winter, CSE said that since October the PM2.5 levels have remained significantly elevated and during smog episodes the levels have gone as high as 3 to 4 times the standards.

"India cannot afford to dieselize at the current level of fuel and technologies. Cheap diesel creates incentive for more driving and for bigger cars. This results in more fuel use, more toxic pollution per km, more warming per liter of carbon rich diesel burnt and more warming due to its heat absorbing black carbon emissions," it said.

It said nearly six months have passed since the Auto Fuel Policy Committee submitted its recommendations on emissions standard roadmap for vehicles and fuels to the Union Ministry of Petroleum and Natural Gas, but no action has been taken to further tighten the recommendations and notify the roadmap. "As of today there is no legal mandate for the automobile industry and the refineries to meet more improved emissions standards in a time bound manner," it said.

**Diesel Use Rising Fast in Capital, So Is Air Pollution**

Consumption of diesel in Delhi has been increasing steadily since 2010 while that of petrol is declining. Simultaneously, air pollution—especially the concentrations of PM 2.5 (fine, respirable particles) and PM 10 (coarse pollution particles)—is on the rise.

Diesel consumption peaked in Delhi in 2007-08 at 13.94 lakh\(^3\) metric tonnes but then declined to 8 lakh tonnes in 2010, possibly due to higher taxes on the fuel. But it has been rising sharply again since 2011. In 2012-13 it stood at 10.29 lakh tonnes and reached 11.29 lakh tonnes in 2013-14, a 10% increase.

Particulate matter (PM) is associated with diesel emissions. Analysis by Centre for Science and Environment (CSE) shows PM10 levels have increased by about 75% since 2005 with occasional dips. Anumita Roy Chowdhury of CSE's Clean Air Programme says increasing diesel consumption in Delhi is worrying. "The data only shows massive dieselization in Delhi. Diesel primarily contributes to emissions of particulate matter (PM) and oxides of nitrogen (NOX), which are both increasing." She said diesel vehicles emit five times more PM than petrol vehicles. "I

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\(^3\) 100,000; usually written as 1,00,000
think diesel and, if required, diesel vehicles need to be taxed in a way that the increased revenue can be used for refineries to produce clean diesel. Delhi needs 10ppm sulfur fuel by 2020," she added. Diesel pricing was de-regulated earlier this year, which means it is now linked to the global market without any government intervention.

The other concern with diesel consumption is its health consequences. World Health Organization has graded diesel emissions as carcinogenic (causing cancer). Roy Chowdhury said it is in the same category as tobacco.

The consumption of CNG has increased from 5 lakh metric tonnes in 2009 to 6.98 lakh metric tons in 2013-14. Consumption of kerosene has seen a sharp decline over the years from 1.62 lakh metric tonnes in 2006 to 1.07 lakh metric tonnes in 2010 and just 9,000 metric tonnes in 2013-14.

Study Finds That Air Pollution Is Causing the Taj Mahal to Turn Brown

Air pollution is discoloring Taj Mahal, says study (Image: Sciencemag.org)

Sunday, December 14, 2014, 6:10 PM - Air pollution has turned the Taj Mahal brown, according to researchers from the United States and India.

The Georgia Institute of Technology, the University of Wisconsin, the Indian Institute of Technology at Kanpur and the Archaeological Survey of India collaborated in the study that analyzed the effects of pollution on the Indian landmark.

"Our team was able to show that the pollutants discoloring the Taj Mahal are particulate matter: carbon from burning biomass and refuse, fossil fuels, and dust - possibly from agriculture and road traffic," said Michael Bergin, a professor in the School of Earth and Atmospheric Sciences at the Georgia Institute of Technology.

To pinpoint the cause, researchers used air sampling equipment to measure what was in the air in the Taj Mahal complex from November through June 2012.
Filters from the sampling equipment were analyzed for both fine particulate matter (smaller than 2.5 microns in diameter) and total suspended particulate matter. Researchers then placed small samples of pristine marble onto the structure at various locations near the main dome. After two months, the samples were analyzed using an electron microscope to measure the size and the number of particles deposited on their surfaces as well as their elemental signatures. The information collected allowed researchers to the likely composition of the particles.

The carbon particles come from a variety of sources, including fuel combustion, cooking and brick-making, trash and refuse burning, and vehicle exhaust. The dust may come from local agricultural activities and vehicular traffic - or from distant sources, researchers said.

Overall, the results suggest that the deposition of light absorbing particulate matter in regions of high aerosol loading are not only influencing cultural heritage but also the aesthetics of both natural and urban surfaces.

Even the high and mighty living in the posh areas of Delhi, including Lutyens' Zone, are not safe from the alarming levels of air pollution that plagues the national capital, advocacy group CSE said today as it called for stringent steps for making the air more breathable for Delhiites.

Releasing data on the daily dose of polluted air that people inhale in the national capital, particularly during winters, Sunita Narain, director general of Centre for Science and Environment (CSE), said, “As you do your morning walk in that so-called fresh air, you are actually breathing in air which is thick and heavy with particulate pollution.

“You are not safe from polluted air even within the confines of your homes or workplaces.”

Narain said that the study by CSE proves that “President Pranab Mukherjee and the Prime Minister are breathing dirty air during winter season".
“Our data in Lutyens’ Delhi shows very high levels of pollution,” she added while calling for tough measures to control pollution.

Sharing the details of the study, Narain said that a select group of prominent citizens of Delhi and patients suffering from asthma took part in the monitoring exercise which was carried out using state-of-the-art equipment. The portable, dust-track aerosol monitor measures both mass and size of the particulate matter.

Twenty four-hour real-time monitoring for each individual from the select group was carried out on assigned days in the period between November and December 9, 2014 as part of the study. Their average exposure was compared with the background ambient levels monitored by the Delhi Pollution Control Committee at the nearest official monitoring station.

“The key lesson from this exercise is that exposure monitoring has to complement ambient monitoring to refine pollution control measures… as pollution levels, especially when linked with traffic, vary widely within the city,” said Anumita Roychowdhury, executive director, research and advocacy, at CSE and the head of its air pollution control team.

Harish Salve, senior advocate in Supreme Court and the amicus curiae in the ongoing air pollution case in the court, was part of the select group of Delhiites who participated in the monitoring exercise. “Salve, who lives in Vasant Vihar close to Outer Ring Road, recorded the highest exposure between 10-11 P.M. on Nov. 25-26 when the hourly average of PM 2.5 was about 408 micrograms per cubic meter. The level continued to remain elevated all through the night,” claims the CSE study.

It said that individuals are exposed to the highest pollution levels during the night and early in the morning.

Narain said that the areas of Delhi where one would assume pollution levels to be low are actually as bad as any other locality on winter mornings. She blamed the diesel vehicles and trucks coming to Delhi from different parts of the country for the dirty air, particularly during morning hours. Narain also said schools in Delhi should be closed on smoggy days.

“India still doesn’t have uniform Euro-IV norms. So, the fuel that the trucks bring in is very dirty,” Narain said.

The study warned that winter pollution is back this year with a vengeance. “Almost throughout the month of November and December, 2014, the levels of PM 2.5 have remained, on average, at least three-four times the 24-hourly standard of 60 micrograms per cubic meter.

“Higher averages are reaching up to four-to-seven times the standard and smog episode peaks hit eight to 10 times the standard. This is extremely dangerous for people suffering from asthma and other respiratory and cardiac problems, and also for children and the elderly,” CSE said.

It suggested various means, including fiscal measures, to keep clean fuels like CNG competitive vis-a-vis diesel and stringent measures for on-road and older vehicles. It asked the government to stop farm fires in the NCR region.

“Make paddy straw burning an offence in the region. Need stringent enforcement under the Air Act, 1980, to ban farm fires,” CSE said.
Indian Carmakers Adjust Production Plans As Buyers Return To Petrol Cars

Sales of petrol-powered vehicles have gained significantly in the past few months, already aggregating around 58% of domestic sales. Carmakers are skewing their New Year production plans in favor of petrol-powered vehicles, in line with buyer preference that is increasingly shifting away from diesel. The narrowing price gap between petrol and diesel as well as higher prices of diesel vehicles due to their expensive technology are prompting buyers to again consider the traditional fuel. Manufacturers are finalizing production plans based on current trends, and most players say they are planning to roll out a higher number of petrol cars in 2015.

Sales of petrol-powered vehicles have gained significantly in the past few months, already aggregating around 58% of domestic sales. The share is expected to reach 60% if the trend continues. Manufactures who predominantly make diesel-powered vehicles are facing the pinch. Until a year ago, demand for diesel models was far more than petrol as government subsidies kept the heavier fuel cheaper, forcing auto makers to make more diesel-run variants.

"The market is clearly moving towards petrol cars and so are manufacturers toeing this trend," said Rakesh Srivastava, senior vice president for marketing and sales at the Indian unit of Hyundai Motor. Petrol variants account for two out of every three cars the South Korean company sells in India. Fuel price is one of the key influencers for new car buyers. It forms a third of the total cost of ownership in case of a passenger car - the remaining are vehicle price and maintenance cost. Diesel, which was about Rs 20 a liter cheaper than gasoline in January last year, has lost its comparative advantage because of the huge premium on diesel-run cars even as the price difference reduced to about Rs 11 a liter. Petrol now costs Rs 61.33 a liter in Delhi pumps, while diesel is priced at Rs 50.51.

Experts credit the government for bringing diesel rates to its realistic levels. In June 2010, the then Oil Minister Murli Deora decontrolled both petrol and diesel. While the government allowed state-run retailers to sell petrol at market rates, diesel decontrol wasn't made formal fearing political repercussion. Because of this skewed pricing policy, diesel prices rose just Rs 1 per liter between June 2010 and June 2011, but petrol prices jumped more Rs 12 per liter. This had led many buyers to prefer diesel vehicles. This gap widened further until Veerappa Molly, when he was the oil minister in the Congress-led government, decided to tame diesel subsidies. The Cabinet decided in January last year to raise diesel prices by 50 paise per liter every month until its pump prices are aligned with market rates.

Meanwhile, with falling international oil prices, the losses on selling diesel at state-set prices fell sharply and, from September this year, state oil marketing firms have been making a positive margin on fuel sales. Taking advantage of the situation, the Narendra Modi government deregulated diesel prices in mid-October. The changing customer preference is hurting auto makers focused on diesel vehicles. Utility vehicle major Mahindra & Mahindra, primarily a diesel player, has announced weekly production cuts until March 2015 to reduce stocks of its diesel vehicles.

Tata Motors is seeing a shift towards the newly launched Revotron petrol engine in its newly launched Zest compact sedan. Tata Motors President Mayank Pareek said demand and sales of petrol models are increasing and the overall market is expected to be divided with 60% in favor of petrol cars. Honda Cars India, which previously made only petrol cars, introduced diesel engines last year because of the then market scenario. The company now is adopting a flexible plan to produce as per market demand.
"Current data portray customer's preference for petrol and Honda sales are now evenly divided for both the fuels," Senior Vice President for Marketing and Sales Jnaneshwar Sen said. Analysts tracking the market say the shift will become more pronounced in the coming months. "We expect petrol cars to rule in market in the near term," said Amit Kaushik of IHS Automotive. Maruti Suzuki, the nation's largest carmaker by volume, has decreased production of diesel vehicles by 20 per cent, while has peaked production for petrol models such as the Celerio, Alto and WagonR.

**Noise, Air Pollution Levels Reported On the Rise in Bangalore**

Noise and air pollution levels are steadily increasing across the City, going by statistics provided by the Transport department. In fact, in the last month alone, there has been a 20 per cent rise in cases booked against polluting vehicles.

In November, the department checked as many as 96,696 goods and passenger vehicles for air pollution and booked cases against 2,000 people. 1,593 vehicles were seized for non-compliance and penalty of Rs 4,98,200 was collected. In case of noise pollution, 37,092 vehicles were checked, cases were booked against 784 vehicles and penalty of Rs 2,99,300 was collected.

Meanwhile, even though the Transport department encouraged people to complain against polluting vehicles by providing relevant RTO numbers for people to report cases, not a single complaint was received. “We do not know why people have not filed complaints. It is very sad that people come across such cases but do not report it,” said Narendra L Holker, Joint Commissioner for Transport, Bengaluru Urban and Rural.

After regular checks, we have detected 20 to 30 per cent more vehicles causing air and noise pollution, he added.

Adding to this, Maruti Sambrani, Joint Commissioner for Transport (Environment and e-Governance), Bengaluru, said: “We also conducted a drive across the City to check emission testing centers. Of the 288 centers we inspected, 76 were defective. Of this, we cancelled the license of ten centers, suspended the licenses of two centers, issued caution notices to 10 centers, penalized 26 centers and results of 28 are still underway.”

Speaking on the issue, an official from the Karnataka State Pollution Control Board added, “Though the number of cases booked are less, the City air quality is very low.

Also, faulty emission testing centers mean more polluting vehicles are moving freely. More such checks should be done and people should come forward and complain against polluting vehicles.”

**46. South Korea Fines Imported Car Polluters**

South Korea's Ministry of Environment announced fines of imported car service centers for violating air pollution laws. It cited violations at 20 of the 51 imported car service centers inspected in August. Many violations involved unauthorized repainting equipment, which emits particulate matter. “Dust particles generated by automotive refinishing operations are released without going through pollution prevention procedures at some auto centers,” the ministry said in a statement on December 9th. The 51 service outlets are among 107 imported car centers located in the capital region. More inspections will be conducted next year, the ministry said. South Korea has a rapidly growing imported car market with 162,280 imported cars registered in the first 10 months of this
year compared with 105,037 registered in all of 2011, according to the Korea Automobile Importers and Distributors Association.

47. Singapore Plans to Devote $1B to Blueprint for Greener Transportation, Energy Options

Singapore's prime minister said he wants the country to devote more than $1 billion during the next five years to a sustainability “blueprint” that would focus on cutting automobile pollution, increasing recycling and adopting more renewable energy for the country. “The blueprint is our collective vision of making Singapore a cleaner and greener home,” Prime Minister Lee Hsein Loon said in unveiling the plan November 8th.

To support the measure—Sustainable Singapore Blueprint 2015 (SSB2015)—the government is committing $1.5 billion (US$1.16 billion) over the next five years, Lee said. But he gave no details of how it will be disbursed or implemented and repeatedly underlined the importance of individual efforts as a complement to government action.

The blueprint is a follow-up to a 2009 plan.

Lee outlined themes involving “eco-smart” homes to include more use of solar energy, promoting mass transit, recycling and reducing waste. Part of developing a “car-light” Singapore would involve expanding public buses and subway options, and promoting bicycling.

And he said the country would set a goal of becoming a “zero waste” nation, noting that Singapore's 5.5 million people now generate more than 8 million tons of waste annually.

48. Euro 6 Emissions Standard for Singapore from September 2017

Singapore will adopt the Euro 6 emission standards for petrol and diesel vehicles from 1st September 2017 and 1st January 2018 respectively, the National Environment Agency (NEA) has announced. The NEA said the new regulation will further reduce nitrogen oxide and fine particulate emissions.

Currently, the standards for petrol and diesel vehicles here are Euro 4 and 5, respectively. Euro 6 is the highest engine emission standard set by the European Union. The EU's vehicular emission standards have been progressively implemented in Singapore and other countries.

The NEA said it has been in consultation with the automotive industry since early this year, in order to provide manufacturers sufficient lead time to develop models that are able to meet the new standard. The agency said "there will be an adequate supply" of relevant vehicles for "consumers to choose from" by the time the two new standards kick in.

49. As Japan Burns More Coal, Climate Policies Under Pressure

Once at the forefront of the fight against global warming, Japan is now facing calls from other big economies such as China to set fresh emissions targets as Tokyo increases its use of dirty coal energy to replace nuclear. Japan is the world's fifth-biggest emitter of CO2, but has watered down emissions targets due to the shutdown of its nuclear plants after the 2011 Fukushima disaster, with utilities burning a record amount of coal for power generation.
China and the United States, the world’s biggest economies and polluters, as well as the European Union, have committed to new targets in the last few months. Japan now finds itself alongside India and Russia, the world's third- and fourth-biggest polluters, by not yet declaring goals.

Officials at Japan's industry and environment ministries denied any backsliding on climate policies and said by phone a joint committee was discussing new emission cut goals and aimed to come up with proposals as soon as possible. But analysts say Japan's room for maneuver is limited after Tokyo eased rules for coal plants amid plans to raise coal-fired capacity by nearly 40 percent.

"We expect Japan would certainly come up with an ambitious target for the post-2020 period. That is not just China's expectation I think it is the expectation of the world," said China's delegation leader Su Wei at climate talks taking place in Lima ahead of a 2015 U.N. summit in Paris (COP21).

Japanese delegates in Lima also said the government aimed to have targets as quickly as possible but gave no timeline.

China, the European Union and environmentalists criticized Japan last year after it threw out a plan to cut emissions by 25 percent from 1990 levels and diplomatic sources say they are alarmed about its shift towards coal.

Japan was a leading proponent behind the 1997 Kyoto Protocol that committed countries to binding emissions reduction targets and pushed for it to be named after its former imperial capital. "Japan cannot excuse itself in Paris COP21 by saying 'sorry we don't have nuclear power so we can't reduce CO2 emissions'," said Nobuo Tanaka, an adviser at the government-affiliated Institute of Energy Economics, Japan.

Prime Minister Shinzo Abe, who called an election for December 14, wants to restart reactors but is facing strong public opposition from voters wary of nuclear power after Fukushima.

The Paris U.N. summit in 2015 aims to finalize an agreement as part of long-term efforts to limit average temperature rises to 2 degrees (3.6 Fahrenheit) above pre-industrial times. Countries are meant to announce plans for emissions reductions after 2020 by an informal deadline of March 31, 2015.

Carbon emissions in Japan rose 1.6 percent in the year through March to a record.

Encouraged by eased environmental rules, companies are planning to install about 14.8 gigawatt of coal-fired capacity, an increase of 37 percent, in coming years. Japan's appetite for cheap coal, to counter a soaring oil and gas bill after the nuclear shutdown, saw it import a record 109 million tonnes of coal in 2013.

Two nuclear reactors have cleared basic safety standards and may restart next year. But analysts and environmentalists say even with these utilities Japan will not cut coal use, which supplies about a third of power.

"Japan is losing a golden opportunity to reduce emissions by turning to coal to deal with nuclear power stoppages instead of building on its forte, energy savings, and developing modern ways of efficiency and conservation," said Aileen Mioko Smith, Executive Director, Green Action.
Sarawak Lorries Transport Association (SLTA) welcomes the government’s recent decision to withdraw diesel subsidy and introduce the managed float system to determine fuel prices. In fact, said its president Jong Foh Jit, who is also heading the Pan Malaysia Lorry Owners’ Association, all industry players would not want the government to revert to the old system as diesel subsidies had caused disruptions to the industry’s operations due to smuggling and supply shortage.

“Subsidies have resulted in the smuggling of diesel and shortage of supply, causing lorry operators unable to operate which greatly affects the transportation industry. “Illegal trading of diesel has brought about billions of ringgit in losses. We hope our government will learn from the mistake and not revert to the old system.

“Lorry owners and operators must also adjust their mechanism to adapt to the new system,” he said at the association’s 30th anniversary dinner at the Christian Ecumenical Centre at Jalan Stampin. The dinner was sponsored by Sing Kah Hong Machinery Sdn Bhd, which also saw a heavy machinery truck show and a singing contest.

Jong, however, questioned whether petrol users would be subsidizing the government since it had been asserted that the government had been offering petrol subsidies.

“The government keeps saying billions of ringgit of subsidies have been granted for petrol, and I think that is just part of the entire statement. The missing part here is, the people would be subsidizing the government following the withdrawal of the subsidies.”

On the upgrading of Pan Borneo Trunk Road, he opined the state government could do more rather than brushing off the matter by stating that “it is a federal issue.” “Even if it is a federal issue, how can our state government allow this to go on and on and on? Sarawak, together with other states, formed Malaysia for over 50 years and the road to connect all its towns is merely a ‘kampung’ (village) road in the eyes of Peninsular Malaysians.

“The term kampung road is not my word but deputy prime minister’s word. He said so during one of his previous visits to the state.” Even though Works Minister Datuk Seri Fadillah Yusof had announced the trunk road would be upgraded with new technology to speed up the project, Jong said: “Hopefully it will not be an empty promise anymore.”

The last issue he touched on was why the government did not increase laden weight (BDM) of lorries, saying it was unreasonable for it to approve larger and longer lorries without increasing the BDM of existing trucks.

Also present were former deputy works minister Datuk Yong Khoon Seng, Sing Kah Hong Machinery Sdn Bhd managing director Then Yong King and organizing chairman Phua Pui Ann.

Meanwhile, Yong advised SLTA to have continuous dialogues with the government to solve various issues faced by the industry.

He noted the association had been vocal over the abolishment of diesel subsidies, upgrading of the Pan Borneo Trunk Road to a dual-carriage way and increase in laden weight (BDM) of lorries. “I know many issues have yet to be resolved, but the association should carry on holding talks with the relevant authorities. It is very important to talk things through to find a solution.
“The association has been talking about upgrading Pan Borneo Trunk Road for years. I still recall such issue was raised in Parliament in 2002 with the ministry giving a reply that the Pan Borneo Trunk Road would most likely be upgraded to a dual-carriage way instead of a highway. “However, I am glad the ministry recently announced the upgrading work would start next year until 2025,” he said when speaking at the dinner.

He also called on the association to have patience and faith in the government of the day to gradually solve the issues mentioned. “Give yourself and the government some more time. What’s more, the works minister is a Sarawakian.” Datuk Seri Fadillah Yusof is Minister of Works cum Petra Jaya MP.

SOUTH AMERICA

51. Brazil Gives Go-Ahead to 31 Solar Parks in Push for New Energy

Brazil finally entered the solar power sector, granting contracts for the construction of 31 solar parks as it tries to diversify its sources of generation amid an energy crisis caused by the worst drought in eight decades. Brazil's energy regulator, Aneel, concluded its first exclusive solar power auction, clinching 20-year energy supply contracts with companies that will invest 4.14 billion reais ($1.67 billion) and start to feed the national grid in 2017.

The 31 solar parks, the first large-scale solar projects to be constructed in Brazil, will have a combined installed capacity of 1,048 megawatts (MW). Market expectations were for projected total awards of 500 MW.

"This auction is a mark, not only because it signals the entrance of solar power in the Brazilian energy mix, but because it was one of the most competitive to date," said Mauricio Tolmasquim, head of the government's energy research company, EPE.

The auction lasted more than eight hours. The final price for solar power came at around 220 reais ($89) per megawatt-hour, against an initial price of 262 reais ($106), an 18 percent discount. "This is one of the lowest prices for solar energy in the world," Tolmasquim said.

According to Tolmasquim, costs were reduced because of the strong solar radiation factor in Brazil and because many solar parks would be installed in areas that already have wind farms, reducing the amount developers would spend on land and transmission lines.

In Brazil's power auctions, the government sets a maximum price for the megawatt-hour and companies bid down the price at which they are willing to sell energy. Companies that offer the lowest prices win the contracts.

Solar power developers have participated in previous auctions, but because they were competing against cheaper sources, such as wind and hydroelectric plants, they never succeeded in winning contracts. This time, the government allocated a specific amount of energy to be produced by solar parks, trying to spur development of a local industry and in the long term reduce costs for projects, as it did with wind power some years ago.

Currently, wind power companies win most of the contracts in the regular auctions, with prices per megawatt-hour that are lower than thermal projects fueled by coal or natural gas.
Brazil's power system has traditionally been composed by a network of large hydro power plants, but almost three years of well below-average rains have depleted reservoirs and sent the country scrambling to diversify its energy matrix. An expensive, fossil-fueled emergency network of thermal power plants has shored up supply, but at the cost of tarnishing the country's reputation as a renewable energy producer and consumer.

The government has been criticized by environmental groups for taking so long to enlist solar power in its energy matrix, because of Brazil's excellent potential for solar.

52. Stronger Latin America Emissions Controls, Cleaner Fuels Needed to Cut Black Carbon

Persuading Latin American nations to enact more stringent controls on black carbon, a potent greenhouse gas and air pollutant emitted largely from diesel engines, would cut premature deaths linked to air pollution and also aid in the global effort to curb climate change, the Natural Resources Defense Council said in a December 5th report.

Released on the sidelines of international talks that began on December 1st in Lima, toward a 2015 global climate accord, the study noted that some Latin American countries—Guatemala, Ecuador and Nicaragua—have yet to implement any emissions standards for new vehicles.

But cutting black carbon also would require countries to require cleaner, ultra-low sulfur diesel (ULSD) fuel, in part because particulate filters that can cut black carbon and diesel particulate matter more than 90 percent are only effective when used with the ULSD fuel, according to the report.

The U.S. and Europe, by contrast, have used a “systems” approach to “dramatically reduce vehicle emissions” in recent years, initially by introducing cleaner, low-sulfur fuels to enable more effective emissions control technologies later, the report said. The emissions control systems are only effective, the report noted, when used in concert with cleaner fuel.

Cutting black carbon also could have a significant impact in addressing climate change, in part because those emissions remain in the atmosphere for a much shorter time—for days or a few weeks—than other pollutants, such as carbon dioxide, the report said. “Thus, reducing black carbon emissions provides benefits almost immediately,” the report said.

The NRDC’s report found that at least half of the black carbon emitted in four Latin American countries—Argentina, Brazil, Mexico and Venezuela—comes from diesel vehicles. Those vehicles account for roughly 37 percent of black carbon emissions in most other Central and South American countries, it said.

53. Four Actions that Latin America’s Cities Can Explore to Combat Climate Change

4 “Dumping Dirty Diesels in Latin America: Reducing Black Carbon and Air Pollution from Diesel Engines in Latin American Countries.”
Between now and 2050 global urban populations are projected to grow from 3.4 to 6.4 billion people. Latin America and the Caribbean is the most urbanized region in the world, with 80 percent of its inhabitants living in cities. In 2050, this number could exceed 90 percent. This type of rapid growth creates new and higher demand for resources, especially in the transport sector — already a large source of greenhouse gas emissions (GHGs) — and pollution, as well as an inescapable energy cost. A crucial decision for Latin American and Caribbean policymakers, civil society, the private sector, and citizens is how to adapt to this trend in a sustainable way. If urban population growth is not managed sustainably, the negative effects of this growth will only continue to mount, not only for public health, but also for the environment and global climate.

In order to avoid these negative effects, NRDC has created a list of four priorities\(^5\) that will help the cities of Latin America — and particularly their urban transport sectors — grow more efficiently, cleanly, and sustainably:

**Develop more efficient and accessible public transit.** Two important goals for the region are: reducing vehicle miles travelled (VMT) and improving the accessibility of cities. Several different strategies with varying costs already exist to achieve these goals, such as improving pedestrian and bicycle access routes or building a metro system. Solutions to this problem, however, are different for each country — and each city — in Latin America. For example, Colombia has achieved significant reductions in VMT with the implementation of the TransMilenio transport system in Bogota. TransMilenio is an example of a bus rapid transit system (BRT) with lanes dedicated only to buses and their passengers. Instead of paying the high price of building a metro, other cities like Mexico City and Rio de Janeiro have also implemented BRT systems. Along with being cheaper, BRTs provide more accessibility to the lower classes, reduce the duration of trips around the city, decrease fatalities and accidents, and improve real-estate prices around the bus stops.

**Improve the efficiency of light duty, commercial and heavy duty vehicles.** Although it is important to reduce VMT as much as possible, the reality for large segments of populations living in metropolitan areas is that there may be no other option than to drive. Thanks to recent economic growth and the subsequent increase in the middle class, energy demand from the transportation sector has been growing more and more rapidly. For this reason many countries and cities in the

\(^5\) Blog written by Sam Hoyle, intern with NRDC's Latin America team, Posted December 11, 2014 in Curbing Pollution, Health and the Environment, Solving Global Warming
region are exploring fuel economy standards. During June 2013, Mexico was the first to adopt standards for light duty vehicles of 14.9 kilometers per liter by 2016, which could reduce GHG emissions by 170 megatons. However, the standards have not yet been effectively implemented. Nevertheless, the benefits of these types of standards are significant. Under the current U.S. fuel economy standards, for example, NRDC estimates that if 2017–2025 targets are met, the U.S. stands to save 3.1 million barrels of oil per day. For many countries in Latin American and the Caribbean, especially those which import refined petroleum projects, these savings are crucial for the supply of oil, and they also create incentives for consumers, who save money by buying less fuel (around $2,700 throughout the lifetime of their vehicle in the Mexican case). Light and heavy duty commercial vehicles can achieve even greater savings from higher fuel economy standards because they burn more fuel in general than light duty passenger vehicles.

**Reduce emissions and pollution from the transportation sector.** Along with fuel economy standards, the countries of Latin America and the Caribbean can also better regulate GHG emissions and pollution from the growing transport sector. Currently, this sector emits one third of the GHG emissions of the region. Countries like Chile already require new vehicles to comply with Euro V European emissions standards in order to reduce emissions. This is an important step, particularly considering that many countries in the region do not have any type of vehicle emissions limits, while others only have relatively weak standards. In order to achieve the most benefits from emissions standards, these standards still need to be increase to the current Euro VI standards in Chile, and extended to the rest of the region.

At the same time, transportation is a dangerous source of emissions of short-term climate pollutants (SLCPs) like black carbon. Aside from causing significant decreases in the surface area of glaciers, black carbon and particulate matter emitted primarily from diesel vehicles cause numerous health risks. A new study, completed by NRDC, recommends that countries in the region implement a four step plan to reduce black carbon emissions within cities: implement better black carbon emissions monitoring systems; adopt cleaner, low-sulfur diesel (with a maximum sulfur content of 50ppm); create stricter emissions standards for new vehicles; and begin complementary programs designed to reduce the emissions of vehicles already in circulation. With these measures, Latin American countries can reduce their black carbon emissions by more than 95 percent immediately.

**Plan urban development in a more efficient way.** Many other solutions exist to improve urban planning along with the above-mentioned strategies. Cities such as London, England have implemented low emission zones (LEZs). In 2008, London began to introduce rules for different types of vehicles within the city limits. Each vehicle was given a specific registration that demonstrates if the vehicle complies with strict emissions levels and if the driver has paid taxes in the event of non-compliance. If the vehicle does not comply and has not paid taxes, cameras throughout the city will take photos of the vehicle and the driver will receive a fine. Currently, London is experimenting with an ultra-low emissions zone to alleviate yet more of the risks that come with poor air quality within the city. Along with increased tax revenues, this system reduces traffic congestion significantly throughout the city, facilitating access, while also dis-incentivizing driving in general and reducing VMT.

### AFRICA

**54. 42 African Countries Adopt Framework to Reduce Vehicles’ Carbon Emissions**

Forty-two African countries have agreed to work toward a continent-wide cleaner transportation sector, aiming to reduce vehicle emissions and promote sustainable fuels. The Africa Sustainable
Transport Forum, launched on October 30th in Nairobi in a meeting organized by the United Nations Environment Program, UN-Habitat and the World Bank, will help African countries cut carbon footprints that have been rising because of increased vehicle-exhaust particulate emissions, said UNEP Executive Director Achim Steiner.

“The new initiative will mainstream the concepts of sustainable transport and inclusive green economy growth into transport policies in Africa,” Steiner said. “With spending on transport infrastructure growing fast across Africa, governments have an opportunity to mitigate climate change threats and ensure the health and well-being of millions of Africans by introducing clean and efficient transportation decisions.”

More than 176,000 people die annually in sub-Saharan Africa as a result of outdoor pollution, Steiner said, quoting World Bank statistics. He noted that 95 percent of public transport in the region depends on informal use of small privately owned passenger vehicles that are poorly maintained.

United Nations Secretary-General Ban Ki-moon said rising emissions in Africa’s urban areas are of major concern, because a third of the continent’s 1 billion inhabitants live in cities. “That proportion is expected to rise to 50 percent by 2030, while the population in some cities is expected to swell by up to 85 percent in the next 15 years,” he said, speaking from Nairobi.

The forum will work closely with the UNEP-led Partnership for Clean Fuels and Vehicles and will aim to cut sulfur levels in gasoline and promote the use of catalytic converters. “The new roadmap will allow African countries and their development partners to share knowledge and best practices, while acting as a mechanism for funding and investment for sustainable transport infrastructure across the region,” said Joan Clos, executive director of UN-Habitat.

While developed countries have aggressively invested in cleaner and more efficient modes of transport, such measures are rare in Africa, Steiner said.

The initiative also is aimed at reducing road fatalities.

55. Rwanda to Curb Vehicle Emissions In 2015

Vehicles that do not meet applicable emissions standards shall not operate in Rwanda in 2015.

The government will begin mandatory vehicle emissions testing from January 2015. This is aimed at improving air quality as well as the health and environment of all Rwandans.

“Let us contribute to the preservation of our atmosphere and prevent air pollution related diseases by reducing dangerous emissions.” Dr.
Rose Mukankomeje, Director General Rwanda Environment Management Authority (REMA) said in her remarks about the new measure recently in Kigali.

These new instructions follow the approval of the Prime Minister’s instruction No. 005/03 of 27/12/2013 preventing air pollution caused by vehicular emissions and machines using petroleum products in Rwanda. The instructions require that all vehicles undergoing technical control at a Motor Vehicle Inspection Centre shall also undergo an emissions test. Vehicles that do not meet applicable emissions standards shall not be awarded the technical control certificate and will not be permitted to operate in Rwanda.

These instructions require the traffic police officers to stop any vehicle and conduct a spot verification of emissions, or request for an impromptu emissions inspection for any vehicle suspected to be releasing air pollution emissions.

REMA therefore called on owners of vehicles and machines that use petroleum products to service in due time as well as maintain their vehicles and machines to meet applicable vehicle emission standards.

The authority also requested such people to use fuels compliant to the national fuel standards so that their vehicles and machines meet the required emission standards and are ready for emissions testing enforcement.

REMA requested vehicle importers to take into consideration applicable standards for vehicles imported into Rwanda and ensure that the future importation complies with the emissions standards of the countries of origin.

Importers and retailers of petroleum products were also reminded of the new East African Community standards, which stipulate that only low sulfur fuels (having less than 50 PPM); will be allowed on the regional market from January 2015.

GENERAL


The gathering risks of climate change are so profound they could stall or even reverse generations of progress against poverty and hunger if greenhouse emissions continue at a runaway pace, according to a major new United Nations report. Despite rising efforts in many countries to tackle the problem, the overall global situation is growing more acute as developing countries join the West in burning huge amounts of fossil fuels, the Intergovernmental Panel on Climate Change said.

Failure to reduce emissions, the group of scientists and other experts found, could threaten society with food shortages, refugee crises, the flooding of major cities and entire island nations, mass extinction of plants and animals, and a climate so drastically altered it might become dangerous for people to work or play outside during the hottest times of the year.

“Continued emission of greenhouse gases will cause further warming and long-lasting changes in all components of the climate system, increasing the likelihood of severe, pervasive and irreversible impacts for people and ecosystems,” the report declared.
In the starkest language it has ever used, the expert panel made clear how far society remains from having any serious policy to limit global warming. Doing so would require finding a way to leave the vast majority of the world’s reserves of fossil fuels in the ground, or alternatively, developing methods to capture and bury the emissions resulting from their use, the group said.

If governments are to meet their own stated goal of limiting the warming of the planet to no more than 3.6 degrees Fahrenheit, or 2 degrees Celsius, above the preindustrial level, they must restrict emissions from additional fossil-fuel burning to about 1 trillion tons of carbon dioxide, the panel said.

At current growth rates, that budget is likely to be exhausted in something like 30 years. Yet energy companies have already booked coal and petroleum reserves equal to several times that amount, and they are spending some $600 billion a year to find more. Utilities and oil companies are still building coal-fired power plants and refineries, and governments are spending another $600 billion directly subsidizing the consumption of fossil fuels.

By contrast, the report found, less than $400 billion a year is being spent around the world to reduce emissions or otherwise cope with climate change. That sum is smaller than the revenue of a single American oil company, ExxonMobil.

The new report comes just a month before international delegates convene in Lima, Peru, in an effort to devise a new global treaty or other agreement to limit emissions, and it makes clear the urgency of their task.

Appearing at a news conference in Copenhagen to unveil the report, the United Nations secretary general, Ban Ki-moon, issued an urgent appeal for strong action in Lima. “Science has spoken. There is no ambiguity in their message,” Mr. Ban declared. “Leaders must act. Time is not on our side.”

Yet there has been no sign that national leaders are willing to discuss allocating the trillion-ton emissions budget among countries, an approach that would raise political and moral questions of fairness. To the contrary, they are moving toward a relatively weak agreement that would essentially let each country decide for itself how much effort to put into limiting global warming, and even that document would not take effect until 2020. “If they choose not to talk about the carbon budget, they’re choosing not to address the problem of climate change,” said Myles R. Allen, a scientist at Oxford University in Britain who helped write the new report. “They might as well not bother to turn up for these meetings.”

The Intergovernmental Panel on Climate Change is a scientific body appointed by the world’s governments to advise them on the causes and effects of global warming, and potential solutions. The group was awarded the Nobel Peace Prize in 2007, along with Al Gore, for its efforts to call attention to the climate crisis.

The new report is a 175-page synopsis of a much longer series of reports that the panel has issued over the past year, culminating a five-year effort by the body to summarize a vast archive of published climate research. It is the fifth such report from the group since 1990, each finding greater certainty that the climate is warming and that human activities are the primary cause.

“Human influence has been detected in warming of the atmosphere and the ocean, in changes in the global water cycle, in reductions in snow and ice, and in global mean sea-level rise; and it is
extremely likely to have been the dominant cause of the observed warming since the mid-20th
century,” the report declared.

A core finding of the new report is that climate change is no longer a distant, future threat, but is
being felt all over the world already. The group cited mass die-offs of forests, including those in
the American West; the melting of land ice virtually everywhere in the world; an accelerating rise
of the seas that is leading to increased coastal flooding; and heat waves that have devastated
crops and killed tens of thousands of people.

The report contained the group’s sharpest warning yet about the food supply, saying that climate
change had already become a small drag on overall global production, and could become a far
larger one if emissions continue unchecked. The reported noted that in recent years the world’s
food system had shown signs of instability, with sudden price increases leading to riots and, in a
few cases, the collapse of governments.

Another central finding of the report is that climate change poses serious risks to basic human
progress, in areas such as alleviating poverty. Under the worst-case scenarios, factors like high
food prices and intensified weather disasters would most likely leave poor people worse off. In
fact, the report said, that has already happened in some places.

In Washington, the Obama administration welcomed the new report, with the president’s science
adviser, John P. Holdren, calling it “yet another wake-up call to the global community that we must
act together swiftly and aggressively in order to stem climate change and avoid its worst impacts.”
The administration is pushing for new limits on emissions from American power plants, but faces
stiff resistance in Congress and some states.

Michael Oppenheimer, a climate scientist at Princeton University and a principal author of the
new report, said that a continuation of the political paralysis on emissions would leave society
depending largely on luck. If the level of greenhouse gases were to continue rising at a rapid pace
over coming decades, severe effects could be headed off only if the climate turned out to be much
less sensitive to those gases than most scientists think is likely, he said. “We’ve seen many
governments delay and delay and delay on implementing comprehensive emissions cuts,” Dr.
Oppenheimer said. “So the need for a lot of luck looms larger and larger. Personally, I think it’s a
slim reed to lean on for the fate of the planet.”

The report didn't take into account the November 12 announcement that the U.S. would cut its
emissions 26 percent to 28 percent by 2025 from 2005 levels and that China would “peak” its
emissions by 2030. UN Foundation Chairman Tim Wirth said at a press conference announcing
the report that those actions likely would be a “significant piece” in closing the emissions gap, but
UNEP officials said the pledges were too recent to include in the report.

An early analysis produced by Climate Analytics and other nonprofit climate policy researchers,
which is called the Climate Action Tracker, said the U.S. and China pledges likely still would fall
short of the reductions they would need to make to keep temperatures below the 2 degrees
Celsius threshold.

The U.S. 2025 pledge would put it close to “but on the high side” of an emissions path that keeps
temperatures under a 2 degree rise, and China's emissions likely will be “far above” where they
would have to be.
57. Energy Efficiency Crucial To Closing Climate Ambition Gap

UN experts have emphasized the crucial role of energy efficiency in keeping global warming below 2°C. The world must be carbon neutral by 2065 for a good chance of meeting the 2°C goal, according to the UN Environment Programme’s annual emission gap report.

This should be followed by a drop of all greenhouse gas emissions, including methane, nitrous oxide and other non-CO2 gases, to net zero towards the end of the century. To get there, these emissions will have to start falling within the next ten years and be halved by mid-century, UNEP said.

Measures tackling energy use world-wide could avoid an annual 2.5-3.3 billion tonnes (Gt) of CO2, corresponding to a 5-7% reduction in primary energy demand over the period between 2015 and 2030.

Overall, the gap between countries’ emission reduction commitments and what is needed to halt global warming is not getting any smaller. This gap is estimated to remain at around 8-10 GtCO2 in 2020, the same as last year, and is predicted to increase to 14-17 GtCO2 in 2030. But the gap can still be closed if all potential to reduce emissions in 2030 is exploited, UNEP said. It stressed that postponing action will not only increase costs in the longer term but also lock in carbon-intensive infrastructure, increasing reliance on technologies to achieve negative emissions later on.

“Taking more action now reduces the need for more extreme action later to stay within safe emission limits,” said UNEP executive director Achim Steiner.

If no additional climate policies are put in place, emissions will grow by 70% by 2050, according to UNEP. This would lead to 4°C warming in 2100.

58. IEA Says Future Global Climate Deal Must Address Real-World Energy Use Sector

Any climate deal that comes out of international negotiations during the next year must take into account the central role that energy consumption plays both in fueling economic growth and emitting climate-warming carbon dioxide, the head of the International Energy Agency said November 20th. Energy is “essential” to global prosperity, but 80 percent of the world’s energy still comes from dirty fossil fuels, which account for two-thirds of greenhouse gas emissions and contribute to other environmental problems, IEA Executive Director Maria van der Hoeven said during a webinar. “Consequently, any climate agreement that emerges will need to work for the real-world energy sector,” she said.

Van der Hoeven also said the recent emissions reduction agreement that the U.S. and China announced, especially when combined with the European Union’s recently announced climate targets, puts pressure on the world’s other big carbon dioxide-emitting countries to follow their lead by quickly setting ambitious commitments of their own.

Under governments’ current and proposed energy and climate policies, global energy demand could increase 25 percent by 2030, mainly in emerging economies, pushing carbon dioxide emissions from energy up 15 percent during the same period, according to Van der Hoeven. “That’s an energy path consistent with a global temperature increase of about 4 degrees Celsius in this century,” she said.
IEA’s so-called 450 scenario holds that global atmospheric carbon dioxide must be held to about 450 parts per million this century for the world to have about a 50 percent chance to hold global warming to 2 degrees Celsius (3.6 degrees Fahrenheit) compared with pre-industrial temperatures. United Nations scientists say the 2 degree C level is the threshold beyond which catastrophic climate change becomes exponentially more likely.

In its World Energy Outlook report, published November 12, IEA said at its current pace of rising emissions from oil, natural gas and coal, by 2040 the world will have used up its “carbon budget” for achieving the 450 scenario.

Despite progress on implementing clean, renewable energy technologies, the amount of carbon dioxide emitted for each unit of energy supplied hasn't fallen since the IEA was created 40 years ago, according to Van der Hoeven. “But time remains to act, and the necessary actions are also becoming increasingly clear and accepted,” she said.

Van der Hoeven said she will present the agency's five energy consumption recommendations to international climate negotiators in Lima, Peru, next month. They include:

• Take immediate action. This will build credibility.
• Focus on electricity decarbonization. Strong policies supporting low-carbon electricity could more than halve electricity emissions in 2030.
• Reshape investment and accelerate innovation in low-carbon technologies now. Multilateral collaboration is critical to development and tailoring of nationally appropriate technology solutions.
• Mobilize non-climate goals to promote energy sector decarbonization. Health, transport, energy security and other goals also can drive emissions reductions.
• Strengthen energy-sector resilience to climate change. Even in a 2 degree world, climate change poses threats to energy security that must be addressed through policy and commercial actions.

The IEA released an executive summary of the report, “Energy, Climate, and Environment: 2014 Insights,” to provide in-depth analysis of energy and climate policy questions that negotiators will discuss in Lima. The summary also updates key energy and emissions statistics for 10 world regions.

The agency advises 29 of the 34 Organization for Economic Cooperation and Development member countries, which include some of the world's largest market economies but not China, Brazil, India, Indonesia, Russia or South Africa.

**59. Climate Spending Falls for Second Year, Threatening Goal of 2-Degree Cap**

Spending on carbon-reduction and climate-protection measures by governments and companies fell for a second year, threatening the United Nations’ goal to cap global warming, according to a research report. World expenditures on renewables, energy efficiency and measures that protect against the effects of climate change slid $28 billion, or 8 percent, to about $331 billion in 2013, according to the report published November 20 by the analysis company Climate Policy Initiative.

Governments are trying to devise a new global agreement by the end of 2015 that would cap the increase in the world’s temperature since the Industrial Revolution to 2 degrees Celsius (3.6 degrees Fahrenheit). To achieve that, annual spending on measures such as wind and solar
power needs to more than double to $790 billion by 2020, the International Energy Agency has said.

“Global investments in a cleaner, more resilient economy are decreasing and the gap between finance needed and actually delivered is growing,” Barbara Buchner, a senior director of Climate Policy Initiative and lead author of the study, said in an e-mailed statement. “Climate finance is a key ingredient to bring the world on a 2-degree Celsius pathway.”

The IEA figure doesn't include spending on measures to adapt to the effects of climate change, which were incorporated into the CPI total, making up about 9 percent of the spending.

Government spending in 2013 largely was unchanged at $137 billion as private investment fell 14 percent to $193 billion, largely on the lower cost of solar panels, the report said.

Spending on mitigation measures that reduce emissions totaled $302 billion, and expenditure on adaptation to protect against climate extremes was $25 billion. The remainder was made up of spending spanning the two categories.

Spending to developing nations from richer ones declined by $8 billion last year to $34 billion. President Barack Obama and other Western leaders in 2009 pledged to ramp up annual climate aid to the developing world, including private spending, to $100 billion by 2020.

The UN’s Green Climate Fund, set up to channel an unspecified portion of that climate funding, held a pledging conference November 20th in Berlin. It is targeting initial contributions totaling at least $10 billion and already has chalked up pledges of more than $7 billion from countries including the U.S., Japan, France and Germany.

60. Polar Code to Enter Force in Two Years

The first mandatory safety and environmental rules for ships operating in Arctic and Antarctic waters are set to come into force in just over two years, after a deal was struck recently. The International Maritime Organization (IMO) said the new Polar Code “covers the full range of design, construction, equipment, operational, training, search and rescue and environmental protection matters relevant to ships operating in waters surrounding the two poles”.

But campaign groups say the environmental provisions are inadequate and an additional environmental chapter may be needed to protect against the problems posed by increased shipping activity as sea ice recedes.

The Code will limit entry into ice depending on ships’ ability to withstand ice pressure. But NGOs say it is worrying that non-ice strengthened ships will still be allowed to operate in ice-covered waters. They also criticized the fact that heavy fuel oil will still be permitted for use in Arctic waters.

The rules will be enacted under existing IMO conventions on safety and the environment so will not need to be ratified before taking effect. The IMO’s safety committee approved the Code already, while the environment committee is due to adopt it in May after finalizing rules on pollution prevention and on fishing vessels.

The environment committee has already approved restrictions on oily and noxious discharges into polar waters as part of the Code. Disinfected sewage discharges will be permitted 12 nautical miles from land or ice.
From 1 January 2017 the Code will apply to new ships constructed after that date. Existing ships will be required to meet the relevant requirements by 1 January 2018.

61. Global Stand-Off Over HFCs Begins To Thaw

Negotiations under the UN's Montreal Protocol have taken a step towards an agreement to phase down climate-warming hydrofluorocarbons (HFCs). India joined China in softening its stance on discussing HFCs under the Montreal Protocol and publicly acknowledged the need for action. The two major producers of these chemicals have previously argued that HFCs should not be addressed under the Montreal Protocol, which was set up to tackle ozone-depleting substances.

But Saudi Arabia and its regional allies continued to oppose action on the grounds that adequate substitutes for HFCs are not yet available for air conditioning in hot climates.

HFCs were developed as refrigerants to replace gases banned due to their detrimental effect on the ozone layer. But there is now a broad agreement that HFCs will need to be addressed due to their high global warming impact.

Observers said the customary outright refusal to discuss HFCs was absent from this round of talks. "This meeting has witnessed the start of a process which will continue next year, with a definitive agreement ahead of the Paris 2015 climate meeting a real possibility," said Clare Perry of NGO Environmental Investigation Agency.

The EU went into the talks with a discussion paper proposing a new concept of tackling HFCs. It put forward an "ambitious" phase down of HFCs by industrialized countries and an early freeze in developing countries. The EU said its proposal is compatible with the F-gas regulation adopted earlier this year.

The European Commission announced that it has started implementing the regulation by allocating quotas to companies, which will allow them to sell HFCs on the EU market. These quotas will be gradually cut in line with the regulation's phase down schedule until they reach 21% of today's sales in 2030.

The EU executive said it has also adopted new reporting rules for companies to declare their trading activities in F-gases.

62. U.S., British Data Show 2014 Could Be Hottest Year on Record

This year may eclipse 2010 as the hottest since records began in the 19th century, a sign long-term global warming is being stoked by rising greenhouse gas emissions, scientists said. The period of January to October 2014 is already among the warmest ever recorded, and a warm ending to the year could easily make it top, according to U.S. and British data.

Skeptics who doubt the necessity of a shift away from fossil fuels to stop the Earth's climate from heating up point out that world average temperatures have not risen much since 1998, despite rising greenhouse gas emissions.

But the final ranking for 2014, due next year, may influence public and business perceptions about the severity of climate change. Almost 200 governments are due to agree a U.N. deal to combat global warming in Paris in December next year. "2014 is more likely than not to be the warmest
year," Tim Osborn, a professor at the Climatic Research Unit at the University of East Anglia, told Reuters, saying manmade greenhouse gas emissions are tending to push up temperatures.

He said there were many uncertainties about where 2014 would rank because of natural variations in temperatures late in the year. Also, a big volcanic eruption might spew out ash that dims sunshine, cooling the planet.

The U.N.'s World Meteorological Organization (WMO) will publish a preliminary ranking for 2014 on December 3, during annual U.N. talks in Peru which will prepare the Paris accord.

Promises for action by China, the United States and the European Union have made a global deal more likely, but any agreement will probably be too weak to halt rising temperatures despite new scientific warnings of powerful storms, floods, desertification and rising sea levels.

Of the WMO's three main data sources, the U.S. National Oceanic and Atmospheric Administration (NOAA) ranks January-October 2014 as the warmest such period on record, NASA as the second-warmest and the British Met Office and University of East Anglia as the third-warmest. NOAA says 2014 is on track to be the warmest on record. The rankings differ partly because scientists use different estimates for places with few thermometers, such as the Arctic.

"It probably is a bit premature to say 2014 will be the warmest year on record," said Michael Cabbage, spokesman for NASA's Goddard Institute for Space Studies.

The British data place 2014 third, fractionally behind 2010 and 1998, which both cooled toward the end of the year.

Despite a slowdown in the pace of warming since 1998, the WMO says 13 of the 14 warmest years on record have been in this century.

63. Studies Highlight Importance for Life Cycle Analysis in Emissions Regulations

The results of two recent case studies regarding the impact of different automotive materials on total life cycle greenhouse gas (GHG) emissions for sport utility vehicles (SUVs) and light duty truck classes have been released by WorldAutoSteel, focusing on the significance of life cycle mindset for regulating vehicle emissions.

In the surveys, which conducted a life cycle assessment (LCA) of each vehicle class, it was observed that advanced high-strength steel (AHSS) materials used for light-weighting, reduced total life cycle emissions and fuel consumption.

The Automotive Materials Energy and GHG Comparison Model (UCSB Model) designed by Dr. Roland Geyer from the Bren School of Environmental Sciences, University of California, Santa Barbara was used to conduct the case studies.

The case studies compared an AHSS-intensive and an aluminum-intensive design, which in turn was compared with a traditional steel design. The entire life cycle of the vehicle from material production, to manufacture, to production of fuel, use of the vehicle, vehicle disposal, and recycling were considered.

Several iterations of the model were done with a variety of input factors in order to replicate the possible conditions that a vehicle may be subjected to. Considering the best performance of each
vehicle, it was seen that the steel design was better than the aluminum vehicle by 3% and 5% for the light duty truck and SUV, respectively.

When both the vehicles were designed using AHSS, for fleet production of 200,000 SUVs and 700,000 trucks, the total emission savings, when compared to aluminum-intensive vehicles, was estimated to be 1.7 million metric tonnes.

In the UCSB model, engines, driving cycles, effects of light-weighting, fuel types and other factors affecting fuel consumption are also considered, hence focusing on fuel savings.

**Sport Utility Vehicle (SUV) Case Study**

This case study analyzes the following scenario: If 930kg of conventional steel in the doors, body structure, hood, closures, suspension and subframe is substituted with 630kg aluminum or 698kg of AHSS, which material is superior with regards to fuel savings and a reduction in the vehicle's emissions?

The study analyzed the impact that different automotive materials have on total life cycle greenhouse gas (GHG) emissions for a SUV. In this best case scenario of lowest total emissions, in which total life cycle GHG emissions are observed, aluminum was substituted to bring down fuel consumption, but when compared to the traditional steel baseline, the total life cycle emissions were reduced by less than 1000kg. However, best AHSS design scenario brought down emissions by more than 3,000kg.

In all the 5000 iterations, the AHSS-intensive design causes lower GHG emissions when compared to the aluminum-intensive design. For a 200,000 vehicle fleet, an AHSS-intensive SUV design saves 60,000 metric tonnes of CO2e total life cycle emissions when compared to the aluminum-intensive vehicle.

Based on fuel consumption estimates, the aluminum SUV owner can save one-fifth of their fuel each year over the steel owner based on 12-year vehicle lifetime and 26-gallon fuel tank. The graph below shows the results of the SUV case study.

**Light Duty Truck Case Study**

This case study analyzes the following scenario: If 686kg of conventional steel in the doors, body structure, truck bed and hood are substituted with 446kg aluminum or 515kg AHSS, which of the two designs is superior in terms of fuel savings and a reduction in the vehicle's emissions?
This case study analyzed the impact of different automotive materials on total life cycle greenhouse gas (GHG) emissions for a light duty truck vehicle class.

In the best case scenario showing total life cycle GHG emissions, the truck designer tried bringing down driving emissions by substituting aluminum and reduced total life cycle emissions by 1500kg. However, the AHSS design brought down emissions in comparison with the baseline by more than 3000kg.

In all the 5000 iterations, the AHSS design resulted in lower GHG emissions when compared to the aluminum-intensive design. For a 700,000 vehicle fleet, an AHSS design saves 1MMT of CO2e total life cycle emissions when compared to the aluminum-intensive vehicle.

Based on fuel economy estimates, the aluminum truck owner can save one-third of one fuel fill up every year over the steel owner based on 26-gallon fuel tank and 12-year vehicle lifetime.

### Best Case Scenario (kg of CO2e)

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<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Aluminium</th>
<th>AHSS</th>
</tr>
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<tbody>
<tr>
<td>Emissions</td>
<td>105,000</td>
<td>95,000</td>
<td>85,000</td>
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### Results and Summary

The results obtained showed that there was no significant reduction in fuel consumption when using aluminum instead of steel. The aluminum and AHSS designs decreased structural weight by 35% and 25%, respectively. It was observed that for the SUV and truck cases, the AHSS designs were within 70kg of the aluminum weight savings.

In terms of light-weighting, reducing weight using aluminum for bringing down fuel consumption caused a higher environmental footprint at a cost, thrice that of steel. When considered in terms of life-cycle, the emissions produced by AHSS-intensive vehicles were lesser than that of the aluminum-intensive one.

Steel is a better performer according to the study as primary steel production including AHSS produced 7-20 times lesser emissions than magnesium, aluminum and carbon fiber reinforced plastics. It is important to note that setting targets for emission reduction based on light-weighting technologies without completely appreciating their life cycle impact, makes it impractical to understand whether emission reduction targets are being met.

According to WorldAutoSteel, a life cycle approach to regulating vehicle emissions will enable better ways to actually bring down automotive industry emissions.

64. IPCC Issues Detailed Report on Needed Global Actions

Global greenhouse gas emissions increased by an average of 2.2 percent per year from 2000 to 2010, nearly double the 1.3 percent-a-year growth over the preceding 30 years, the
Intergovernmental Panel on Climate Change said in a report released on November 28th. The 1,400-plus-page report, the most recent volume produced by the United Nations scientific body, is essentially a compendium of data and research that was used to anchor an already-released summary for policymakers detailing options for mitigating emissions. The IPCC released that summary November 3rd.

The IPCC reports often are cited by international climate negotiators in the high-level UN climate talks, which resume December 1-12 in Lima, Peru. The talks are to conclude in late 2015 in Paris with a global accord to curb greenhouse gas emissions beginning in 2020 and address the need to help vulnerable countries adapt to the impacts of rising sea level and other climate effects.

According to the November 28th report, titled “Climate Change 2014: Mitigation of Climate Change: Working Group III Contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change,” annual greenhouse gas emissions grew the equivalent of one gigaton of carbon dioxide each year from 2000 to 2010, more than double the 0.4 gigaton-per-year rate that emissions increased from 1970 to 2000.

The latest report also contains 1,200 scenarios detailing options for reducing emissions and their impact on the climate. The report includes a chapter focusing on human settlement patterns and another detailing the challenge of amassing significant global resources to address climate change.

The total amount of funding needed to meet emissions mitigation and adaptation needs, for example, ranges from $343 billion to $385 billion per year, the report said, and the bulk of current funding—which is well short of that level—is funding emissions mitigation efforts, not helping countries adapt to climate change.

65. Regional Air Pollution Improvements Have Global Health Benefits

Reductions in emissions of fine particle air pollution can prevent premature deaths, not just locally, but also in countries thousands of kilometers away, new research illustrates. The transcontinental study examines the effects of reducing air pollution emitted from Europe, North America, South and East Asia by 20% and shows that, for example, reductions in the EU would mean 3700 fewer premature deaths in the other three regions every year.

Fine particulate matter – emitted by numerous sources, including fossil fuel burning – has been linked to serious health problems such as heart and lung diseases and lung cancer. Furthermore, this form of air pollution can travel across continents in the atmosphere, and affect individuals far from the source.

This study investigated the atmospheric transport of particles with a diameter of 2.5 micrometers or less (PM2.5), and how a 20% reduction in PM2.5 emissions (including direct emissions of PM2.5 and ‘precursor’ gases which react to form PM2.5 in the atmosphere) might reduce mortalities. The researchers considered emissions from four major industrial regions: North America, Europe, East Asia, and South Asia. They used 12 models contributing to a modell
exercise in the international Task Force on Hemispheric Transport of Air Pollution to estimate the effects of reducing both pollution emitted directly as PM2.5 (black carbon and primary organic aerosols) and chemicals which react to form PM2.5 (sulfate and secondary organic aerosols).

The models considered the effects of a 20% drop in emissions, as compared to 2001 levels. Mortality rates were mapped using information on the relationship between PM2.5 pollution and premature deaths, which has been well established by previous research. The researchers only considered people 30 years old and above, as these individuals are most likely to suffer the effects of PM2.5 pollution, for example, lung cancer.

On average, most deaths occur within the region producing the pollution (93-97%). However, a reduction of 20% of emissions across the four regions would reduce the number of deaths due to pollution from outside each region by approximately 11 500 every year. Overall, 1700 premature deaths could be avoided every year in Europe if the other three regions reduced PM2.5 and precursor emissions by 20%. This accounts for about 5% of the number of mortalities which would be avoided by a 20% emissions reduction within Europe itself, totaling approximately 37 400.

Reductions in the EU would avoid more premature deaths in the other three regions (approximately 3700) than for any of the other areas considered. South Asia and East Asia would benefit the most from a 20% cut in emissions in the European region, with 1900 and 1600 mortalities avoided annually.

The researchers also compared PM2.5’s effects with the effects of ground-level ozone, another damaging air pollutant that has been studied using the same models. PM2.5 has a shorter ‘lifetime’ in the atmosphere and travels less far than ozone. The results show that the effects of ozone are more likely to be felt outside the source region. However, PM2.5 is more damaging to health and a reduction in this type of pollution actually avoids one and half times more deaths outside the source region than those due to ozone.

Overall, the results show that air pollution can have impacts far beyond the country or even region in which it is emitted. The researchers emphasize the importance of good international co-operation to complement national air pollution policies.

66. Lima Deal Offers Flexibility on 2015 CO2 Pledges

Countries’ emission reduction pledges for the global climate deal will not be subject to a review process before next year’s summit in Paris, negotiators have agreed. Each country will have to go beyond its “current undertaking” on emissions reduction, it was decided after two weeks of talks in Lima, Peru.

The ‘Lima Call for Climate Action’ contains few obligations on the content of the pledges and no strict deadline. Neither is there a mechanism to ensure countries’ efforts are enough to keep global warming below the agreed 2°C threshold, as parties including the EU had originally envisaged, although the UN climate secretariat will draft a report before Paris on the combined effect of the commitments.

Pledges are to be tabled in the first three months of 2015 by those countries able to do so.

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7 Set up under the auspices of the Convention on Long Range Transboundary Air Pollution.
Countries will be allowed to pick and choose the type of information they wish to communicate on their contributions. Options include quantifiable information such as a base year for the target and implementation periods. Countries may also outline how they consider their contribution to be “fair and ambitious” in light of their national circumstances.

The EU has been calling for an assessment of countries’ contributions to ensure they stack up against the 2°C objective, although it watered down its position before Lima.

The Lima agreement invites countries to include an adaptation component to their pledges in addition to emission mitigation.

Developing countries had pushed rich countries to commit to detailing financing contributions too, but they were not successful on this front.

UNFCCC executive secretary Christiana Figueres said the issue of assessing countries pledges had been one of the most controversial at the talks.

It was considered to be already very challenging for most countries to present their pledges in the first part of next year, so negotiators decided to prioritize “putting numbers on the table” rather than hammering out a review process, she told a press conference after the talks.

A compromise wording on sharing emission reductions enabled negotiators to clinch a deal in Lima, but many controversial issues remain undecided for next year's climate agreement.

The annual UN talks were plagued by disputes between rich and poor countries on how to share the burden of emission reductions under a global deal. Emerging economies want to retain the concept of “common but differentiated responsibilities” of the 1992 climate convention while the EU and other industrialized nations argue that times have changed and everybody needs to chip in according to their abilities.

A compromise text placated developing countries’ concerns by retaining “common but differentiated responsibilities” but adding “in light of different national circumstances”.

Negotiators annexed a 39-page draft negotiating text to the 'Lima Call for Climate Action’ offering a menu of choices for a new climate agreement where no consensus was reached. It suggests that the countries could take on a long-term target of net zero emissions by 2050. At the other end of the spectrum they could simply be required to develop low emission strategies.

The draft also proposes phasing down high-carbon investments and fossil fuel subsidies.

Many procedural issues also remain undecided, including the legal form of the future agreement. The text provides a multitude of options on how often countries will need to update their targets with all combinations between five and ten years still in the game.

Negotiators also discussed how to speed up emission reductions before 2020 but were unable to agree specific plans.

Talks will continue in Geneva in February with the aim to reach agreement on a negotiating text by May.
67. Paris Climate Summit Said To Face Tougher Job After Modest Lima Deal

A Paris summit in 2015 will face a tougher task to agree a U.N. deal to slow climate change after the hopes of many that cooperation between Washington and Beijing would be a magic key to end global gridlock dissolved in chaotic preparatory talks in Lima.

At best, Paris may be a chance to reform a sprawling system of annual U.N. talks - more than 11,000 delegates attended the two-week talks in a tent city in Lima - and find ways to boost long-term action to stem rising greenhouse gas emissions.

After a frantic conclusion two days into overtime, about 190 governments agreed only to some modest building blocks of a Paris accord despite high expectations for a positive outcome after the China and the United States, the world's top two emitters, last month agreed jointly to limit emissions. But the political momentum of the deal gave way to the familiar divisions and "red lines" that routinely bog down talks, especially on the question of how to differentiate the responsibilities of rich and poor countries.

"The U.S.-China announcement hinted at a fundamental shift putting developed and developing countries on a more equal footing. It's no surprise that in Lima a lot of developing countries pushed back," said Elliot Diringer of the Center for Climate and Energy Solutions.

The United Nations says it is already clear that promises for emissions curbs at a Paris summit in December 2015 will be too weak to get on track for a U.N. goal of limiting global warming to 2 degrees Celsius (3.6 F) above pre-industrial times. "We will have a lot of work to do," French Foreign Minister Laurent Fabius said of the task ahead for Paris.

Still, 2015 holds out a hope of reform for the U.N. system to rein in greenhouse gases blamed for causing heat waves, floods, droughts and rising sea levels.

Paris could mark a shift away from two decades of climate diplomacy toward a more technocratic system that would allow national pledges for action to limit warming to be compared and toughened in coming years.

Yvo de Boer, a former U.N. climate chief, said one problem was that U.N. negotiators lacked authority. "If the leaders of the Group of 20 got together and said 'let's get this done' the whole thing would be over in 30 minutes," he told Reuters.

De Boer, who heads the Global Green Growth Institute, which helps developing nations, noted that annual climate talks have ballooned since 1,000 delegates attended a first meeting in 1994. "Paris could be an opportunity to change that, if it identifies the cornerstones of the work that needs to be done. It could make it into a technical process and not a political process," he said. So far, however, the signs even of that are not good.

Texts agreed in Lima will oblige governments to provide only vague plans for limiting greenhouse gas emissions - the cornerstone of a Paris deal - after China objected to a European Union drive for detailed accounts.

The outcome of the Lima talks, which attracted delegates ranging from OPEC oil ministers to vegans dressed as chickens, means that a Paris deal is likely to be a mere patchwork of national offers for curbing emissions.
Adding pressure, this year is set to be the warmest, or among the very hottest, on record, according to the U.N. weather agency.

Some long-time U.N. climate talk observers said the weak outcome from Lima proves that the U.N. multilateral process is not the best for climate action. Businesses and cities are among those taking action. "While negotiators had difficulty in reaching agreement in Lima even on a modest set of outcomes, the U.N. is no longer the only show in town," said Nathaniel Keohane of the Environmental Defense Fund.

68. Greenland Ice Melt Underestimated, Study Says

Amount of land covered by supraglacial lakes on Greenland ice sheet will double by 2060, exacerbating melting as temperatures rise.

Supraglacial lakes on the Greenland ice sheet can be seen as dark blue specks in the center and to the right of this satellite image.

Photograph: USGS/Nasa Landsat

Melting ice from the coast of Greenland could make a much bigger contribution to rising sea levels than has previously been thought, a new study suggests.

Scientists believe a previously overlooked side-effect of global warming could greatly increase the rate of melting of the vast Greenland ice sheet.

The ice covers 1.7m sq. km (656,000 sq. m), an area three times the size of Texas. If all the ice melted and flowed into the sea, oceans around the world would rise by as much as six meters (20ft), causing extensive damage to coastal communities.

While such a disaster is not expected to happen, ice losses from Greenland are predicted to contribute 22 cm (8in) to global sea levels by 2100. But the new findings related to lakes formed from melted ice and snow indicate that this figure may be significantly too low. The study shows that as Arctic temperatures rise, Greenland will develop a rash of these “supraglacial” lakes which are expected to spread much further inland. By 2060, the amount of land they cover could be double what it is today.

One key effect the lakes have, once they reach a critical size, is to drain through fractures in the ice to reach the ice sheet base. Like a lubricant, the lake water causes the melting ice to slide more rapidly into the ocean. The lakes also have a direct impact on ice sheet melting because, being darker than ice, they absorb more of the sun’s heat.
Lead researcher Dr Amber Leeson, from the University of Leeds’ School of Earth and Environment, said: “Supraglacial lakes can increase the speed at which the ice sheet melts and flows, and our research shows that by 2060 the area of Greenland covered by them will double.

“When you pour pancake batter into a pan, if it rushes quickly to the edges of the pan, you end up with a thin pancake. It’s similar to what happens with ice sheets: the faster it flows, the thinner it will be. “When the ice sheet is thinner, it is at a slightly lower elevation and at the mercy of warmer air temperatures than it would have been if it were thicker, increasing the size of the melt zone around the edge of the ice sheet.”

The scientists based their findings on observations of the ice sheet from European Space Agency satellites and predictions of future ice melting from a climate simulation model.

Until now, supraglacial lakes have been restricted to a 62-mile wide low-lying band around Greenland’s coastline. At higher elevations further inland it has been too cold for lakes to form. The new results suggest that warmer temperatures will cause the lakes to spread up to 68 miles further inland by 2060, doubling the size of the area they cover.

Leeson added: “The location of these new lakes is important; they will be far enough inland so that water leaking from them will not drain into the oceans as effectively as it does from today’s lakes that are near to the coastline and connected to a network of drainage channels.

“In contrast, water draining from lakes farther inland could lubricate the ice more effectively, causing it to speed up.”

The research is published in the journal Nature Climate Change.

Professor Andrew Shepherd, director of the multi-institution Centre for Polar Observation and Modelling (CPOM), who is also from the University of Leeds, said: “Because ice losses from Greenland are a key signal of global climate change, it’s important that we consider all factors that could affect the rate at which it will lose ice as climate warms.

“Our findings will help to improve the next generation of ice sheet models, so that we can have greater confidence in projections of future sea-level rise. In the meantime, we will continue to monitor changes in the ice sheet losses using satellite measurements.”

69. Snow Is Down and Heat Is Up in the Arctic, Report Says
The Arctic continues to warm faster than the rest of the globe, and with greater repercussions, scientists are reporting.

The new findings appear in the Arctic Report Card, first published in 2006 by the National Oceanic and Atmospheric Administration and updated annually. The report card catalogs the wide-ranging changes caused by the rising temperatures, in large part driven by emissions of greenhouse gases.

Snow cover, measured since 1967, was below average and set a record low in April in the Eurasian region of the Arctic. Sea surface temperatures are rising, particularly in the Chukchi Sea, northwest of Alaska, where the waters are warming at a rate of almost one degree Fahrenheit per decade.

The extent of Arctic sea ice, which retreats in summer, did not hit a record low in 2014. But it was the sixth lowest since satellite measurements began in 1979, and the scientists noted that the eight smallest extents have occurred in the last eight years.

As sea ice retreats, more sunlight reaches the upper layers of the sea, leading to more phytoplankton blooms, seen here in the Bering Sea this fall. Credit NOAA

“We can’t expect records every year,” Martin Jeffries of the Office of Naval Research, who edited this year’s report, said at a news conference here at the fall meeting of the American Geophysical Union. “It need not be spectacular for the Arctic to continue to be changing.”

With less sea ice and more open water, sunlight entered more of the ocean, leading to a bloom of tiny marine plants. On land, the greenness of the tundra continues to increase, the report said, indicating fewer snow-covered areas.

The decline in sea ice also diminished the number of polar bears in western Hudson Bay in Canada from 1987 to 2011, but populations appeared to be stable elsewhere. Polar bears rely on sea ice to travel and hunt.

In Greenland, scientists observed that melting occurred on almost 40 percent of the ice sheet during the summer, and in August, the ice sheet reflected less of the sunlight than at any time since the beginning of satellite observations in 2000. In a separate news conference, scientists reported that NASA satellite measurements have confirmed that a darker, less reflective Arctic absorbs more heat and accelerates melting.
The mass of the Greenland ice sheet, however, remained steady from 2013 to 2014, compared with major losses two years ago. The report card also noted the unusual jet-stream wind pattern last winter, often labeled the polar vortex, that led to frigid weather across much of the United States but balmy temperatures in Alaska.

The NASA reflectivity measurements found that since 2000, the amount of absorbed solar radiation in the Arctic during the summer months rose 5 percent. No significant change was seen for the rest of the planet. The Arctic areas with the greatest increases corresponded to the areas of declining sea ice. The change is equivalent to a 10-watt light bulb shining over every square meter, or 10.76 square feet, of the Arctic Ocean. In areas of greater warming, like the Beaufort Sea north of Alaska, the increase is 50 watts per square meter.

Many scientists expect the Arctic to become ice-free in summer by the end of the century, with some predicting that it could happen much sooner.

“I think the important point about the models is not to dwell on the fact that they differ, but it is to dwell on the similarities,” Dr. Jeffries said. “They all point in the same direction.” The decline of ice will continue to affect life in the Arctic. It will also open up shipping lanes and the possibility of oil drilling. “You don’t have to go to zero for these to become a big deal,” Dr. Jeffries said.

Year-to-year variability also remains large, so much so that it is not certain that the extent of sea ice will shrink in the near future.

“If someone asked me if sea ice is going to go up or down in a decade, I’d flip a coin,” said Jennifer Kay, an atmospheric scientist at the University of Colorado. But she also had no doubts about the long-term trend toward a warmer Arctic with less ice.

“If it’s 30 or 40 years out,” she said, “I have no need to flip a coin.”
Hyundai's Fuel Cell Engine ZEV Recognized by Ward's Annual 10 Best Engines List

Hyundai's fuel cell cars being offloaded

First Time a FCEV Engine is honored in annual accolade--Hyundai Motor's zero-emission fuel cell engine, which debuted on the ix35 Fuel Cell, has been recognized as the first engine of its kind in the annual Ward's 10 Best Engines by Ward's Auto World. The WardsAuto World editors tested and named the most sophisticated engines available on the market today.

Hyundai Motor's ix35 Fuel Cell, the world's first mass-produced fuel cell electric vehicle, was delivered to the first UK customers in October 2014. Elsewhere in the world, the innovative vehicle has been available in Southern California, USA, since June 2014, where the vehicle is known as Tucson, and is currently operating in about a dozen European countries.

"Hyundai engineers did a stunning job of slipping the most advanced automotive technology imaginable into a roomy family vehicle and making it all very consumer friendly," said Drew Winter, editor-in-chief of WardsAuto World magazine. "The powertrain is exceptionally quiet and has a range of 265 miles. Plus, it can be refueled in minutes instead of hours like a battery-electric vehicle. The Hyundai Tucson Fuel Cell is a great engineering achievement and a giant leap for zero-emissions vehicles."

Hyundai’s fuel cell effectively replaces the battery pack used in an electric vehicle by generating electricity from hydrogen through an electrochemical process that does not involve hydrogen combustion, with no moving parts within the fuel cell stack. ix35 Fuel Cell maintains the day-to-day flexibility of the petrol or diesel-powered ix35 so that its driver is able to immediately enjoy the next generation of electric vehicles without range or recharge-time compromises to their lifestyle.

"Being included in the prestigious Ward’s 10 Best Engines list validates Hyundai Motor's powertrain technology leadership as the fuel cell was the first engine of its kind to be honored," said Dr. Woong-Chul Yang, Vice Chairman of Hyundai Motor's R&D Headquarters in Korea. "Hyundai Motor will continue to utilize its global R&D resources to develop innovative and game-changing powertrains and technologies, to offer customers more choices when making environment-conscious decisions."

Since the Ward's 10 Best Engines began in 1995, Hyundai Motor has been included four times: the Tau V-8 was honored in 2009, 2010 and 2011 and the Gamma I-4 in 2012. The award ceremony takes place at a banquet during the North American International Auto Show on January 14, in Detroit.
When it comes to making and selling cars, the auto industry thinks and acts globally: There is near-seamless coordination between parts suppliers, factories and dealerships. But when an unsafe car needs to be recalled, that global coordination breaks down in part because governments do not demand it. The consequences are sometimes deadly.

There are no international standards for determining what's unsafe and should be recalled, or how car owners should be notified. Some countries have strict safety regulations and a clear process that automakers must follow when they learn about a defect. But many do not.

"We've witnessed recalls occurring in one part of the world while the same defects go unremedied in others, sometimes for years," said Sean Kane, a safety advocate and president of Safety Research and Strategies. "That should not happen."

Six years ago, Honda began recalling driver's side air bags in the U.S. The air bags, made by Japanese supplier Takata Corp. at a now-shuttered plant in Georgia, can inflate with too much force, spewing shrapnel into the vehicle. But it wasn't until November of this year - after the death of a driver in Malaysia - that Honda recalled driver's side air bags in small cars sold in Europe and Asia, even though the air bags were made at the same time in the same Georgia factory.

Governments are the safety watchdogs, but regulations vary widely and there's little cooperation between nations. Automakers, for the most part, get to decide when and where their cars will be fixed. Some auto executives say they would support global safety standards - but are also aware they save money by limiting recalls to certain regions or skimping on safety features in countries that don't require them.

Safety advocates say governments need to keep better track of potential problems and alert drivers to them more quickly. They're hoping new technology that allows direct communications with the cars themselves can help bridge the gaps.

Automakers used to design cars regionally. Cars in Europe shared few parts with those in the U.S., so when a vehicle needed repairs, the recall rarely spread past international borders. That's no longer the case. A car like the Ford Focus is designed to be sold everywhere, with only minor tweaks to satisfy local tastes and regulations. It's made in nine different factories around the world.

Car parts are global as well. Almost all the major automakers use air bags from Takata, which has 56 plants in 20 countries. The Japanese company makes around 22 percent of the world's air bags, according to Valient Automotive Market Research.

The approach saves money, but some experts question whether companies compromised safety in the rush to go global. Auto analyst and engineer Tadashi Tateuchi says he believes Takata and Honda, Takata's biggest customer, were overly focused on globalization and boosting sales and allowed safety issues to fall through the cracks.

Honda responds that the air bags sold in the U.S. were different, and more advanced, than those involved in the Malaysia crash. Even though they both ruptured, determining the underlying cause took time. "The ability to make timely recall decisions therefore cannot and should not be viewed as a simple process," Honda spokesman Chris Martin said.
72. Volvo’s Electric Hybrid Tested in Hamburg

The new Volvo 7900 Electric Hybrid commenced scheduled operation in Hamburg on December 18. The starting point for the bus system coincided with the opening of the Innovation Route 109. The route will be used by the public transport company in Hamburg, the Hamburger Hochbahn AG (HOCHBAHN), to run comparative tests of innovative drive technologies under the strict everyday conditions of scheduled services. The city of Hamburg has established the target: from 2020, only emission-free buses should be acquired by the city.

The Innovation Route 109 of HOCHBAHN will be almost exclusively served by buses with innovative drive technologies. Different types and drive modes for the sustainable buses of the future are to be tested in parallel and under identical conditions. Conventional diesel buses will also be used on the route to serve as reference vehicles in the scientific comparison of the innovative drive concepts.

The Innovation Route 109 runs from the Electric Bus Terminal near Hamburg Central Station to the final stop at the underground station in Alsterdorf. With a length of about ten kilometers, it’s highly suitable for the Volvo Electric hybrid buses, with their plug-in technology that permits full electric operation over at least seven kilometers. Charging takes place at the two bus terminals.

With the newest vehicles, the HOCHBAHN is expanding its rolling development lab for modern drive technology to a total of about 65 vehicles.

With its electric hybrid bus incorporating Euro 6 equipment, electric motor and plug-in technology, Volvo is further developing its electromobile role. Charging takes place at the end stop using a pantograph that is integrated with the charging station. When the bus has reached its parking position under the charging mast, the pantograph is lowered to both of the charging bars on the roof of the bus when the driver presses a button. The complete charging process takes only six minutes.

The lithium ion iron phosphate charger provides the electric motor (150 kW) with power. The bus travels at least seven kilometers purely on electricity, before the Euro 6 diesel aggregate switches on. On the stretches driven only on electricity, the bus is completely emission-free and extremely low-noise: Near to a Volvo 7900 Electric Hybrid, the noise level can be compared to normal conversation level.

73. ExxonMobil’s Outlook for Energy Sees Global Increase in Future Demand

Significant growth in the global middle class, expansion of emerging economies and an additional 2 billion people in the world will contribute to a 35 percent increase in energy demand by 2040, according to a new report by ExxonMobil.

As demand increases, the world will continue to become more efficient in its energy use, according to the 2015 Outlook for Energy: A View to 2040. Without efficiency gains across economies worldwide, energy demand from 2010 to 2040 would be headed toward a 140 percent increase instead of the 35 percent forecast in the report.

ExxonMobil’s Outlook for Energy projects that carbon-based fuels will continue to meet about three quarters of global energy needs through 2040. The outlook shows a shift toward lower-carbon fuels in the coming decades that, in combination with efficiency gains, will lead to a gradual decline in energy-related carbon dioxide emissions.
Wind, solar and biofuels are expected to be the fastest-growing energy sources, increasing about 6 percent a year on average through 2040, when they will be approaching 4 percent of global energy demand. Renewables in total will account for about 15 percent of energy demand in 2040. Nuclear energy, one of the fastest-growing energy sources, is expected to nearly double from 2010 to 2040, with growth in the Asia Pacific region, led by China, accounting for about 75 percent of the increase.

The Outlook for Energy is developed by examining energy supply and demand trends in 100 countries, 15 demand sectors covering all manner of personal and business needs and 20 different energy types.

The global middle class is expected to climb from about 2 billion in 2010 to almost 5 billion people by 2030, representing more than half of the world’s population, according to the Brookings Institution. As projected, that middle class expansion – largely in India and China – will be the largest in history and will have a profound impact on energy demand. Along with income gains, on-going societal changes such as expanded infrastructure, electrification and urbanization will contribute to greater energy use.

The Outlook for Energy identifies a significant evolution in the trade of oil and other liquids. A major shift is seen as North America will likely become a net exporter of liquids by 2020 as supplies of so-called tight oil, natural gas liquids and bitumen from oil sands increase. This is expected to open new trading opportunities as Asia Pacific’s net imports are projected to rise by nearly 80 percent by 2040. Africa’s liquids exports are expected to decline as local demand more than doubles. In Latin America, growth in supplies is anticipated to outpace demand as supplies of deep-water and unconventional liquids expand.

North America unconventional gas production will nearly triple by 2040 and the region is expected to surpass the combined output of Russia and the Caspian region as the largest gas-producing area. In Asia Pacific, gas production is seen doubling by 2040, driven partly by unconventional production technologies. Demand in the region is expected to climb by about 170 percent, according to the outlook, and as a result, Asia Pacific will likely overtake Europe as the world’s largest gas importer.

Natural gas is expected to be the fastest-growing major fuel source during the outlook period as demand increases by about 65 percent. Half of that increase will come from the Asia Pacific region, led by China. Utilities and industrial operations are expected to account for about 80 percent of the demand increase worldwide, as operators increasingly choose natural gas because of its lower emissions and versatility as a fuel and feedstock. By 2040, natural gas is expected to account for more than a quarter of global energy use, surpassing coal in the overall mix.

Demand for coal is expected to rise through 2025 and then decline as China’s economic growth gradually slows and it follows the shift seen in Organization for Economic Co-operation and Development (OECD) countries toward cleaner fuels. Still, over time, global coal demand is expected to remain most prominent in Asia Pacific, primarily to support growing power-generation requirements.

Other key findings of the outlook include:

- Non-OECD countries will represent 70 percent of global energy demand by 2040, but energy demand per person in these nations will remain well below OECD levels.
• Energy required to meet rising electricity demand will account for about half of total demand growth.
• Technologies that unlock new unconventional oil and gas supplies will help enable oil and natural gas to meet about 65 percent of global energy demand growth.
• Progress on curbing carbon dioxide emissions through 2040 will be led by OECD nations as energy demand declines and a shift to lower-carbon fuels occurs. Energy-related carbon dioxide emissions in those countries are projected to be about 10 percent below 1980 levels, even though they will have about 40 percent more people and significantly larger economies.
• Across OECD nations, the outlook assumes the implied cost of policies to reduce greenhouse gas emissions will reach about $80 per tonne in 2040.
• Oil is expected to remain the No. 1 energy source and demand will increase by nearly 30 percent, driven by expanding needs for transportation and chemicals.
• By 2040, abundant sources other than conventional crude and condensate will account for about 45 percent of global liquids production, compared with less than 25 percent in 2010. Remarkably, estimates of remaining recoverable crude and condensate relative to current demand have risen from about 60 years in 1981 to about 150 years as of 2013.
• Rising natural gas demand will be met with abundant new supplies and significant expansion in trade as unconventional gas production nearly quadruples and LNG trade triples by 2040.

74. IEA Report on Coal: Old Times, New Times

In 2013, coal added more primary energy than any other fuel and was the fastest-growing fossil fuel. 2013 coal demand grew 2.4% on a tonnage basis, more than oil and gas, enhancing its position as the second-largest primary energy source and closing the gap with oil. This trend, driven by the role of coal as the main provider of electricity, is a déjà vu of IEA’s annual Medium-Term Coal Market Reports. Similarly, the People’s Republic of China was once again driving this growth. Growth in China (196 million tonnes [Mt]) was actually larger than global growth (188 Mt). In the United States, 2013 higher gas prices prompted coal demand to recover part of its 2012 decrease. In Europe, low power demand and increasing renewable production squeezed coal power generation, causing an overall coal demand decline of -35 Mt when compared to 2012. In Japan, where the coal fleet fully recovered and two new coal plants commenced commercial operations, coal demand grew +6.4%.

Coal markets show great dynamism. Despite coal’s reputation as a 19th-century industry, coal markets are changing at a fast pace. Former parameters age rapidly, and new trends appear. Demand is moving to Asia, and trade flows are following. A great variety of different coal qualities are traded, including low quality high ash coal, triggering new price indices. While long-term contracts still operate, quarterly, monthly and spot purchases become more frequent. There is increasing use of derivatives both in volumes and coal qualities, origin and destinations. Some policy changes – and these are announced frequently – in countries such as China and Indonesia have the potential to impact the global market. Changes are happening at both large and small scale. As one example, Central Appalachia, once the largest producing area in United States, now lags behind both Powder River Basin (PRB) and Illinois Basin.

In 2014, coal oversupply persists and very low coal prices continued to dominate. For a few years, the focus of coal producers was to expand production. New capacity was constantly added and demand led by China consumed every additional tonne. However, since 2011, oversupply and low prices have dominated. While US shale gas impacts on international coal prices have often
been overstated, domestic Chinese dynamics translated into international markets have been largely overlooked. The domestic oversupply in China – accompanied by price reduction from the major producers to protect their market share – has strongly impacted international markets, which were likewise oversupplied by expansions by all major exporters. Imported European steam coal prices, one of the main reference prices worldwide, were in the USD 70-80/tonne range during 2014, compared to over USD 120/tonne in March 2011. Australian met coal has been in a very narrow band between USD 112/tonne and USD 116/tonne since April 2014, compared to March 2011 when it averaged over USD 320/tonne.

Take-or-pay contracts, financial commitments and better economies of scale pushed prices down. With persistent low prices, the strategy of producers is to reduce costs. However, this is coupled with better efficiencies and economies of scale, putting more coal in the market, increasing oversupply and driving prices even lower. Another way to increase competitiveness is to cut production of unprofitable mines. However, this is not always possible. Take-or-pay contracts for infrastructure use and financial commitments to pay investments make many producers operate with negative margins.

Minimized loss is the new target for many, but in the medium term, despite low prices, expansions will happen. There are many projects in different phases of development ready to start or ramp up production, although most of them will not do so at current prices.