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1. Eleven EU Countries Miss Air Quality Targets in Gothenburg Air Pollution Protocol

Emissions of most air pollutants have fallen over the last two decades in Europe. But many Member States have exceeded internationally-agreed pollutant limits set to protect human health and the environment, according to a new report from the European Environment Agency (EEA). The EEA's annual "European Union emission inventory report 1990-2010 under the UNECE LRTAP Convention" presents a summary of the main emission trends over the past decades. It shows that eleven countries exceeded the 2010 'ceilings' for the four important air pollutants regulated under the Protocol.

"In the last two decades we have cut the amount of pollution going into Europe's air," EEA Executive Director Jacqueline McGlade said. "Regulation both in the EU and internationally works when it is properly implemented. The fact that many countries missed their emissions ceilings in 2010 shows we need to continue our efforts to safeguard European citizens' health."

The main findings of the report include the following:

- Among the 11 EU Member States that exceeded the international emissions ceilings, Denmark and Spain exceeded three ceilings (for nitrogen oxides (NOx), non-methane volatile organic compounds (NMVOCs) and ammonia (NH3)) while Germany exceeded two ceilings (NOx and NMVOCs). Austria, Belgium, France, Ireland, Luxembourg, the Netherlands, Sweden (all NOx) and Finland (ammonia) exceeded one ceiling.

- Of the main air pollutants, sulfur oxide (SOx) emissions have fallen the most since 1990 (-82 %), followed by carbon monoxide (CO) (-62 %), non-methane volatile organic compounds (NMVOCs) (-56 %), nitrogen oxides (NOx) (-47 %) and ammonia (NH3) (-28 %). Emissions of fine particulate matter (PM2.5) have fallen by 15 % since 2000.

- Road transport, households, electricity generating plants, agriculture and certain industry sectors are collectively the most important sources of several different pollutants.

- Despite long-term downward trends, in 2010 Member States reported increased emissions of many heavy metals and persistent organic pollutants compared to 2009 – for example, lead increased by 9.1 %, cadmium by 7.5 %, arsenic by 4.9 % and chromium by 12.6 %. These increases were partly due to growing emissions from households and certain industrial sectors.

A combination of different measures has reduced emissions of SOx by 82 % between 1990 and 2010. This success can be attributed to desulfurization technology installed in many industrial sources, and EU directives which led to sulfur reduction in some liquid fuels. This cut is also partly due to power stations and industry switching from high sulfur-containing solid and liquid fuels to low-sulfur fuels such as natural gas.

Emissions of NOx have almost halved between 1990 and 2010. The 47 % reduction of NOx emissions over this period was largely due to the introduction of the three-way catalytic
converter in petrol vehicles, as well as reductions from industry as a result of tighter controls on emissions.

Together with NOx, emissions of two other main air pollutants responsible for the formation of harmful ground-level ozone have dropped significantly since 1990. Carbon monoxide fell by 62 %, NMVOCs fell by 56 %. This improvement was also helped by improved vehicle catalysts in road transport.

The agricultural sector is responsible for the vast majority of ammonia emissions – 94 % in 2010. NH3 fell by 28 % between 1990 and 2010, although the most reductions occurred in the early 1990s and emissions have since been rather stable. The largest reductions have been reported by Poland, the Netherlands and Germany. All other countries except Cyprus and Spain also reported decreases. The report attributes reductions in ammonia emissions largely to better animal manure and fertilizer management techniques.


2. Air Quality in Harbors ‘Improved By EU Low Sulfur Fuel Policies’

Sulfur dioxide (SO₂) emissions from shipping have sharply decreased in EU ports thanks to a policy which limits sulfur content in fuels, according to the European Commission’s Joint Research Centre (JRC). JRC scientists measured key air quality parameters in Mediterranean harbors before and after the entry into force of the low-sulfur requirements in January 2010. In European harbors they found an average decrease of 66% in concentrations of sulfur dioxide. Measurements taken in a non-EU port without the sulfur controls showed that levels of SO₂ remained the same.

The 2005 amendment of Directive 1999/32/EC required that, as of January 2010, all ships at berth or at anchor in European harbors use fuels with sulfur content of less than 0.1% by weight, while previously, outside of Sulfur Emission Control Areas (SECA), a sulfur content of up to 4.5% was allowed. Ships traditionally use heavy fuel oil which, from 2012, can have a sulfur content of up to 3.5% for cargo vessels (before 2012 this limit was 4.5%). The average sulfur content of heavy fuel oil is about 2.4%. By comparison, the sulfur content of fuels used in road vehicles must not exceed 0.001%.

Sulfur dioxide is one of the main chemicals responsible for formation of acid rain and particulate air pollution – a major risk factor for cardiovascular and respiratory diseases.

The air quality measurements were carried out using an automated monitoring station on the cruise ship Costa Pacifica which followed a fixed weekly route in the Western Mediterranean Sea during 2009 and 2010. The concentrations of sulfur dioxide were found to decrease significantly in three out of the four Mediterranean EU harbors that were investigated: Civitavecchia, Savona and Palma.
de Mallorca; the daily mean concentrations in all of the harbors decreased on average by two-thirds. JRC measurements in the harbor of Barcelona were inconclusive because of large day-to-day concentration variations. However, independent measurements from monitoring stations in the harbor of Barcelona and in the vicinity of the harbor of Palma de Mallorca confirmed a strong decrease in sulfur dioxide concentrations from 2009 to 2010. In contrast, no decrease in sulfur dioxide was observed in the North African Mediterranean harbor of Tunis which had no new fuel sulfur control limits.

There was no reduction in any of the other air pollutants that were measured in all four harbors (Civitavecchia, Savona, Palma de Mallorca and Tunis). This shows, according to the JRC, that the decreases in sulfur dioxide are a ‘direct consequence’ of the application of the EU requirements. It also confirms a correlation between ambient sulfur dioxide and ship emissions which the JRC said demonstrates that ships were the main source of sulfur dioxide in the harbors.

The logistics for the automated ship-borne monitoring station for air pollutants used in this work were provided by Costa Crociere and the measurements were performed in collaboration with scientists from the Universities of Genoa and Florence, the INFN-LABEC Laboratory in Florence as well as from the Institute of Environmental Assessment and Water Research in Barcelona.

In line with the broader environmental protection objectives of the EU and strengthening a parallel agreement reached by the International Maritime Organization, the European Parliament and the Council have come to an agreement to be submitted to formal vote after the summer on an amendment to the 1999/32/EC directive to further reduce sulfur content of fuels used outside of harbors. The maximum allowed sulfur content of ship fuels will go down from 3.5% to 0.5% in 2020, and in the Sulfur Emission Control Areas (the Baltic Sea, the North Sea and the English Channel) the current limit of 1.5% sulfur content for ship fuels will be reduced to 0.1% in 2015.

To comply with new European Union laws, industry argues that shipping companies now face extra costs of 2.6 billion to 11 billion euros ($3.2-$13.6 billion) to switch fuels or to fit exhaust filters that would scrub out the sulfur in marine fuel oil.

Burning cleaner marine diesel would be a quick fix that would meet the requirements, but it reportedly currently trades at a $350 per metric ton premium to fuel oil, which has 1 to 3.5 percent sulfur content and which most ships use. Also allegedly, Europe is structurally short of diesel, and its older, less complex refineries cannot retool to produce more diesel without significant investment and lengthy shutdowns.

Another option is for ships to use exhaust filters or "scrubbers" to prevent the sulfur in fuel oil from entering the environment. Scrubbers range in price depending on the size of the engine. A scrubbing system for a 14 megawatt engine of a 150,000 metric tons Suezmax oil tanker would weigh over 22 metric tons and for a 55 MW engine around 86 metric tons.

The technology has passed regulatory hurdles and is starting to be used. Scrubber-maker Hamworthy, a UK subsidiary of Finland's Wärtsila, sold its first systems for commercial use at the start of this year. Its main competitor, Sweden's Alfa Laval, has also recently sold its first systems.

Automakers in the European Union would be required to make their vehicles 30 percent more fuel efficient by 2020 under draft legislation published by the European Commission on July 11th. The 30 percent saving would equate to a cut in average carbon dioxide emissions from cars from 135.7 grams per kilometer (g/km) currently to 95 g/km (152 grams per mile) in 2020. Under a separate legislative proposal, also published on the same day, emissions from light vans would also have to be reduced, from about 180 g/km currently to 147 g/km (235 g/mile) in 2020, a cut of about 19 percent.

The limits would be measured against the average of all new vehicles sold in the European Union in 2020, with vehicles having to fall below an emissions “limit value curve” depending on their mass. Heavier vehicles would be allowed higher emissions than lighter vehicles, but emissions of all vehicles would have to be reduced by the same proportion to stay within the 95 g/km (cars) and 147 g/km (vans) fleet average limits, the Commission said.

Manufacturers that miss their targets would be required to pay an “excess emissions premium” of €95 ($117) per additional g/km per vehicle.

The 2020 limits are a follow-up to previous laws limiting private car emissions to 130 g/km (208 g/mile) by 2015, and van emissions to 170 g/km (272 g/mile) by 2017. The previous legislation required the Commission to consider tighter limits for 2020.

The European Union’s top climate official, Climate Action Commissioner Connie Hedegaard, said significant cuts in emissions achieved by automakers in recent years “did not happen automatically” and were due to legislative target-setting. She told reporters the proposed regulation was “fair and balanced” and that loopholes had been narrowed. “With our proposals, we are not only protecting the climate and saving consumers money, we are also boosting innovation and competitiveness in the European automotive industry. And we will create a substantial number of jobs as a result,” she said.

The legislation would encourage the development of electric vehicles and other non-petrol or non-diesel low-emission cars, the Commission said. For vehicles with emissions below 35 g/km (56 g/mile), manufacturers could earn “super credits” that could be used to offset emissions from less fuel-efficient vehicles when calculating compliance.

Monique Goyens, director general of the European consumer organization BEUC, welcomed the proposals. “This is a double win,” she told reporters. “You save fuel costs and you are able to contribute on the environmental front.” BEUC has estimated the increased manufacturing cost at around 1,000 Euros, while the International Council on Clean Transportation puts the cost of improved fuel efficiency technology at around 800-900 Euros per car.

The European Automobile Manufacturers’ Association (ACEA) said in a statement that the targets would be “the toughest in the world” and meeting them would be “extremely challenging.” However, a report published in June by a high-level auto industry advisory group, which included representatives from ACEA and major manufacturers, said “technologies are available for meeting the 2020 targets and vehicle manufacturers and component suppliers have already invested in this area”.

Under the proposal, ‘super credits’ would enable cars that emit less than 35gCO2/km to count as 1.3 vehicles. Manufacturers would be able to claim up to 20,000 of these credits each during the 2020-23 period. The credits are meant to promote innovation but Greenpeace labeled them an "accounting trick". A draft of the proposal leaked in June did not include this provision. A
A derogation for companies making less than 500 cars a year has also been added to the final proposal.

Environmental groups said the plans marked progress but lacked ambition. They argue that 80 g/km can be met with existing technology. In addition, they criticized the decision to retain the "super credits".

Green member of the European Parliament Rebecca Harms said that the Commission proposal was a missed opportunity. "Not only has the commission failed to argue for more ambitious limits -- in spite of this being technically possible and in the interest of consumers -- it has also not sought to close some of the loopholes," she said in a statement.

The commission's decision to stick to weight-based targets has attracted criticism from several organizations including aluminum trade body EAA and NGO T&E. The EAA and T&E want goals based on vehicle footprints to encourage the production of lighter vehicles; climate commissioner Connie Hedegaard has hinted that this could happen in the future.

Matthias Groote, who chairs the European Parliament's environment committee, said the rules should be tightened, while committee member Karl-Heinz Florenz from Germany was disappointed by the lack of longer term targets.

Targets so far have helped to curb rising emissions from the transport sector. EU body the European Environment Agency has issued preliminary figures showing the average CO2 emissions of cars registered in the EU in 2011 was 135.7 g/km, 4.6 g/km less than in 2010.

A Commission statement said that each new car would save its owner an average of about 340 Euros ($420) a year in fuel costs and an estimated total of 2,904 to 3,836 Euros over a car's lifetime (13 years). Overall, consumers will save about 30 billion Euros a year in fuel costs and it is estimated that the targets could increase EU gross domestic product by 12 billion Euros a year.

They would also save 160 million metric tons (176.37 million tons) of oil -- worth about 70 billion Euros at today's prices -- and around 420 million tons of CO2 by 2030.

The new proposal must go through a long negotiation process between EU governments and the European Parliament before it can become law. Lobbying is likely to continue. So far, it has focused on technical details that determine how much of the burden the makers of big, heavy cars, versus lighter vehicles, will have to carry.

Hedegaard said that under the proposal all manufacturers would have to make the same relative effort to achieve the average of 95 g/km across the EU fleet.

There is more to come. Hedegaard said the Commission would start work on targets for after 2020, which could involve introducing new methodology. A Commission position paper is expected this year.

The commission says it will propose goals for 2025 and 2030 by the end of 2014.

4. Ethanol Industry Hits Back Over Food Price Claims
'Indirect land-use change' (ILUC) means that if you take a field of grain and switch the crop to biofuel, somebody somewhere will go hungry unless those missing tons of grain are grown elsewhere. Economics often dictates that the crops to make up the shortfall come from tropical zones, and so encourage farmers to carve out new land from forests. Burning forests to clear that land can pump vast quantities of climate-warming emission into the atmosphere, enough in theory to cancel out any of the benefits that biofuels were meant to bring.

The European Commission has run 15 studies on different biofuel crops, which on average conclude that over the next decade Europe's biofuels policies might have an indirect impact equal to 4.5 million hectares of land – an area the size of Denmark. Some in the biofuels industry argue that the Commission's science is flawed and that the issue could be tackled by a major overhaul of agricultural strategy to improve productivity or by pressing abandoned farmland back into action. Waste products from biofuels production can also be fed to animals, they say, so reducing the pressure on land resources.

Food prices rose 6% overall last month, driven in part by a devastating drought in the United States and rising gasoline costs, which make production and distribution of food more costly. The UN Food and Agriculture Organization (FAO) reported that maize prices soared 23%, wheat was up 19% and sugar 12% compared to June. At the urging of France, heads of the Agricultural Market Information System met on 27 August to discuss whether to call a special session of the Rapid Response Forum, set up by the G20 countries last year to improve coordination among governments as well as the European Commission.

Factors other than the growing demand for biofuels in Europe and the United States are at play in the higher costs of food, says Rob Vierhout, secretary-general of the European Renewable Ethanol Association, or ePure. He sees commodities speculation, food waste and growing appetites in emerging markets as bigger factors.

Vierhout blamed some campaign groups and journalists for linking biofuels to higher food costs, saying there's another side to the story: higher prices encourage farmers to be more productive and drive innovation in crop use. The biofuel market also cuts waste in agriculture by turning plant residue into fuel and reduces excess capacity.

But the industry's interpretation is far from universal. The United Nation's Food and Agriculture Organization (FAO) last month urged the United States to suspend its mandate for producing biofuel to relieve pressure on maize crops amid the nation's worst drought in 50 years. US livestock producers also called for a suspension of the biofuel policy over feed supply concerns. In recent years, the World Bank has grown more cautious in its support for biofuel development amid concerns about food and feed supply volatility, with one World Bank agro-economist arguing that EU and US biofuel policies “were the most important factor” in a 2008 food price spike.

The use of fuels produced from wheat, corn, sugar beet, soy and other farm crops, known as first-generation biofuels, has become more controversial. But alternatives like palm and jatropha are also under fire from conservationist on the grounds that land-clearing, production and water use that goes into producing the crops – often in developing countries – yields little or no environmental benefit.

Disputes within the European Commission have failed so far to produce agreement on guidelines for addressing the land-use impact of biofuel. Citing the potential of both environmental and food impacts, Oxfam and other poverty-fighting groups have called for
European policymakers to reconsider their support for biofuel. Campaign groups fear the impact could grow if the aviation industry sticks to its plans for biofuel to comprise 30% of its fuel supply by 2030.

Bettina Kretschmer of the Institute for European Environmental Policy is an author of a recent report that calls for the EU to rethink its target of 10% renewable energy use in ground transport by 2020 in part because of the long-term impact of food costs. The IEEP study, prepared for the ActionAid anti-poverty group, shows the largest price impact on oilseeds and vegetable oils that are refined for biodiesel, with less impact on wheat and maize used to produce ethanol. The report forecasts:

- Prices for oilseeds rising between 8% and 20% and vegetable oils between 5% and 36% by 2020. These oils are derived from rapeseed and soy plants, as well as non-food plants such as jatropha.
- Wheat prices rising between 1% and 13% and maize 1% to 22. Grains are mainly used to produce ethanol petrol.
- Sugar cane and beet rising between 1% and 21% over the next eight years. These are also used for ethanol.

Biodiesel accounted for 72% of biofuel consumption in the EU last year and 74.4% of Europe’s production, the report says. Though ethanol demand is expected to rise in the EU, it is the dominant biofuel in the US market.

Clare Coffey, of the charity group ActionAid, said in a recent commentary: "Most experts are now agreed that the expansion of land devoted to raising crops used in biofuel production has been a significant factor in high and volatile food prices over the last six years. The equation is clear: the land and other resources once used to grow crops for food is now being diverted to growing crops for biofuel production. Indeed in many cases the crops are the same – but demand for biofuels, spurred by regulations in Europe and North America, means the crops can be sold more profitably for fuel than for food."

5. Irish Motorists Face New Round of Car Tax Hikes

New cars in Ireland are currently taxed in seven bands according to their emissions. Vehicle Registration Tax (VRT) and road tax rates are based on these emissions -- effectively how ‘green’ the car is. The bands, from A to G, determine annual motor tax bills which range from €160 to €2,258.

Cars registered before 2008 are taxed on a different system based on engine size.

The current bands also decide how much VRT a car attracts -- from 14pc to 36pc of its open-market selling price. The lowest VRT applies to all passenger cars which emit between zero and 120 grams of carbon dioxide per kilometer travelled (g/km).

THE cost of new cars is reportedly set to rise and most drivers face increases in annual road tax from January. The Department of Finance has so far refused to comment but it is widely understood that increases in VRT and road tax will take effect from early next year. The Government believes too many new cars are currently falling into lower tax bands, based on carbon emissions, which were introduced by the previous administration. It plans to introduce a new system which will increase the VRT charged on all new cars across the board -- with knock-on implications for annual road tax.
Under the new system, Band A will reportedly be broken down into four sub-categories and different rates applied. It will be split as follows: A1: 0-80g/km (14pc rate), A2: 81-100g/km (15pc), A3: 101-110g/km (16pc) and A4: 111-120 g/km (17pc). Increases of 1pc will apply to all other bands as well.

The existing system has been criticized by some as unfair because it does not take the cost and size of cars into account. That means drivers of larger, prestigious vehicles enjoy the same tax rates as smaller ones. For example, an executive diesel costing more than €45,000 qualifies for the lowest tax band, as does a small hatchback, which costs just €15,000. It had been hoped the Government might apply a more complex hybrid system, where the car’s engine size and CO2 emissions would be taken into account when calculating VRT. But this has apparently been ruled out.

The move to adjust the tax system was first revealed by the Irish Independent last March. Now, the 'Auto Trade Journal' has just published in detail the proposed VRT changes and implications for road tax rates.

Motor tax revenue fell to €988m last year, a drop of €72m from the peak in 2008. This prompted an increase in motor tax rates across the board, with the common A, B and C bands hit with increases of up to 54pc, and average hikes of 7.5pc across the higher bands. This was designed to act as a "statement of intent", according to correspondence between Finance Minister Michael Noonan and Environment Minister Phil Hogan, seen by the Irish Independent.

Officials have warned that unless the bands are changed, revenue from motor tax will drop by more than 50pc by 2030.

6. French Air Quality Report Says Emissions Fall Slightly, Concentrations Change Little

About one out of six French citizens lived in areas that exceeded safe annual limits for coarse particulate matter ($PM_{10}$) in 2011, according to an annual report released on August 3rd by the French Ministry of Ecology, Sustainable Development, and Energy. The report, Assessment of Air Quality in France in 2011, took stock of levels of air pollutants such as particulate matter, sulfur dioxide, mercury, nitrogen oxides, and ozone. It said emissions decreased slightly in 2011 but concentrations of air pollutants changed little.

Concentrations of coarse particles less than 10 micrometers in diameter ($PM-10$), which are linked to respiratory illnesses, declined slightly between 2010 and 2011 near industrial areas and in rural areas but increased slightly in cities and near major automobile traffic, it said. Seven industrial areas exceeded the threshold of 50 µg/m³ for more than 35 days per year, while 31 urban and suburban areas and 23 areas close to car and truck traffic exceeded this limit, the report said.

It said six areas exceeded the national target of an annual maximum average of 20 micrograms of fine particulate matter ($PM-2.5$) per cubic meter. The report said the European Commission estimated that in 2000, 42,000 deaths in France were attributable to chronic exposure to $PM-2.5$ particles, from cardiovascular and respiratory diseases and cancer.

7. France Hikes Bonuses for Electric, Hybrid Vehicles
France has sharply increased bonuses for buyers of electric and hybrid vehicles as part of a comprehensive bid to save the country's struggling car industry by making it one of the world's top green innovators, the government announced on July 25th. Minister of Industrial Recovery Arnault Montebourg's plan raises 2012 bonuses for electric vehicles to €7,000 ($8,594) from the current €5,000 ($6,140) and doubles the hybrid bonus to €4,000 ($4,911) while raising bonuses for low-emitting vehicles that burn fossil fuels by up to €150 ($184). The plan also extends the five-year-old "bonus-malus" incentive program to certain company car purchases.

The recovery plan also contains hints of protectionism, with France planning to ask the European Union to put its 2010 Free Trade Agreement with South Korea under surveillance so as to "defend the interests of the French automobile industry."

The plan will see the government commit to 25 percent of its new vehicles being electric or hybrid and provide for financing facilities for manufacturers and suppliers suffering from a major drop in European car sales.

Launched a week after PSA-Peugeot announced big losses and layoffs, the comprehensive stimulus plan accelerates state investments in electric vehicle recharging stations and increases funds for the vehicle recycling industry. It redirects €350 million ($429 million) in existing state funding to programs aimed at developing advanced automobiles, extends the scope of the country's research and development tax credit, and establishes an automobile technology research institute.

Highlighting the difficulties facing the French vehicle sector, PSA Peugeot Citroen announced that it had suffered a first half net loss of 819 million euros (R8.42-billion), more than reversing a year-earlier net profit of 806 million euros. The company, which has already announced 8000 job cuts in France, said it will implement a 1.5-billion-euro cost reduction plan through to 2015.

Peugeot, France's biggest carmaker and the second-largest in Europe had been expected to announce a first-half net loss but the final figure was more than double analysts' expectations. Peugeot said overall revenues were down 5.1 percent in the first half to 29.6 billion euros while the car division alone suffered a net loss of 662 million euros. Sales in Europe fell 15.2 percent.

The cost-cutting plan will include 600 million euros in savings from reorganizing French production, which includes the previously announced job cuts, reductions in capital spending and savings from a tie-up with US giant General Motors.

President Francois Hollande's new Socialist government has attacked Peugeot's strategy and called the job cuts "unacceptable." The cuts announcement sparked anger among France's powerful unions and dealt a blow to Hollande's efforts to get the economy back on track amid concerns the country might be heading for a recession after an expected contraction in the second quarter.

8. Effort Set To Track Air Pollution in London

The largest and most comprehensive effort to research air pollution in Britain is underway in London and the skies above it. As many as 80 scientists from eleven universities are tracking nearly 1,000 different types of gases and particles in the atmosphere.
Pollutants are being measured on the ground, at the top of BT Tower and from a research plane circling the capital. The project was timed to provide reams of data during the Olympic Games. It is also intended to help improve air quality forecasting in the years ahead.

One aim is to investigate how much pollution is generated by the capital itself - principally from vehicles - and how much blows in from the industrial centers of continental Europe.

London is frequently in breach of international air quality standards set by the EU and World Health Organization. In the two days before the Opening Ceremony of the Games, levels of ozone soared well above the WHO's recommended safe limit of 60 parts per billion over an eight-hour period. More recently, with cooler and windier weather conditions, pollution levels have been low.

Ozone and other gases such as nitrogen dioxide, together with microscopic particulates, are known to cause a range of damaging health effects, especially respiratory problems.

The project is known as ClearFlo and one of the scientists leading it, Dr James Lee of the University of York, told the BBC that the air contained a "complex cocktail" of chemicals. "We're trying to find out how pollutants are formed. A lot of the major ones that affect human health are not emitted directly from the backs of vehicles," he said. "Instead they are formed by a complicated series of reactions that are triggered by sunlight and go on to form other chemicals."

Dr Lee's own research is focused on the precise role played by a short-lived "radical" known as hydroxyl. Hydroxyl is produced when sunlight hits ozone, at which point it then acts as a catalyst to generate another pollutant, nitrogen dioxide. The chemical is one of hundreds being monitored by an array of scientific instruments set up in the playground of a school in North Kensington.

The site was picked because the air is typical for a residential area, being 'well-mixed' and not in the middle of a pollution hot-spot. It is also beside long-term monitoring devices run by King's College London so readings can be compared.

Dr Lee said: "We want to try to understand how the pollutants are formed so we can produce better forecasts of when air quality will be poor." The point of that is so that we can advise on the best strategies for abatement in the future."

The ground-level measurements are being gathered alongside with data from instruments at the top of the BT Tower - and from Britain's largest atmospheric research plane. The same aircraft has been used to fly through weather systems including storms - and I reported from it in May. Now it's instruments, fitted to the fuselage and wings, are harvesting samples of contaminated air for real-time analysis and more detailed study on the ground.

The goal is to create a three-dimensional image of the pollution - what's known as the "London plume", a manmade cloud that rises above the capital and then drifts away with the wind.
A key question for London is the source of the pollution. The city's traffic, heating boilers and domestic cookers contaminate the atmosphere but pollution is also occasionally carried over London from the industrial heartlands of northwest Europe.

The issue is of more than academic interest. London is repeatedly in breach of EU limits on air quality so identifying the source of pollution matters. Dr Allen said: "Last year London broke the limits over 30 days of the year - that's very significant and we have to pay fines to the EU." So part of this project is to assess whether we're breaking those limits because of the pollution generated in London itself or whether it's pollution that might be coming into the UK from the Continent." During spells of high pressure, the movement of air tends to come from the East so any pollution from major cities or industrial areas in France and Germany could head our way.

9. Commission Continues Tough Line on Air Quality

The European Commission has rejected a swathe of requests for extra time to meet nitrogen dioxide (NO2) standards. Fewer than half of the air quality zones concerned met conditions for an extension. EU states can delay a 2010 deadline for meeting local NO2 targets set in 1999 if they can persuade Brussels that hourly and annual goals will be met by 2015. But the EU executive has traditionally taken a tough stance on requests for derogations. Most recently, it made decisions on applications from six member states. The results:

- Only Finland’s application, which relates solely to Helsinki, was approved in full.
- Italy, which submitted applications for 48 zones, was granted 18 extensions to 2015, three to 2013 and one to 2014. The rejected zones include Rome, Naples and Turin, none of which are expected to meet the targets by 2015.
- The commission granted Belgium extensions for the port and city of Antwerp but refused one for Brussels, which is not expected to comply until 2018.
- Austria only won full extensions for Carinthia and Linz. Lower Austria must become compliant next year. The remaining six zones in its application, including Vienna and Salzburg, were refused extensions.
- The Czech Republic was granted more time to meet the hourly limit in Prague, but the capital and three other zones did not win extensions to the annual limit, partly due to poor and inconsistent data. Spain’s application for three extensions also failed.
- In June, the EU executive approved a Latvian application covering Riga and one for the UK mainland. Gibraltar already has an extension.

Several other applications from member states are still being considered by the commission but no more decisions are expected in the next few weeks.

10. Sand, Salt, Volcanoes Add To EU Clean Air Challenge

Desert sand, sea salt, volcanic ash and other forms of natural pollution are adding to rising levels of man-made dirt sullying the air and making it harder, especially for Mediterranean countries, to meet EU environmental regulations. A recent report from the European
Environment Agency (EEA) found the highest levels of natural pollutants were in Spain, which frequently experiences forest fires, most recently this month.

Out of 42 instances, where the levels in Spain were reported above legal limits, 18 were caused by natural pollution, said the report, which is the first European study of its kind. The Observatory of Sustainability, an independent organization in Spain, said proximity to the Sahara made the Iberian Peninsula especially vulnerable. "This will get worse by desertification caused by climate change in the peninsula, converting this topic to a very important issue in Spain," the group said in a statement.

Ten other countries -- including Cyprus, Greece and Italy -- also reported air pollution above legal limits because of natural particles.

"This analysis shows that authorities should make extra efforts to reduce the air pollution they can control, because the cumulative effect of natural and man-made particulates can damage people's health," Jacqueline McGlade, EAA executive director, said in a statement.

While pollution from sea spray and sand result from natural phenomena, 90 percent of forest fires are caused by humans, as estimated by the EU research organization. But if wind carries the smoke and particles from fires into other countries, they are classed as natural pollution.

"From time to time there are events with very high levels of particulate matter that cannot be explained by local sources," said Panos Hadjinicolaou, a researcher at the Cyprus Institute.

The World Health Organization reports health problems from short-term exposure can cause breathing difficulty, where long-term exposure can decrease lung function and shorten life expectancy. The Observatory of Sustainability reported that in Spain the particles have been connected to asthma in children and premature deaths.

First adopted in 2005, the EU's Air Quality Directive requires a 20 percent reduction in air pollution by 2020. The directive allows member states to subtract pollution from natural sources from the numbers they report to the European Commission, but each country measures man-made pollutants and natural pollution differently, making it difficult to evaluate consistently.

11. Russia Promotes Natural Gas as Transportation Fuel

Russian President Vladimir Putin has signed an amendment to the Law on Energy Efficiency that aims to stimulate the use of natural gas as a transportation fuel, support electric vehicles, and help build alternative fueling infrastructure. The amendment, signed July 13th after it passed Parliament, will allow federal funds to be directed to the effort. The Ministry of Transport this year reportedly plans to allocate 3.5 billion rubles ($108 million) to subsidize the purchase of 2,000 natural gas buses, or 30 percent of the cost. Russia has 86,000 natural gas vehicles and 242 compressed natural gas filling stations, according to the energy company Gazprom. Russian automobile manufacturer Kamaz produces a number of natural gas-fueled cars, buses, and construction equipment and is planning to increase its line of such products under the government plan, the company announced on June 10th.

12. Hydrogen Taxi Fleet to Be Used During London Olympics

London’s Deputy Mayor says hydrogen fuel cell vehicles to be trialed in London during Olympic Games are a ‘real solution’ to tackling vehicle emissions. The Mayor of London’s office has
been handed the keys to five hydrogen fuel cell powered taxis – which are said to release no harmful pollutants into the air - to be trialed throughout the Olympic Games.

The fleet of vehicles have been provided by Hydrogen Transport for European Cities (HyTEC), a project set up to develop hydrogen fuel capacity across the continent, and will be used to transport VIPs to and from Games venues.

The five Fuel Cell Electric London Taxis, developed by technology firm Intelligent Energy, are powered by a hydrogen fuel cell and lithium battery which provides a 250-mile driving range releasing only water vapor from the exhaust. Each vehicle will be able to run for an estimated eight-hours per day, and can be refueled at one of two charging stations across the city, including the Stratford charging point for London's hydrogen bus fleet and one to be opened at Heathrow Airport.

Deputy Mayor Kit Malthouse was handed the keys to the vehicles at City Hall on July 20th and said he was a firm believer in the viability of hydrogen fuel cells as a replacement for carbon-based fuels. He said: "The mayor has set us a target to cut carbon use, but we face a couple of problems in doing that. Firstly, we have a technology that is firmly embedded in people's psyche in internal combustion engines and we have a very ingenious oil industry who seem to find better ways to extract oil every day, it is a challenge for new technology to find a place.

Mr Malthouse said that the use of the hydrogen cabs at the Olympic Games would demonstrate to the public that the technology is a suitable alternative to carbon fuelled vehicles, and that he hoped it would pave the way for the future development of the technology in the capital.

Taxi drivers who have driven the vehicles claimed that the hydrogen fuel cell did not diminish performance when compared to internal combustion engine vehicles, and that noise was reduced significantly.

13. GM Unlikely To Share Volt's Green Tech with Peugeot

Cutting-edge technology in greener cars like General Motor's Chevy Volt and PSA Peugeot Citroen's 3008 HYbrid4 is unlikely to be shared in the alliance between the two firms, an executive from GM's Opel unit said recently. "The honest answer is I can't imagine that," Opel development chief Rita Forst told an industry conference in Munich, when asked if the two companies would offer cars equipped with the other's respective flagship green car technology.

Industry experts say halo products like the Opel Ampera extended range electric vehicle (EREV), sold as the Volt in the United States, are crucial for a brand to demonstrate leadership and innovation. They also help to drive demand for core volume models, since customers come to see the Ampera or the 3008 diesel hybrid but drive off with a more affordable Opel Astra or Peugeot 208, respectively. Toyota's Prius, the first commercially successful full hybrid, helped transform the company's image from being a Japanese carmaker late in identifying future trends to one of the greenest car brands in the industry.

"There are certain technological genes that a manufacturer cannot share," Forst said, explaining that unique selling points like these needed to be protected.

GM and Peugeot agreed in late February to form a global alliance targeting a combined reduction in annual costs of at least $2 billion by sharing selected platforms, modules and components on a worldwide basis.
14. France to Review Low-Emission Zone Approach

The new French government is to review national clean air initiatives, including a trial of low-emission zones (LEZs) announced last year. Eight cities including Paris and Lyon have volunteered to trial LEZs, under which the most polluting vehicles would be banned from sensitive areas. But some of their feasibility studies, due by 13 July, have been delayed and Nice withdrew from the program in June.

There are also concerns that suburban workers unable to afford cleaner vehicles such as hybrids would be put at a disadvantage.

Green group France Nature Environment recommends that financial assistance should be provided to lower-income drivers, perhaps in the form of free parking at the outskirts of the city or public transport tickets. It also wants car CO2 emissions included alongside other criteria.

The review will be part of a wider environmental conference that the French government is planning for the autumn. An official at the environment ministry told reporters that it had no plans to force cities to introduce LEZs.

15. Brussels Advised To Widen Its Approach to Achieve Consensus on Airlines in ETS

Beijing remains firm on its stance of settling the carbon tax dispute with the European Union through a multilateral approach, a Chinese official told the press. The official, who requested anonymity, said talks between China and the EU over the tax are making little progress.

The EU sent a delegation to Beijing for discussions on the Emissions Trading Scheme, often called the carbon tax, during the third round of the EU-China Strategic Dialogue in Beijing on July 10th. But sources close to the talks told reporters that no breakthrough had been made.

"The EU has an increasing sense of urgency as the window of opportunity narrows," the Chinese official told China Daily.

Under the tax, the EU began charging airlines that use EU airports for carbon emissions on January 1st. The first payment is due on April 30, 2013. Over 30 countries, including China, India, Russia and the United States, oppose the tax and have expressed a desire for any resolution to be part of a global emissions framework under the International Civil Aviation Organization.

China’s basic stance is in accordance with this approach, the official said. "We don't think a bilateral channel is an acceptable way to solve the issue," the official added.

The EU needs to sit down and convince everybody that they have something attractive that should be adopted by others, a UN official said. "It's good for them that they can raise standards, but they cannot impose it," said Amina Mohamed, deputy executive director of the United Nations Environment Program.

At a conference before the strategic dialogue, Markus Ederer, EU ambassador to China, said there is high-level contact between Brussels and Beijing. The EU has offered a system of equivalent measures, Ederer said. This means that if a country takes measures to reduce
aviation emissions, the EU will exempt them from the carbon tax. But the exact amounts of emission reduction and tax exemption have yet to be defined.

The Civil Aviation Administration of China said in February that airlines should not pay the EU charge. Eight Chinese, and two Indian airlines, have yet to submit emission data to the EU. Companies that do not comply face fines and ultimately could be banned from using EU airports.

"The scheme is widely opposed by many countries," the official said.

According to industry estimates, paying the EU carbon tax will cost China's aviation industry 790 million Yuan ($124 million) this year and an estimated 3.7 billion Yuan in 2020.

"China and the EU are not so far apart," Ederer said. "We are working with China, with our expertise to help China figure out the best way for its emissions trading system. So I think we are going the same direction."

China has its own carbon trading plan but it's not the right time to include the aviation sector in it, said officials and researchers. China plans to start seven pilot carbon emissions trading projects next year in five cities - Beijing, Shanghai, Tianjin, Shenzhen and Chongqing - and two provinces, Guangdong and Hubei. A national plan is likely to be introduced after 2015.

But other experts say any national domestic carbon tax is still some way off. "Emission trading is the future direction, but the timing is still not right," said Pan Jiahua, executive director of the Research Center for Urban Development and Environment with the Chinese Academy of Social Sciences. It will be a challenge to have a nationwide scheme by 2015, Pan said.

NORTH AMERICA

16. Obama Administration Finalizes Historic 54.5 mpg Fuel Efficiency Standards

On August 28th, the Obama Administration finalized groundbreaking standards that will increase fuel economy to the equivalent of 54.5 mpg for cars and light-duty trucks by Model Year 2025. When combined with previous standards set by this Administration, this move will nearly double the fuel efficiency of those vehicles compared to new vehicles currently on US roads. In total, the Administration's national program to improve fuel economy and reduce greenhouse gas emissions will save consumers more than $1.7 trillion at the gas pump and reduce U.S. oil consumption by 12 billion barrels. Key elements of the rule are summarized below.

A. Background

Following the successful adoption of a National Program for GHG and fuel economy standards for MYs 2012-2016 vehicles, President Obama requested the agencies to continue their efforts to develop a second phase of the National Program, with standards for MYs 2017-2025 light-duty vehicles. In a May 21, 2010, Presidential Memorandum, the President requested that EPA and NHTSA work together to develop a national program that would “...produce a new generation of clean vehicles.” The President specifically requested that the agencies develop “...a coordinated national program under the CAA [Clean Air Act] and the EISA [Energy Independence and Security Act of 2007] to improve fuel efficiency and to reduce greenhouse gas emissions of passenger cars and light-duty trucks of model years 2017-2025.” The President recognized that the US could take a leadership role in addressing the global challenges of improving energy security and reducing greenhouse gas pollution, stating that
“America has the opportunity to lead the world in the development of a new generation of clean
cars and trucks through innovative technologies and manufacturing that will spur economic
growth and create high-quality domestic jobs, enhance our energy security, and improve our
environment.”

The agencies worked with the State of California to address all elements requested in the May
21, 2010 Presidential Memorandum and completed an initial assessment of the technologies,
strategies and underlying analyses that would be considered in setting standards for MYs 2017 -
2025, in consultation with a wide range of stakeholders. EPA and NHTSA issued an Interim
Joint Technical Assessment Report (TAR) and a Notice of Intent (NOI) to conduct a joint
rulemaking on September 30, 2010. Following an opportunity for public comment, the agencies
published a Supplemental NOI (SNOI) in December 2010 highlighting many of the key
comments received in response to the September NOI and the TAR and outlining plans for key
technical analyses that would be undertaken in developing the proposed rulemaking.

On July 29, 2011, President Obama announced plans for the MYs 2017-2025 national program
and EPA and NHTSA issued another SNOI, outlining plans for the MYs 2017-2025 proposed
program. The State of California and thirteen auto manufacturers representing over 90 percent
of U.S. vehicle sales provided letters of support for the program concurrent with the SNOI. The
joint proposal to extend the National Program to MYs 2017-2025 light-duty vehicles was issued
on November 16, 2011 and published in the Federal Register on December 1, 2011.

On August 28th, 2012 the U.S. Environmental Protection Agency (EPA) and the Department of
Transportation’s National Highway Traffic Safety Administration (NHTSA) issued final rules
extending the National Program to further reduce greenhouse gas (GHG) emissions and
improve fuel economy for model years (MYs) 2017 through 2025 light-duty vehicles. EPA is
establishing national GHG emissions standards under the Clean Air Act, and NHTSA is
establishing Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and
Conservation Act, as amended by the Energy Independence and Security Act (EISA).

EPA’s standards apply to passenger cars, light-duty trucks, and medium-duty passenger
vehicles, in MYs 2017 through 2025. The final standards are projected to result in an average
industry fleetwide level of 163 grams/mile of carbon dioxide (CO2) in model year 2025, which is
equivalent to 54.5 miles per gallon (mpg) if achieved exclusively through fuel economy
improvements. Light-duty vehicles are currently responsible for nearly 60 percent of U.S.
transportation-related petroleum use and GHG emissions. This new phase in this national
program conserves billions of barrels of oil, cuts carbon pollution, protects consumer choice,
and enables long-term planning for automakers.

B. Building on 2012-2016 Rule

This MYs 2017-2025 program builds on the success of the first phase of the National Program
for MYs 2012-2016 vehicles, which is projected to result in an average light-duty vehicle tailpipe
CO2 level of 250 grams per mile by MY 2016, equivalent to 35.5 mpg (if achieved exclusively
through fuel economy). Vehicles meeting the MYs 2012 and 2013 standards are on the road
today, already saving consumers money at the pump.

Combined with the MYs 2012-2016 standards, today’s final program will result in MY 2025
vehicles emitting one-half of the GHG emissions of a MY 2010 vehicle, representing the most
significant US federal action ever taken to reduce GHG emissions and improve fuel economy.
As with the first phase of the National Program, this second phase of the program was built on strong support from a wide range of stakeholders, including the automobile manufacturers. After President Obama announced plans for the second phase National Program in 2011, thirteen auto manufacturers representing over 90 percent of U.S. vehicle sales announced support for the program, as well as the State of California. The United Auto Workers, consumer organizations, environmental organizations, veterans groups, state/local governments, and nearly 300,000 individuals have also expressed strong support for the program.

Continuing the National Program ensures that auto manufacturers can build a single fleet of U.S. vehicles that satisfy requirements of both federal programs as well as California’s program, thus helping to reduce costs and regulatory complexity while providing significant energy security and environmental benefits to the nation as a whole.

C. Benefits to Consumers

These standards will provide significant savings for consumers at the pump. Higher costs for new vehicle technology are projected to add, on average, about $1,800 for consumers who buy a new vehicle in MY 2025. Those consumers who drive their MY 2025 vehicle for its entire lifetime will save, on average, $5,700 to $7,400 (7 and 3 percent discount rates, respectively) in fuel savings, for a net lifetime savings of $3,400 to $5,000 (when compared to a vehicle meeting the MY 2016 standards). For those consumers who purchase their new MY 2025 vehicle outright, the discounted fuel savings will offset the higher vehicle cost in less than 3.5 years, and fuel savings will continue for as long as the consumer owns the vehicle.

Those consumers who purchase a new MY 2025 vehicle with a standard 5-year loan will immediately benefit as the monthly fuel savings offset the higher monthly payment by about $12 or about $140 per year. These savings assume a gasoline price of $3.87 in 2025 with small future increases throughout the vehicle’s lifetime; if gas prices soar consumers would save even more money as a result of these more fuel-efficient vehicles.

The final standards preserve consumer choice -- that is, the standards should not affect consumers’ opportunity to purchase the size of vehicle with the performance, utility and safety features that meet their needs. The standards have been designed in a way that does not create incentives to manufacture vehicles of any particular size (for example, there is no incentive to downsize.

D. Benefits from GHG Reductions and Less Oil Dependency

Over the lifetimes of the vehicles sold in MYs 2017-2025 standards, this program is projected to save approximately 4 billion barrels of oil and reduce GHG emissions by 2 billion metric tons, with net benefits to society in the range of $326 billion to $451 billion (7 and 3 percent discount rates, respectively). These savings come on top of savings that would already be achieved through the continuation of the MY 2016 standards.

The combined National Program for MYs 2012-2016 and MYs 2017-2025 is projected to save families more than $1.7 trillion in fuel costs and reduce America’s dependence on oil by more than 2 million barrels per day in 2025, which is equivalent to one-half of the oil that we currently import from OPEC countries each day. In addition, the combined program will cut 6 billion metric tons of greenhouse gases over the lifetimes of the vehicles sold in MYs 2012-2025 – more than the total amount of carbon dioxide emitted by the United States in 2010. Consumers who
purchase a new MY 2025 vehicle will save more than $8,000 in fuel costs over that vehicle’s lifetime (when compared to a vehicle meeting the MY 2011 CAFE standards).

E. EPA’s GHG Standards

EPA is finalizing a set of fleet-wide average carbon dioxide (CO2) emission standards for cars and light trucks. These standards are based on CO2 emissions-footprint curves, where each vehicle has a different CO2 emissions compliance target depending on its footprint value (related to the size of the vehicle). Generally, the larger the vehicle footprint, the higher the corresponding vehicle CO2 emissions target. As a result, the burden of compliance is distributed across all vehicles and all manufacturers. Manufacturers are not compelled to build vehicles of any particular size or type (nor does the rule create an incentive to do so), and no single vehicle is required to meet its individual target. Each manufacturer will have its own fleet-wide standard that reflects the vehicles it chooses to produce, and the GHG program provides a wide range of credit programs and flexibilities for manufacturers to meet the standards.

The car CO2 emission levels are projected to increase in stringency from 212 to 143 grams per mile (g/ml) between MY’s 2017 and 2025. Similarly, fleet-wide CO2 emission levels for trucks are projected to increase in stringency from 295 in MY 2017 to 203 g/ml in MY 2025. EPA projects that the average light vehicle (combined car and truck) tailpipe CO2 compliance level in MY 2017 will be 243 g/ml, phasing down by MY 2025 to 163 g/ml, corresponding to 54.5 mpg in MY 2025 if all reductions were made through fuel economy improvements.

For passenger cars, the CO2 compliance values associated with the footprint curves would be reduced on average by 5 percent per year from the MY 2016 projected passenger car industry-wide compliance level through MY 2025. To address the challenges facing light-duty trucks, as we transition from the MY 2016 standards to MY 2017 and later, while preserving the utility (e.g., towing and payload capabilities) of those vehicles, EPA’s standards provide a lower annual rate of improvement for light-duty trucks in the early years of the program. The average annual rate of CO2 emissions reduction in MYs 2017 through 2021 is 3.5 percent per year and 5 percent per year for MYs 2022 through 2025.

Example footprint targets for popular vehicle models are shown in the Table below, illustrating the fact that different vehicle sizes will have varying CO2 emissions and fuel economy targets under the footprint-based standards. Vehicle CO2 emissions will be measured over the EPA city and highway tests.

<table>
<thead>
<tr>
<th>Model Year 2025 CO2 and Fuel Economy Targets for Representative MY 2012 Vehicles Vehicle Type</th>
<th>Example Models</th>
<th>Example Model Footprint (sq. ft.)</th>
<th>EPA CO2 Emissions Target (g/ml)*</th>
<th>NHTSA Fuel Economy Target (mpg) */ **</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example Passenger Cars</td>
<td>Honda Fit</td>
<td>40</td>
<td>131</td>
<td>61.1</td>
</tr>
<tr>
<td></td>
<td>Ford Fusion</td>
<td>46</td>
<td>147</td>
<td>54.9</td>
</tr>
<tr>
<td></td>
<td>Chrysler 300</td>
<td>53</td>
<td>170</td>
<td>48.0</td>
</tr>
<tr>
<td>Example Light-duty Trucks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

21
### Small SUV
<table>
<thead>
<tr>
<th>Make</th>
<th>Model</th>
<th>Weight (lbs)</th>
<th>Horsepower (hp)</th>
<th>MPG</th>
</tr>
</thead>
<tbody>
<tr>
<td>4WD Ford Escape</td>
<td>Small SUV</td>
<td>43</td>
<td>170</td>
<td>47.5</td>
</tr>
<tr>
<td>Nissan Murano</td>
<td>Midsize crossover</td>
<td>49</td>
<td>188</td>
<td>43.4</td>
</tr>
<tr>
<td>Toyota Sienna</td>
<td>Minivan</td>
<td>56</td>
<td>209</td>
<td>39.2</td>
</tr>
<tr>
<td>Chevy Silverado (extended cab, 6.5 foot base)</td>
<td>Large pickup truck</td>
<td>67</td>
<td>252</td>
<td>33.0</td>
</tr>
</tbody>
</table>

### F. Vehicle Technologies to Reduce GHGs and Improve Fuel Economy

EPA projects that manufacturers will comply with the MYs 2017-2025 standards by using a wide range of technologies, including continual advances in gasoline engines and transmissions, vehicle weight reduction, lower tire rolling resistance, vehicle aerodynamics, diesel engines, and more efficient vehicle accessories. EPA expects that the majority of improvements will come from advancements in internal combustion engines, although EPA also expects to see some increased electrification of the fleet through the expanded production of stop/start, hybrid vehicles, plug-in hybrid electric vehicles, and electric vehicles. EPA also expects that vehicle air conditioning systems will continue to become more efficient, reduce leakage, and use alternative refrigerants with lower hydrofluorocarbon emissions.

### G. Mid-Term Evaluation

Given the long time frame at issue in setting standards for MYs 2022-2025, and given NHTSA’s obligation to conduct a separate rulemaking in order to establish final standards for vehicles for those model years, EPA and NHTSA will conduct a comprehensive mid-term evaluation and agency decision-making process. As part of this undertaking, EPA and NHTSA will develop and compile up-to-date information for the evaluation, through a collaborative, robust and transparent process, including public notice and comment. EPA and NHTSA fully expect to conduct this mid-term evaluation in coordination with the California Air Resources Board (CARB), given our interest in maintaining a National Program to address GHG emissions and fuel economy. The comprehensive evaluation process will lead to final agency action by both agencies.

### H. EPA’s Program Flexibilities

EPA’s final program includes provisions that offer compliance flexibility to auto manufacturers. Together these flexibilities are expected to provide sufficient lead time for manufacturers to make necessary technological improvements and to reduce the overall cost of the program, without compromising overall environmental objectives. The flexibilities also provide incentives to facilitate market penetration of the most advanced vehicle technologies.

**Credit Banking and Trading** - EPA will continue the same comprehensive program for averaging, banking, and trading of credits established in the MYs 2012-2016 program. Together, these provisions help manufacturers in planning and implementing the orderly phase-in of GHG-reducing technology in their production, consistent with typical redesign schedules. Credits may be carried forward, or banked, for five years, or carried back three years to cover a deficit in a previous year. A manufacturer may transfer credits across all vehicles it produces, both cars and light trucks. Trading of credits between companies is also permitted. To facilitate the transition to the increasingly more stringent MYs 2017-2025 standards, EPA is finalizing under
its Clean Air Act authority a one-time CO2 credit carry-forward provision beyond 5 years, allowing credits generated from MYs 2010 through 2016 to be used through MY 2021.

**Air Conditioning Improvement Credits** - As with the MYs 2012-2016 program, manufacturers will be able to generate CO2-equivalent credits to use in complying with the CO2 standards for (1) improvements in air conditioning (A/C) systems that reduce tailpipe CO2 through efficiency improvements, and (2) for reduced refrigerant leakage—through better components and/or use of alternative refrigerants with lower global warming potential. Currently A/C systems use refrigerants containing hydrofluorocarbons (HFC) which are highly potent greenhouse gases, and EPA’s A/C credits will give manufacturers an incentive to accelerate the use of refrigerants with much lower HFC emissions.

**Off-Cycle Credits** - Off-cycle technologies achieve CO2 reductions that are not reflected in current test procedures. Such off-cycle technologies might include solar panels on hybrids, engine start-stop or active aerodynamics. EPA is expanding and streamlining the MYs 2012-2016 off-cycle credit provisions for demonstrating and obtaining these credits. For MYs 2014 and later, EPA is finalizing a pre-approved list of technologies and credit values. Further, manufacturers will be able to apply for off-cycle technology credits beyond those listed (or for different credit values for the listed technologies) if they present sufficient data to EPA.

**Incentives for Electric Vehicles, Plug-in Hybrid Electric Vehicles, Fuel Cell Vehicles, and Compressed Natural Gas Vehicles** - To facilitate market penetration of the most advanced vehicle technologies as rapidly as possible, EPA is finalizing an incentive multiplier for compliance purposes for all electric vehicles (EVs), plug-in hybrid electric vehicles (PHEVs), fuel cell vehicles (FCV) and compressed natural gas (CNG) vehicles sold in MYs 2017 through 2021. This multiplier approach means that each EV/PHEV/FCV/CNGV would count as more than one vehicle in the manufacturer’s compliance calculation. EVs and FCVs will start with a multiplier value of 2.0 in MY 2017, phasing down to a value of 1.5 in MY 2021. PHEVs and CNG vehicles will start at a multiplier value of 1.6 in MY 2017 and phase down to a value of 1.3 in MY 2021. There are no multipliers for MYs 2022-2025.

For EVs, PHEVs and FCVs, EPA is setting 0 g/mi as the tailpipe compliance value for EVs, PHEVs (electricity usage) and FCVs for MYs 2017-2021, with no limit on the quantity of vehicles eligible for 0 g/mi tailpipe emissions accounting. For MYs 2022-2025, 0 g/mi will only be allowed up to a per-company cumulative sales cap:
1) 600,000 vehicles for companies that sell 300,000 EV/PHEV/FCVs in MYs 2019-2021;
2) 200,000 vehicles for all other manufacturers.

For sales above these thresholds, manufacturers will be required to account for the net upstream GHG emissions for the electric portion of operation, using accounting methodologies set out in the rule.

**Incentives for Advanced Technologies Including Hybridization for Full-Size Pickup Trucks** - EPA is finalizing an additional CO2 per vehicle credit, for mild and strong hybrid electric (HEV) full-size pickup trucks, if this advanced technology is utilized across a designated percentage of a manufacturers’ full-size pickup trucks. This incentive further encourages manufacturers to begin to transform the most challenged category of vehicles in terms of the penetration of advanced technologies.

Eligibility for this credit is conditioned on a minimum penetration of the technology in a manufacturer’s full size pickup truck fleet. Mild HEVs pickup trucks will be eligible for a per vehicle credit of 10 g/mi during MYs 2017-2015 if the technology is used with at least 20% of a
company’s MY 2017 full-size pickup production and ramping up to at least 80% in MY 2021. Strong HEV pickup trucks will be eligible for 20 g/mi per vehicle credit during MYs 2017-2025 if the technology is used on at least 10% of the company’s full size pickups.

In addition to the specific hybridization credits, because there are other technologies besides mild and strong hybrids which can significantly reduce GHG emissions and fuel consumption in pickup trucks, EPA is also finalizing a performance-based incentive CO2 emissions credit for full-size pickup trucks that achieve a significant CO2 reduction below the applicable target. To avoid double-counting, the same vehicle will not receive credit under both the HEV and performance based approaches.

**Treatment of Compressed Natural Gas (CNG), Plug-in Hybrid Electric Vehicles (PHEVs), and Flexible Fuel Vehicles (FFVs)** - EPA is finalizing a methodology for determining CO2 levels for plug-in hybrid electric vehicles (PHEVs) and dual fuel compressed natural gas (CNG) vehicles. This methodology assumes how much of the time these vehicles will operate using the alternative fuel, and how much on gasoline. This methodology (called a “utility factor”) assumes that owners of these vehicles will use the cheaper non-gasoline fuel most of the time, since that was a main reason for purchasing the vehicle.

As proposed, EPA is not establishing a utility factor for flexible fueled vehicles (FFVs) using E-85 and gasoline, since there is not a significant cost differential between an FFV and a conventional gasoline vehicle and historically consumers have only fueled these vehicles with E85 a very small percentage of the time. FFVs continue to be treated as they are treated in MY 2016 where emissions are weighted based on actual alternative fuel usage.

**Provisions for Intermediate and Small Volume Manufacturers** - In the MYs 2012-2016 rule, EPA provided less stringent CO2 standards through MY 2016 to manufacturers with U.S. sales of less than 50,000 vehicles under the Temporary Lead time Allowance Alternative Standards (TLAAS) program. For MYs 2017-2025 standards, EPA is providing additional lead time flexibility to these intermediate volume manufacturers to help ease their transition to the primary program standards. The lead time flexibility is available through MY 2020 and intermediate volume manufacturers are required to meet the primary standards starting in MY 2021.

EPA is allowing small volume manufacturers (SVMs) with U.S. sales of less than 5,000 vehicles to petition EPA for alternative CO2 standards, which will be established for eligible SVMs on a case-by-case basis. These SVMs are exempt under the MYs 2012-2016 CO2 standards. EPA is also allowing manufacturers that are able to demonstrate that they are operationally independent from their parent company and have U.S. sales of less than 5,000 vehicles to be eligible for SVM GHG provisions.

In addition, EPA is continuing to exempt small businesses (companies with less than 1,000 employees, as defined by the Small Business Administration) from all GHG standards and program requirements.

Even as the administration moves to finalize the standards, presumptive GOP presidential nominee Mitt Romney has vowed to overturn them if elected. Last fall, Romney said he “would get the EPA out of its effort to manage carbon dioxide emissions from automobiles and trucks.” In February, Romney reiterated his opposition during a speech in Detroit, saying the fuel-efficiency rules “hurt domestic automakers and provided a benefit to some of the foreign automakers.”
"Increased fuel efficiency is a goal all parties support, but pursuing new standards that increase vehicle cost and decrease vehicle safety is dangerous for consumers and unacceptable from regulators," Darrell Issa, Republican chairman of the House of Representatives Committee on Oversight and Government Reform, said in a statement prior to the release of the rule. He also recently released a report charging that officials violated congressional intent when they elevated EPA's and California's role in the rulemaking process, as well as the Administrative Procedure Act and other laws. The report is seen as laying the groundwork for a possible lawsuit following the regulation's release.

The writing of the rule was "a raw political process designed to appease environmental extremists," said the report. "The impact of this process will not be immediate but will be felt by manufacturers forced to make, dealers forced to sell, and consumers forced to purchase far different, more-expensive and less-safe vehicles," the report, citing e-mails between automakers and administration officials, said.

Issa's report criticized the roles of environmental groups and California, which has power to regulate vehicle emissions, in a rule-writing process that included private meetings between White House officials and auto executives.

California, the most-populous U.S. state, has had stricter vehicle-emissions standards than the rest of the country since the 1960s. The state maintains tougher emission rules for every air pollutant other than carbon dioxide. That power allowed it to act as a "gun to the head" of automakers in pushing for tougher rules, the report concluded.

17. Court Rejects Challenge to EPA’s SO2 Rule

A federal appeals court has rebuffed a challenge to a U.S. EPA rule aimed at protecting human health from short-term spikes in sulfur dioxide. The U.S. Court of Appeals for the District of Columbia Circuit held that EPA didn't act unlawfully in setting a new SO2 standard of 75 parts per billion averaged over an hour. The court didn't rule on another part of the challenge concerning how the rule will be implemented because EPA hasn't finalized what it plans to do.

EPA maintains the one-hour standard was necessary to protect against short-term exposure, which can aggravate asthma and cause other respiratory problems. The previous limits are 140 ppb measured over 24 hours and 30 ppb measured over a year.

Several states, including Texas and Louisiana, in addition to some industry groups and individual companies, objected to the rule, raising concerns about how EPA weighed the necessary epidemiological and other health-related data in reaching its conclusions and questioning the increased use of computer modeling that would be required for implementing the rule.

Writing on behalf of the unanimous three-judge panel, Chief Judge David Sentelle rejected the suggestion that EPA had "cherry-picked" epidemiological studies that gave it the justification to impose a tougher standard. The passages of text cited by the petitioner, he wrote, only work in their favor "when taken out of their original context." The agency also "offers a reasonable explanation" for why it relied on certain studies, including that they were conducted in the United States.

Separately, the challengers questioned the agency's plan to expand the use of computer models when deciding whether an area is in compliance with the new standards. Petitioners say
EPA announced its intentions only in a preamble to the rule that was not open to public notice and comment. But in an April 19 letter to the court, EPA said it has told states it does not expect their June 2013 state implementation plan proposals "to contain modeling demonstrations showing attainment of the standard in unclassifiable areas."

Sentelle wrote that the court could not reach the modeling question because EPA's comments in the preamble were not a "final agency action" and therefore cannot yet be challenged in court. The language the petitioners cited "all suggests an indefinite, anticipated plan," Sentelle added.

The EPA cited research that shows short-term exposure to sulfur pollution poses a greater health threat than past rules took into account, including risks to children, the elderly and people with asthma. Power plants account for almost 70 percent of sulfur dioxide in the air, according to the EPA.

18. Appeals Court Upholds EPA Nitrogen Dioxide Air Quality Rule

A federal appeals court upheld a new Environmental Protection Agency rule to limit nitrogen dioxide emissions near major roadways, in a defeat for the oil industry, which said the rule went beyond what was necessary to protect public health. The decision by the U.S. Court of Appeals in Washington, D.C., is a victory for the Obama administration and environmental groups that supported the 2010 rule, which limits exhaust that could remain in the air for a one-hour period.

The 100 parts-per-billion limit was intended to reduce pollution from such sources as car exhaust pipes and factories; it was more stringent than a standard dating from 1971. Nitrogen oxides have been linked to respiratory problems, especially in children and people with asthma, according to the EPA.

"We cannot conclude the agency was arbitrary and capricious," Judge Douglas Ginsburg wrote for a unanimous three-judge panel. "The record adequately supports the EPA's conclusion that material negative health effects result from ambient air concentrations as low as the 100 parts-per-billion level."

The American Petroleum Institute, which represents more than 500 oil and gas companies such as Exxon Mobil Corp and Chevron Corp, led opposition to the rule and had sued to overturn it. "By cherry-picking data and relying on questionable science, EPA set the new regulations at a level more stringent than necessary to protect public health and is putting our economy and jobs unnecessarily at risk," Howard Feldman, API's director of regulatory and scientific policy, said in a statement. "We are reviewing the ruling and will determine possible further action."

The EPA had contended that a significant body of scientific studies has established that the old standard did not sufficiently protect the public health from the harmful effects of nitrogen dioxide exposure, with an adequate margin of safety.

The case is American Petroleum Institute et al v. EPA, D.C. Circuit Court of Appeals, No. 10-1079.

19. Court Strikes Down EPA Rule on Coal Pollution

The U.S. Court of Appeals for the District of Columbia Circuit has overturned one of the Obama administration’s hallmark air-quality rules, ruling that the Environmental Protection Agency had overstepped its authority in sharply curbing pollution from power plants. The 2 to 1 ruling by the
appeals court represents a major victory for utilities and business groups, which fought the Cross-State Air Pollution Rule on the grounds that it was costly, burdensome and arbitrary. Environmentalists, who had hailed the rule as a major improvement over a George W. Bush-era regulation, bemoaned the decision as a blow to public health.

For years, federal regulators have struggled with how best to cut harmful sulfur dioxide and nitrogen oxide emissions from power plants in the eastern half of the country. Those emissions blow downwind and contribute to forming smog and acid rain in the East. The EPA issued regulations — which were to take effect Jan. 1, 2011, but were delayed by the court — which would have required utilities in 28 states and the District of Columbia to install new pollution controls. It also established a limited cap-and-trade system that would have allowed utilities to buy and sell pollution credits in order to comply with the new standards.

EPA officials calculated that by 2014 the requirements would have yielded health benefits for 240 million Americans, including D.C. residents, and saved between 13,000 and 34,000 lives a year. The agency predicted that in two years this rule, in concert with others, would cut sulfur dioxide emissions nationwide by 73 percent, compared with 2005 levels, and reduce nitrogen oxide emissions by 54 percent.

But Southern Co., EME Homer City Generation and Energy Future Holdings Corp. units in Texas challenged the rule, saying they could not meet the new requirements in time. Meanwhile, the state of Texas, the National Mining Association and the International Brotherhood of Electrical Workers also sued the EPA in separate cases on the grounds that the requirements were based on flawed computer models and could jeopardize the nation's electricity supply by forcing companies to shut down older coal-fired plants.

In the ruling — authored by Judge Brett Kavanaugh and joined by Judge Thomas Griffith, both Bush appointees — the court wrote that the EPA used a section in the Clean Air Act known as the “good neighbor provision” to “impose massive emissions reduction requirements on upwind States without regard to the limits imposed by the statutory text. Whatever its merits as a policy matter, EPA’s Transport Rule violates the statute.” Judge Judith Rogers, a Bill Clinton appointee, dissented.

The interstate air pollution rule enacted under Bush, which phases in emissions reductions over a longer period of time, was vacated by the federal appeals court in 2008. The federal appeals court had reinstated that rule, the Clean Air Interstate Rule, when it suspended the Obama administration's regulation, and the Bush rule will remain in place for now. The EPA has previously estimated that roughly two-thirds of the reductions it predicts from the new rule have already been achieved under Bush's CAIR rule.

The decision was cheered by some Republicans, who have made the EPA and President Barack Obama's environmental policies a major campaign theme ahead of November elections. The agency is endangering a fragile economic recovery by saddling U.S. industries with costly new rules, Republicans say. "The Obama-EPA continues to demonstrate that it will stop at nothing in its determination to kill coal," said Republican Senator James Inhofe, one of the Senate's most vocal EPA opponents. "With so much economic pain in store, it is fortunate that EPA was sent back to the drawing board."

But some analysts saw little material impact from the ruling, with dozens of coal-fired plants already slated for closure due to other EPA regulations.
Two of the three judges ruling on the case said the EPA had exceeded its "jurisdictional limits" in interpreting the Clean Air Act and imposed "massive emission reduction requirements" on upwind states. "By doing so, EPA departed from its consistent prior approach to implementing the good neighbor provision and violated the (Clean Air Act)," Judge Brett Kavanaugh said in the court's opinion.

Power generators, such as Southern Co, had argued that the January 1 implementation date was too soon to design and install the needed pollution control equipment.

Democratic Senator Tom Carper, who authored bills to curb mercury, SOX and NOx emissions in previous years, said he would try to push for new legislation if an appeal failed.

Environmental groups warned that the decision would put lives at risk and urged the EPA to appeal the decision. "The court's decision significantly imperils long overdue clean air safeguards for millions of Americans," said Vickie Patton, general counsel of the Environmental Defense Fund. Patton said the EPA should move in parallel to "swiftly put in place replacement protections" and to ask the three-judge panel and the full court to rehear the case.

John Walke, clean air director at the Natural Resources Defense Council, said the dissenting opinion of Judge Judith Rogers more accurately reflected the opinion of the court. Judge Rogers said the other two judges were "trampling on this court's precedent on which the Environmental Protection Agency was entitled to rely in developing the Transport Rule rather than be blindsided by arguments raised for the first time in this court".

The appeals court had in June ruled 2-1 in favor of the EPA in a challenge to the agency's greenhouse gas regulations.

20. Coal Plants Still Pressured Despite Romney Plan, EPA Court Loss

Coal-fired power plants will still face pressure and in some cases closure despite a Republican energy plan favorable to the industry and a court victory against new environmental rules. As many as one-sixth of U.S. coal-fired power plants would close within eight years and be replaced by natural gas, according to an Energy Department estimate.

Republican presidential candidate Mitt Romney recently laid out his new energy policy that aims to promote oil and natural gas production and roll back environmental rules that he said are killing the use of coal. The candidate has accused the Obama administration of "waging a war on coal" by implementing rules to curb emissions of carbon, mercury and other air pollutants from power plants.

Romney unveiled his energy plan just a day after a U.S. court decided 2-1 to strike down an Environmental Protection Agency rule that placed tight curbs on power plant emissions across states borders. (See above) That decision was a blow to Obama administration plans to curb air pollution from the coal-fired power plants, which until 2008 supplied over 50 percent of America's electricity.

But analysts said while the Romney plan and the court decision appeared to throw a lifeline to struggling coal, the abundance of cheap natural gas and other regulations that are more likely to survive legal challenges will still cause as many as 50 gigawatts of coal-fired capacity to retire.
Major advances in horizontal drilling and the practice of hydraulic fracturing have led to a boom in natural gas supply, driving prices to 10-year lows. Even with the cross-state air pollution rule being thrown out, it is unlikely to change the math around how many coal-fired plants are likely to be shuttered over the next decade or so, analysts contend.

By the time the EPA revises the rule, which could take at least two years, it would have limited impact because more stringent mercury and air toxics rules will kick in by 2015 and force old, coal-fired plants to shut down. The EPA's Mercury and Air Toxics rule is being challenged in the same court that struck down the cross state rule. The National Association of Manufacturers and Chamber of Commerce have filed briefs this month asking the court to strike down the rule because it would drive up power prices. Some analysts contend that the mercury rule won't meet the same fate as the cross-state plan because the agency's authority to regulate mercury emissions is very clear.

"The statute clearly delineates how the agency is to carry out its authority," said Vickie Patton, counsel for the Environmental Defense Fund.

A vote in the Senate to try to undo EPA's mercury rules in June failed.

Patton said the cross state ruling was an anomaly for the court, which has repeatedly affirmed the agency's clean air policies. The same court upheld the EPA's greenhouse gas regulations in June, as well as air quality standards for sulfur dioxide and nitrogen oxide.


Presumptive GOP presidential nominee Mitt Romney has outlined an energy plan that would “empower” states with permitting authority to allow for faster development of oil, gas, coal and other energy projects on all lands within their borders, while setting deadlines for federal environmental reviews of projects to speed the process.

In the “Energy Independence” plan issued on August 23rd Romney also offers broad outlines of other policy goals, ranging from support for EPA's renewable fuel standard (RFS) to criticism of the agency's utility emissions rules. Romney also pushes for a “rational approach” to rules by amending environmental laws to make costs a greater factor in rulemaking, and would bar agencies from using "sue-and-settle" pacts with activists to set rulemaking deadlines.

Romney claims the energy agenda aims to “dramatically increase domestic energy production and partner closely with Canada and Mexico to achieve North American energy independence by 2020. . . . Romney’s path forward would establish America as an energy superpower in the 21st century,” the plan says, while criticizing President Obama's “hodgepodge” energy policy.

The Independent Petroleum Association of America (IPAA) supports Romney's proposals saying it “incorporates the appropriate role of government in energy policy, which must be to promote energy development, rather than stifle it by overwhelming or threatening regulations and destructive legislation.” IPAA says states “best know how to protect the environment while allowing for responsible American energy production.”

Environmentalists and some Democratic lawmakers, however, criticized the plan, with the Sierra Club calling it an “energy insecurity plan that would make us even more dependent upon oil, coal, and gas companies while ignoring climate disruption, economic growth, and the health and well-being of the American people.”
Similarly, Rep. Henry Waxman (D-CA) -- ranking member on the House Energy & Commerce Committee -- said the plan “takes us in the wrong direction by increasing our dependence on oil, ignoring the reality of climate change, and attacking commonsense environmental protections and successful clean energy programs.”

A key part of the plan is to “empower states to control onshore energy development,” particularly on federal lands, where the plan says that states will be able to “oversee the development and production of all forms of energy on federal lands within their borders, excluding only lands specially designated off-limits.”

Romney's energy plan also says that state regulations and permitting programs will “be deemed to satisfy all requirements of federal law” and that while federal agencies will certify state permitting programs, the agencies will do so in ways “to afford the states maximum flexibility to ascertain what is most appropriate.”

Federal permitting programs and regulations also need to be “modernized,” the plan says, citing in a footnote a Western Energy Alliance report that found delays for thousands of drilling well projects undergoing National Environmental Policy Act (NEPA) reviews. NEPA requires agencies to assess the environmental impacts of proposed projects on federal lands, and to recommend changes to the projects if adverse effects are predicted. Proponents of NEPA streamlining say the process can be lengthy and delay vital energy production projects.

Romney says the federal government should be “setting clear deadlines and statutes of limitations” on permitting reviews and other issues and “requiring better coordination between federal agencies.”

Citing Obama's rejection of the proposed Keystone XL pipeline project that would bring Canadian tar sands oil into the United States, Romney says that as president he would “institute fast-track regulatory approval processes for cross-border pipelines and other infrastructure,” which would include approving Keystone XL.

Romney's plan also pushes for greater consideration of costs in rulemaking, something the candidate has previously endorsed -- though the approach has drawn attacks from environmentalists and Democrats who say it could lead to EPA weakening or even scrapping rules if industry successfully shows the costs outweigh the benefits. Advocates of more cost-benefit approaches to regulation have long called for lifting the Clean Air Act prohibition on EPA considering costs in setting its national ambient air quality standards (NAAQS). The agency can only set the standards based on health risks from the criteria pollutants regulated under the limits, but Republican lawmakers, industry and others argue this process ignores the potentially massive costs associated with strict NAAQS.

The plan also targets “sue-and-settle” agreements, in which environmental groups, industry and others sue EPA and federal agencies to force action on a rulemaking. House Republicans and others have criticized EPA for entering into consent decree deadlines -- often to the exclusion of states and industry -- to promulgate rules such as the proposed greenhouse gas standard for utilities, and revisions to the agency's particulate matter NAAQS. A Romney administration would “prevent agencies from using 'sue-and-settle' techniques behind closed doors to circumvent the public rulemaking process, impose onerous regulations, and tie the hands of future administrations,” and “[d]isclose federal funds spent reimbursing groups for lawsuits against the government.” The plan notes that, under the Equal Access to Justice Act (EAJA),
activists have earned attorney’s fees as part of such suits and “there has been no government-wide accounting” of EAJA payments since 1994.

A. States’ Fracking Oversight

Romney's energy plan sets the stage for debate with President Barack Obama over whether states or the federal government should have primary authority to regulate the hydraulic fracturing process -- with Romney preferring a process that gives states significant deference on permitting fracking operations within their borders. Romney says that giving states new permitting authority would allow for faster development of fracking operations, as well as oil, coal and other energy projects.

B. Plan Supports U.S. Ethanol Mandate

The Romney energy plan supports the ethanol quota, a mandate several governors want to suspend as the worst drought in over 50 years sends corn prices to record levels. Governors from North Carolina, Arkansas, Georgia and New Mexico, where large numbers of livestock are reared, have petitioned the Obama administration to waive the mandate which they say raises prices for corn, an important animal feed. The grain is also the main stock for making U.S. ethanol.

The five-year old Renewable Fuels Standard, or RFS, signed into law by then-President George W. Bush, requires more than 13 billion gallons of grain-based ethanol to be blended into gasoline this year and more in coming years.

Romney's energy plan would "support increased market penetration and competition among energy sources by maintaining the RFS and eliminating regulatory barriers" to diversify the power grid, the fuel system and vehicle fleets. The plan did not detail how Romney, a former Massachusetts governor, would support the ethanol mandate.

President Barack Obama has also been a strong supporter of ethanol, which provides jobs in Iowa and other swing states that will be central in the November 6th presidential election.

The Environmental Protection Agency is considering the waiver requests from the governors but is not likely to rule on it before the November election. (See below) In 2008 the agency rejected a similar waiver requested by Texas Governor Rick Perry. In the rejection, the EPA said future petitions would have to show that the mandate was responsible for severe economic harm and did not simply contribute to it.

22. EPA Seeks Input on Ethanol Mandate Waiver Requests

The U.S. Environmental Protection Agency has announced that it has begun weighing requests to suspend the U.S. ethanol mandate, which requires refiners to blend ethanol into gasoline, and is seeking public feedback. The governors of North Carolina and Arkansas recently asked the agency to temporarily waive the U.S. quota on ethanol made from corn, because the worst drought in 50 years has driven corn prices higher and hurt livestock producers who depend on the grain for feed. Two other U.S. states that depend on the livestock industry added their voices: Georgia, the center of U.S. poultry production, and New Mexico, with its large cattle industry, asked federal officials to suspend the program that encourages converting corn into ethanol fuel.
The EPA has asked for public comment on the need for an ethanol waiver. The 30-day comment period will begin once the notice is published in the Federal Register. “This notice is in keeping with EPA’s commitment to an open and transparent process to evaluate requests the agency receives under the Clean Air Act, and does not indicate any predisposition to a specific decision,” agency spokeswoman Alisha Johnson said in a statement. By law the agency has until November 13 to make a decision on the waivers, meaning EPA could act on the requests after national elections on November 6.

Aimed at reducing U.S. reliance on foreign oil, the Renewable Fuels Standard, or RFS, would require 13.2 billion gallons of ethanol to be made from corn this year. The EPA is seeking input on whether the RFS would severely hurt the economies of Arkansas, North Carolina or any other part of the United States and what effect a waiver would have on ethanol demand and corn prices. The agency is also asking, if a waiver is needed, how much should the mandate be eased and when should it apply.

U.S. livestock groups have argued that complying with the mandate at a time of historic national drought is causing major economic harm to meat and dairy producers.

It is unclear that a waiver would weaken corn prices. Refiners will likely continue buying almost as much ethanol even without the mandate since they use it as an additive to make cleaner-burning fuel required in much of the country. Ethanol industry groups say the mandate offers some flexibility for fuel blenders responsible for complying with the RFS, including the ability to buy bankable credits if blenders cannot buy enough physical ethanol to meet requirements.

23. Senators Press EPA to Cut Ethanol Mandate

As the worst drought in more than 50 years withers the Midwest corn crop, 25 senators urged the Environmental Protection Agency to cut the mandate that requires fuel blenders to add grain-based ethanol to gasoline. The senators representing 25 percent of the chamber urged EPA chief Lisa Jackson to adjust the Renewable Fuels Standard, or RFS, that requires fuel blenders to mix 13.2 billion gallons of ethanol into gasoline this year. The mandate rises steadily until peaking at 15 billion gallons per year in 2015 and holding that level through 2022.

The lawmakers blame the mandate for raising the price of corn -- the main feedstock for U.S. ethanol refining -- which threatens to increase feed costs for livestock producers and eventually saddle consumers with higher food costs. Some 40 percent of the U.S. corn crop is now used to make ethanol, though some byproducts of the process are fed to livestock.

"Adjusting the corn grain-ethanol mandate of the RFS can offer some relief from tight corn supplies and high prices," said the senators including Ben Cardin, a Maryland Democrat, and Tom Coburn, an Oklahoma Republican.

None of the senators are from a major corn growing state where the RFS remains popular with farmers and ethanol distillers for the jobs it supports.

As the drought threatens crops, the call to reform the RFS is growing louder. Last week, nearly one-third of the lawmakers in the 435 member U.S. House of Representatives signed a letter urging the government to ease the mandate. Neither set of lawmakers specified how much they wanted the mandate to be adjusted.
The EPA, which has the power to adjust the RFS on its own, did not immediately comment on the letter.

Legislation to adjust or eliminate the mandate is stalled in election year gridlock in Congress.

Experts say that even if EPA waives the Renewable Fuel Standard (RFS), it won't necessarily free up much corn for food and livestock feed. In fact, unless corn prices rise another $2 or oil prices fall sharply, it may not make a difference at all. Even without the standard, a third of the U.S. gasoline supply must contain ethanol to meet unrelated clean air rules, mostly in California and on the East Coast. Removing the RFS obligation won't change the fact that the 1990 Clean Air Act requires fuel companies to sell a cleaner blend of fuel, called reformulated gasoline (RFG) or RBOB, in the most populous parts of the country. Originally meant as a way for nine U.S. cities with the worst smog to clean up the air, RFG is now a required fuel in about 30 percent of the country's service stations.

Producing RFG requires oxygenate, substances that allow the gasoline to burn more cleanly. No other available substance can oxygenate gasoline as effectively, helping it burn more cleanly. The 1990 amendment to the Clean Air Act did contain provisions for the use of alternate, non-petroleum oxygenates to meet air quality requirements. Oil companies and automakers offered their own alternative: methyl tertiary butyl ether or MTBE. They argued successfully that the addition of a petroleum-based oxygenate would not require a change in existing cars. But in the 1990's, MTBE was found to be a known carcinogen. Petroleum blenders and marketers shied away from its use.

More importantly, ethanol is as much as $1 cheaper than other types of octane boosters like reformate, which refiners use to increase the efficiency of their fuel. In effect, one-third of the ethanol is mandatory, but the remaining two-thirds is discretionary, blended into conventional gasoline simply to increase octane, which improves efficiency. It's this that has led the trebling in ethanol output since 2006, seeping into almost every filling station in the country. In May, only about 4 percent of all U.S. gasoline was ethanol-free, according to EIA data. A year ago it was 10 percent, and in 2008 it was one-quarter.

Unlike five years ago, when ethanol was a marginal and relatively costly fuel that required heavy government subsidies to survive, it is now a competitive source of energy.

24. OMB Reviewing Rule That Could Provide Nonconformance Penalties for Navistar

The White House Office of Management and Budget is reviewing a final rule that could provide relief to Navistar Inc. The Environmental Protection Agency proposed the rule in January to allow Navistar to produce heavy-duty diesel engines that do not meet a nitrogen oxides emissions standard if the company pays penalties.

At the same time, the agency issued a parallel interim final rule, but the U.S. Court of Appeals for the District of Columbia Circuit struck it down June 12 because EPA did not provide proper notice and comment.

The final rulemaking is expected to satisfy notice and comment requirements. OMB received the final rule for interagency review on August 4th.
The D.C. Circuit acknowledged its June decision “will be of limited practical impact” because EPA had been working on the final rule. However, the court offered some insight into its thinking on the merits of rules, saying the nonconformance penalties “are likely inappropriate.”

Heavy-duty diesel engines were required to meet an emissions standard of 0.20 gram of nitrogen oxides per horsepower-hour by 2010. Navistar's competitors have met the standard by using liquid, urea-based selective catalyst reduction technology, which requires drivers regularly to refill a container with a fluid that reduces nitrogen oxides. Navistar, however, has been controlling nitrogen oxides emissions with exhaust gas recirculation technology, which cleans emissions within the engine. However, its engines do not yet meet the 2010 standard.

The interim final rule would have allowed Navistar to produce engines that emit less than 0.50 gram of nitrogen oxides per horsepower-hour, as long as the company paid nonconformance penalties.

On July 6, Navistar announced it will abandon the exhaust gas recirculation technology and shift toward a technology that uses urea-based after-treatment called In-Cylinder Technology Plus. However, the new technology will not be available until early 2013, and the final rulemaking is necessary for Navistar's current operations.

Cummins is urging EPA to either scrap the pending final rule setting financial penalties for nonconformance with EPA's heavy-duty diesel engine emissions rules or to significantly raise the penalty amount, claiming low penalty levels will spur companies to accept penalties in lieu of complying with the emission standards.

Cummins -- which designs and manufactures power generation equipment including engines -- says if EPA proceeds with the rule, raising the penalty levels is the only way to ensure no engine maker gets an unfair competitive advantage, according to comments the company presented at a recent meeting with Obama administration officials.

Details of the final rule -- which EPA sent for OMB review Aug. 4 -- are unclear, but in the interim rule the agency set non-conformance penalties of $1,900 per truck on Navistar for nonconformance with the agency's 2010 heavy-duty diesel engine emissions rules. At the same time, EPA allowed Navistar to temporarily continue selling vehicles that were out of compliance with the rule, a move that drew strong opposition from other engine makers.

Although EPA did not take comment on the interim final rule, it issued a proposed version of the NCP rule alongside the interim rule and took public comment on it that will inform the upcoming final rule.

Cummins at an August 13th meeting with officials from EPA, OMB and the White House Council on Environmental Quality (CEQ) pushed for either scrapping or tightening the rule. During the meeting the company, which was involved in the suit over the interim version of the rule, presented its April 4 comments on the proposal, raising concerns over the low level for the NCPs. Cummins said "none of EPA's own regulatory criteria for the availability of NCPs has been met" and "NCPs are not authorized, and should not be issued" and that for those reasons, the interim final rule was also unlawful.

If the agency moves forward with a final rule, Cummins says that EPA should raise the $1,900 NCP to $8,100 for heavy-duty engines and assess a $2,600 NCP for medium heavy-duty engines so that "compliance is not penalized compared to noncompliance." The company adds
that EPA "must increase NCPs so that compliant manufacturers are not compelled by market forces to use penalties in lieu of meeting stringent emission standards."

Cummins argues that paying NCPs to produce engines that are out of compliance "must never" be a lower-cost option compared to compliance, but that if EPA does not raise the NCPs it will create that situation.

The company also says that the Clean Air Act requires that NCPs "shall remove any competitive disadvantage to manufacturers whose engines or vehicles achieve the required degree of emission reductions."

Cummins says, "EPA must capture all the investments that compliant manufacturers put into meeting stringent emission standards, and all the cost of ownership benefits of operating at higher nitrogen oxide levels lest EPA confer an economic benefit on companies who choose to pay the NCPs to produce non-compliant engines."

Meanwhile, the D.C. Circuit in its August 15th orders rejected without comment Navistar's bid for rehearing of the interim final rule decision either by the three-judge panel that heard the case or by the full court.

The court in its June 12 decision vacating the rule agreed with Mack Trucks and others that the agency's failure to seek comment on the interim rule violated Administrative Procedure Act (APA) requirements. EPA contended during oral arguments that it did not seek comment on the interim final rule because the APA through its "good cause" provision allows agencies to avoid taking comment if it is "impracticable, unnecessary, or contrary to the public interest." But the court found that EPA failed to satisfy the good cause provision.

In its July 27 petition for rehearing, Navistar argued that the ruling created a new standard for when agencies can invoke the good cause provision, arguing that the D.C. Circuit "incorrectly restricts the impracticality prong of the 'good cause' exception to only 'real emergency' situations where there is an 'imminent threat to the environment or safety or national security.'" In the past, Navistar contends that the court required a more "flexible" standard of allowing agencies to avoid seeking comment on a rule due to "impracticability," rather than due to concerns about an imminent threat.

Navistar also argued that the decision would "stifle innovation and environmentally advanced designs" as well as threaten "to undermine the undisputed Congressional mandate in the Clean Air Act that a manufacturer should not be driven from the market as a result of new mobile source emission standards."

25. Navistar Plans to Outfit Trucks with New Emission Controls

After years of struggles to build a diesel engine that meets strict new limits on tailpipe emissions, Navistar Inc. announced today that it will redesign its emissions control systems to make them more similar to those of its competitors. Navistar, which bet several years ago that its expertise in engine design would allow it to meet the air pollution standards, has yet to win a truck certification from U.S. EPA under new rules that took effect in 2010.

So far, the company has met its obligations by using credits from previous years and by paying fines of about $2,000 per truck -- a strategy that has drawn lawsuits from rival truck makers. But
starting early next year, Navistar will start selling trucks with a hybrid system that borrows the same emissions-scrubbing technology used by other companies.

The shift will end a divide within the industry over the use of selective catalytic reduction equipment, which uses a tank of liquid urea to strip the smog-forming chemicals out of engine exhaust before it is released into the air. EPA and the California Air Resources Board have certified other trucks using that equipment as complying with the rules, which require new trucks to reduce their emissions of soot- and smog-forming nitrogen oxides by 95 percent. Companies such as Mack and Volvo that use the technology won in court last month when a panel of federal judges ruled EPA was not being tough enough in allowing Navistar to comply by paying fines for its trucks.

The new technology, known as In-Cylinder Technology Plus (ICT+), will also help the company to meet greenhouse gas (GHG) rules in advance of 2014 and 2017 requirements, Navistar said in a regulatory filing.

Navistar was earlier trying to cut emissions of nitrogen oxide, a pollutant linked to asthma, without using liquid urea, the approach taken by Navistar's rivals. In January, Navistar applied for EPA approval for the engine, but pulled the application and resubmitted it in late May. In June, a U.S. appeals court rejected an EPA policy that allowed the company to pay fines to sell non-compliant engines.


Navistar International Corp. has announced that its CEO has stepped down and named an interim replacement. The heavy truck and engine company said that Daniel Ustian, 62, informed the board that he is immediately retiring from his roles as chairman, president and chief executive, and is leaving the company's board. He had been with the company for 37 years. He became CEO in 2003 and chairman in 2004, the company said.

Lisle, Ill.-based Navistar named Lewis Campbell, the former chairman, president and CEO of Textron Inc., as its executive chairman and interim CEO.

Navistar has struggled this year amid uncertainty about whether its Class 8 engine, which is used in the largest commercial trucks, will get Environmental Protection Agency approval. Since the beginning of this year, its shares have tumbled 39 percent. The company said in July that it was in talks with the EPA on a plan that will allow it to continue shipping trucks while it makes a transition to a new emission-reducing technology that will bring it into compliance with EPA requirements. The new technology is expected to be available beginning early next year.

Its shares rose 33 cents, or 1.4 percent, to $23.31 in midmorning trading after rising as high as $25.08 earlier in the day.

Campbell joined Providence, R.I.-based Textron in 1992 and served as its CEO from 1999 to 2010. Before that, he spent 24 years at General Motors in a variety of roles. Campbell, 66, said that "at the appropriate time" the company will conduct a search for a long-term CEO, which will include both internal and external candidates.

Navistar also said Monday that it promoted Troy Clarke its current president of truck and engine operations, to the job of president and chief operating officer. Clarke, 57, joined Navistar in 2010 and previously spent 35 years at General Motors.
The notoriously smoggy skies of Los Angeles are a little bit cleaner than you might expect, at least in one respect. According to a study announced on August 9th by the National Oceanic and Atmospheric Administration (NOAA), the levels of certain vehicle-related pollutants in Los Angeles have dropped by 98% since the 1960s. The study has been accepted for publication in the Journal of Geophysical Research Atmospheres but is not yet available online.

The study looked specifically at vehicle-emitted pollutants called volatile organic compounds (VOCs) which enter the atmosphere from the tailpipes of cars and trucks. VOCs are one of the contributing factors to ground-level ozone, which can be damaging to peoples’ lungs as well as to many plants in the area.

The drop in VOCs was most significant between 2002 and 2010, when they were cut in half. This drop was despite the fact that drivers in Los Angeles now use three times as much gasoline and diesel fuel as they did 50 years ago. So why have VOC emissions fallen so dramatically? “The reason is simple,” said the study’s lead author, Carsten Warneke, Ph.D., a NOAA-funded scientist with the Cooperative Institute for Research in Environmental Sciences (CIRES) at the University of Colorado Boulder. “Cars are getting cleaner,” he said in a prepared release. Contributing factors in the VOC decline cited by the NOAA include catalytic converters, improved engine efficiency, and reformatted fuels that are less prone to evaporation.

This doesn’t mean that Los Angeles residents can breathe easier, however. While overall VOCs have dropped, some of the compounds remain at high levels. Propane and ethane, which are emitted by the burning of natural gas and other sources, have not declined as quickly. Another NOAA study recently found that a third VOC, ethanol, is actually increasing.

Meanwhile, although VOCs contribute to ozone, they are not the only factor influencing LA’s infamous ozone-laden smog, which still remains the worst in the country, according to the annual State of the Air report from the American Lung Association, which was released this past April. “Ozone and particle pollution contribute to thousands of hospitalizations, emergency room visits, and deaths every year,” Dr. Kari Nadeau, a Stanford Medical School professor and American Lung Association researcher, said when the State of the Air report was released. “Air
pollution can stunt the lung development of children, and cause health emergencies, especially for people suffering from chronic lung disease, including asthma, chronic bronchitis, and emphysema. Both long-term and short-term exposures can result in serious health impacts.

The State of the Air report also ranked the Los Angeles-Long Beach-Riverside area as having the third-highest level of annual particle pollution in the nation and the fourth-highest level of short-term particle pollution. But on the plus side, the association did note that LA’s air quality was the best it has been since 1999.

28. Ford Brings Hybrid, EV Work In-House To Increase Competitiveness

Ford Motor Co is accelerating development of its hybrid and electric vehicles by bringing the design and production of key components in-house. The No.2 U.S. automaker said it will spend $135 million to design parts for its next wave of electrified vehicles and double its battery testing capability by next year.

This summer, Ford began building its own hybrid transmission. More than 1,000 Ford engineers are devoted to advanced vehicle development and Ford plans to hire more. These efforts allow Ford to complete projects more swiftly and cut overall development costs, executives said. They also allow Ford to react more nimbly to changes in consumer demand.

Improving fuel economy is a cornerstone of Ford’s vehicle strategy. Ford expects hybrids, plug-in hybrids and EVs will account for as much as 25 percent of its global sales by 2020. Ford this year is launching five electrified vehicles, including hybrid versions of the Fusion midsize sedan and C-Max crossover. The C-Max gets 47 miles per gallon, beating the Toyota Prius V, which gets 44 miles per gallon. But Ford still lags far behind Toyota, which has dominated the market with its Prius hybrid family. So far this year, the Toyota brand has accounted for two-thirds of the U.S. hybrid and EV market, while the Ford brand represents 3 percent, according to Edmunds.com.

The high cost of batteries and electric drive components represents another challenge. To combat that, Ford, like other automakers, is increasingly looking to maximize the number of models and parts that can be built on a single line. For example, Ford now builds a hybrid transmission at its Van Dyke Transmission Plant near Detroit. On one side of an aluminum palette, workers build a conventional six-speed automatic transmission. On the other side is the hybrid version.

Ford previously bought these transmissions from Japanese parts supplier Aisin. Bringing production in-house allowed Ford to shave 20 percent from development costs, partly by saving on shipping and component costs. The model also gives Ford the choice to build more or less depending on demand.

Ford is also seeing savings from bringing battery design and testing internally after relying heavily on outside suppliers to design and test batteries for its earliest hybrids. The expansion of battery testing allows Ford to finish projects at least 25 percent faster than with the previous generation of hybrid and electric vehicles. The automaker said its current hybrid system costs 30 percent less than the previous version. The new system relies on a more-efficient lithium-ion battery, while the Ford’s original Escape SUV hybrid used a nickel-metal hydride battery.

29. NOAA Says July Was Hottest Month Ever For Continental US
July was the hottest month in the continental United States on record, beating the hottest month in the devastating Dust Bowl summer of 1936, the US government reported recently. It was also the warmest January-to-July period since modern record-keeping began in 1895, and the warmest 12-month period, eclipsing the last record set just a month ago, the National Oceanic and Atmospheric Administration (NOAA) said. This is the fourth time in as many months that U.S. temperatures broke the hottest-12-months record.

The average temperature for July across the contiguous 48 states was 77.6 degrees F (25.3 degrees C), or 3.3 degrees F (1.7 degrees C) above the 20th century average. The previous warmest July, in 1936, averaged 77.4 degrees F (25.2 degrees C).

Along with record heat, drought covered nearly 63 percent of the 48 contiguous states, according to NOAA's Drought Monitor, with near-record drought conditions in the Midwest, where 75 percent of the U.S. corn and soybean crops are grown.

Analysts expect the drought, the worst since 1956, will yield the smallest corn crop in six years, meaning record-high prices and tight supplies. It would be the third year of declining corn production despite large plantings. The government already has cut projections for corn yields by 12 percent due to hot, dry weather in the Farm Belt.

Drought and heat fed each other in July, according to Jake Crouch, a scientist at NOAA's National Climatic Data Center. Dry soils in the summer tend to drive up daytime temperatures, and because dry soils prevailed over so much of the United States, that helped make things hotter over a wide area, Crouch said. "The hotter it gets, the drier it gets, the hotter it gets," Crouch said.

What made this year different from the Dust Bowl summer of 1936 were nighttime temperatures, he said. In the Dust Bowl years, the warmth was largely driven by daytime highs. This July, the record heat was also pushed by warm nighttime temperatures -- the overnight lows weren't that low.


Scorching temperatures in June's second half helped the continental United States break its record for the hottest first six months in a calendar year, the National Oceanic and Atmospheric Administration has announced. The last 12 months also have been the warmest since modern record-keeping began in 1895, narrowly beating the previous 12-month period that ended in May 2012.

Every state except Washington in the contiguous United States had warmer-than-average temperatures for the June 2011-June 2012 period.

The recent blistering heat wave broke records across much of the United States, threatening the Midwest's corn crop and helping to fan destructive wildfires.

June was 2 degrees Fahrenheit (1.1 degrees Celsius) warmer in the lower 48 states than the 20th-century average, but still just the 14th hottest June in the record books, NOAA's National Climatic Data Center said in a statement. June 1933, during the calamitous Dust Bowl period, was the hottest.
More than 170 all-time warm records were broken or tied during June's second half, NOAA said. Temperatures in South Carolina and Georgia of 113 degrees F (45 degrees C) and 112 degrees F (44 degrees C) respectively are under review as possible all-time statewide temperature records. Such record-high temperatures are in line with a long-term warming trend in the 48 contiguous states, said Jake Crouch, a scientist at the National Climatic Data Center.

This past month was also the 10th driest June, with drought spreading to 56 percent of the contiguous U.S. states, up from 37.4 percent in May, making it the largest drought footprint of the 21st century. The heat and drought put pressure on the corn crop, with analysts suggesting that the U.S. Department of Agriculture should lower its yield forecast in its latest monthly report. In early June, before the highest temperatures hit the U.S. grain belt, USDA forecast a record-large yield of 166 bushels per acre. Since then, hot, dry weather has baked much of the corn-growing region just as the crop was starting pollination, the key growth phase for determining yield.

Wildfires claimed 1.3 million acres, mostly in the West, the second-largest area to be charred during any June on record.

But it wasn't all dry. Tropical Storm Debby dumped so much rain during its slow pass across Florida that the state's monthly statewide precipitation total for the month was 13.16 inches, or 6.17 inches above average, making it Florida's wettest June on record. Maine, Oregon and Washington state each had a top-10 wet June.

From June 25 to July 1, some 2,171 record temperatures were either broken or matched, the NOAA said. For the 30 days of June, that number rose to 3,215.

Accuweather meteorologist Alex Sosnowski said the number of records broken was very unusual. He said that while some aspects of the heat wave are unknown, much of it is because of a lack of snow cover during the late winter on America's plains. Instead of the sun's heat melting snow, it instead heated the ground, which in turn warmed the air. The increase in temperature even made crops grow ahead of schedule until now; Sosnowski said the lack of rainfall has stunted crops' growth.

Sosnowski added that while some areas are not unusually warm, namely New England and the Northwest, the center of the country will experience high temperatures for the next several weeks, possibly into August.

Five states had more than 100 record temperatures broken in June. Texas had 237 records broken, followed by Colorado (226), Kansas (164), Missouri (126), and Arkansas (115).

31. Canadian Study Finds Diesel Drivers Face Increased Lung Cancer Risk

Researchers are calling for engineering and administrative controls to reduce the incidence of lung cancer among professional drivers. The authors of a new report also say the government and researchers should step in and help. Two population-based lung cancer case-control studies were conducted in Montreal. Study I (1979–1986) comprised 857 cases and 533 population controls; study II (1996–2001) comprised 736 cases and 894 population controls. A detailed job history was obtained, from which we inferred lifetime occupational exposure to 294

1 "Occupational exposure to diesel engine emissions and risk of lung cancer: evidence from two case–control studies in Montreal, Canada", Javier Pintos, Marie-Elise Parent, Lesley Richardson, Jack Siemiatycki
agents, including diesel engine emissions. ORs were estimated for each study and in the pooled data set, adjusting for socio-demographic factors, smoking history and selected occupational carcinogens. While it proved impossible to retrospectively estimate absolute exposure concentrations, there were estimates and analyses by relative measures of cumulative exposure.

Results Increased risks of lung cancer were found in both studies. The pooled analysis showed an OR of lung cancer associated with substantial exposure to diesel exhaust of 1.80 (95% CI 1.3 to 2.6). The risk associated with substantial exposure was higher for squamous cell carcinomas (OR 2.09; 95% CI 1.3 to 3.2) than other histological types. Joint effects between diesel exhaust exposure and tobacco smoking are compatible with a multiplicative synergistic effect.

The authors concluded that the findings provide further evidence supporting a causal link between diesel engine emissions and risk of lung cancer. The risk is stronger for the development of squamous cell carcinomas than for small cell tumors or adenocarcinomas.

"An 18 percent excess risk of lung cancer was linked to professional drivers who are potentially exposed to diesel exhaust, after taking into consideration the confounding effect of smoking," the report states. "There was a tendency towards a positive lung cancer gradient with increasing years of employment as a professional driver."

Vehicles such as trucks, buses, and taxis are often powered by diesel engines. While previous studies have suggested a positive association between occupational exposure to diesel exhaust and the risk of lung cancer, many have been ruled not statistically significant for various reasons.

The researchers conducted a systematic review of studies examining the association between professional driving and lung cancer between 1996 and 2011. Their findings are published in Occupational and Environmental Medicine. Some 20 studies were analyzed involving employees in the trucking industry, national transport companies, private transport companies, and the construction industry. Most were male.

**32. US Affirms Support for UN Climate Goal after Criticism**

The United States reaffirmed support for a UN goal of limiting global warming after criticism from the European Union and Small Island states that Washington seemed to be backing away. "The US continues to support this goal. We have not changed our policy," US climate envoy Todd Stern said in a recent statement. Almost 200 nations, including the United States, have agreed to limit rising temperatures to below 2 degrees Celsius (3.6 F) above pre-industrial times to avoid dangerous changes such as floods, droughts and rising sea levels. Temperatures have already risen by about 0.8 degree C.

In a speech on August 2, Stern called for a more flexible approach to a new U.N. agreement, meant to be adopted in 2015 after past failures, so that it could be modified over time to take account of new technologies. "This kind of flexible, evolving legal agreement cannot guarantee that we meet a 2 degree goal, but insisting on a structure that would guarantee such a goal will only lead to deadlock," he said in the speech.

In a clarification, Stern said that "my view is that a more flexible approach will give us a better chance to actually conclude an effective new agreement and meet the goal we all share."
Insistence on a more dogmatic approach in U.N. negotiations that would divide up carbon rights to pollute the atmosphere "will only lead to stalemate," he said.

Many scientists say the 2 degrees target is getting out of reach because of rising emissions, mainly from burning fossil fuels.

33. U.S., Mexican Officials Sign Eight-Year Pact to Address Pollution Along Border

On August 8th, top environmental officials from the United States and Mexico signed an eight-year pact to address pollution along their nations' 2,000-mile border. The Border 2020: U.S.-Mexico Environmental Program agreement focuses on high-priority environmental and public health problems, such as air and water pollution and exposure to harmful chemicals, the U.S. Environmental Protection Agency said in a written statement.

EPA Administrator Lisa Jackson and Mexico's secretary for the environment and natural resources, Juan Elvira Quesada, signed the Border 2020 agreement at a ceremony in Tijuana, Mexico.

"Addressing the environmental issues along the border has long been a priority we share with our colleagues in Mexico, because we know that environmental degradation, pollution, and the disease they trigger don't stop at the national boundaries," Jackson said.

Federal, state, and local officials from both sides of the border worked with academics and other interested parties in developing the agreement, which builds on the Border 2012 plan that expires at the end of the year, EPA said. The agency credited the current pact with bringing drinking water and wastewater services to more than 8.5 million border residents, ridding the border areas of more than 12 million scrap tires, and eliminating 75.5 metric tons of obsolete pesticides from rural areas.

Under the new agreement, the bi-national program will focus on reducing air pollution in shared air basins, in part by promoting vehicle inspection programs, road paving projects, and reduced idling by diesel trucks that frequent ports of entry. Other goals include reducing greenhouse gas emissions in border communities through energy efficiency and renewable energy projects; improving water quality, waste management, recycling, and environmental emergency response plans; reducing exposure to chemicals; addressing environmental justice issues; and enhancing rule compliance and environmental stewardship.

34. NGOs Urge Obama Not to Undermine ICAO Efforts

Recently sixteen environmental groups urged President Barack Obama not to give into pressure by the U.S. airline industry to file an action under the U.N.'s aviation body to block an EU law requiring all foreign airlines to participate in its carbon trading system. In their letter to the White House, the groups warned that filing a so-called Article-84 action in the International Civil Aviation Organization (ICAO) to challenge the EU climate change directive would undermine the body's effort to create a global framework to curb greenhouse gas emissions from the aviation sector.

The EU law would require all airlines to pay for the carbon they emit on flights landing at or departing from European airports.
"Filing a formal proceeding to block the directive would be highly inconsistent with your Administration's efforts to reduce carbon pollution from other sources," the groups wrote. They added that filing the international action "would undermine your administration's stated goal of achieving an agreed framework in ICAO to limit global warming pollution from international aviation."

Earlier, a coalition of industry lobby groups urged Secretary of State Hillary Clinton and Transportation Secretary Ray LaHood to go beyond their diplomatic efforts to shepherd a global alternative to the EU's carbon trading system. They asked the administration to file the Article 84 action to "strongly restate opposition" to the EU's application of its cap-and-trade system to U.S. airlines and warned that too much time has gone by without a resolution to the feud.

But a senior administration official said this week after the conclusion of two days of talks between the U.S. and 16 other countries opposed to the EU law that countries were committed to finding an ICAO solution. The European Commission has repeatedly said the only grounds for waiving its scheme, which has stirred threats of an international trade war, would be if ICAO could come up with an equally effective world-wide solution to rising airline emissions.

But the environmental groups said that instead of enhancing ICAO's ability to reach a solution by next year, an aggressive Article 84 action would undermine its progress. "No Article 84 action has ever been resolved through official ICAO channels; if the goal of filing an Article 84 action is to prompt negotiations, it is unnecessary given that such negotiations are already underway," the groups said.

Meanwhile, lawmakers on Capitol Hill have also put pressure on the Obama administration to take a stronger stance against Europe and its aviation law. Congressman John Mica, a Democrat who authored a strong bill shielding U.S. airlines from complying with the European law that passed in the House last year, urged his Senate counterparts on Friday to fast-track passage of their version of the legislation before Congress breaks for a month-long summer recess. The Senate commerce committee approved the bill and staff of one of the bill's co-sponsors told the press it plans to ready the bill for a vote on the Senate floor in September.

35. Natural Gas Vehicles Seen As 'Bridge' To Fuel Cells

The Obama administration is increasingly looking to natural gas as a means of bridging the gap between petroleum-fueled vehicles and zero-emission hydrogen fuel cell vehicles, industry and other sources tell the press, though supporters of natural gas vehicles (NGVs) are concerned that EPA's GHG vehicle rules will not provide the incentives that the industry says are crucial to help commercialize the fuel cells.

The American Gas Association (AGA), representing local distribution companies, America's Natural Gas Alliance (ANGA), representing independent gas producers, Honda, Chrysler and others have been urging EPA to provide the same sales multiplier credit for NGVs as EPA has proposed for electric vehicles (EVs) in the vehicle greenhouse gas (GHG) rule for model years 2017-25.

AGA has advocated for both NGVs and fuel cells as a way to grow market share for gas in the transportation sector, given the burgeoning supply and low cost of the fuel.

The credits being proposed for EVs would be awarded to vehicle manufacturers that must comply with the rules. NGV engine makers and others in the supply chain are adamant that the
vehicles receive approximately the same level of credit being awarded to EVs, fuel-cell vehicles and plug-in hybrid EVs, arguing that reducing lifecycle GHG emissions from NGVs is more cost-effective than reducing them from the other clean vehicles.

As noted above, in its GHG Rule, EPA is finalizing an incentive multiplier for compliance purposes for all electric vehicles (EVs), plug-in hybrid electric vehicles (PHEVs), fuel cell vehicles (FCV) and compressed natural gas (CNG) vehicles sold in MYs 2017 through 2021. EVs and FCVs will start with a multiplier value of 2.0 in MY 2017, phasing down to a value of 1.5 in MY 2021. PHEVs and CNG vehicles will start at a multiplier value of 1.6 in MY 2017 and phase down to a value of 1.3 in MY 2021. There are no multipliers for MYs 2022-2025.

An AGA source told the press that EPA is interested in leveraging the widespread gas distribution infrastructure to build out refueling capacity for both compressed natural gas (CNG) and hydrogen-powered vehicles, but as noted above the final rule provides slightly less credits for light-duty gas cars than for EVs.

The administration appears to be bolstering its support for hydrogen fuel cells. The Department of Energy (DOE), for example, is reevaluating its energy programs to back NGVs with the ultimate goal of deploying fuel cell vehicles as soon as 2015. DOE recently reversed its opinion of fuel cells as a distant technology. It is supporting the technology due to the abundance and low cost of natural gas, as well as automaker plans to begin selling the vehicles in 2015.

In FY13, DOE restored funding for the fuel cell program and in late July announced new funding opportunities to advance hydrogen refueling infrastructure. DOE also announced new competitive grants through the Advanced Research Projects Agency--Energy (ARPA-E) program for developing technologies that will lower the cost of compressed natural gas (CNG) vehicles.

An August 1 study requested by Energy Secretary Steven Chu recommends continued support for fuel cell technology. The study, conducted by the DOE advisory group National Petroleum Council (NPC), says fuel cells remain promising for a variety of reasons, including: the ability to use conventional natural gas resources to produce the fuel; its competitiveness with conventional fuels; and hydrogen's significant advantages over several other fuel types for eliminating 50 percent of carbon emissions from the transportation sector by 2050.

The NPC study, "Advancing Technology for America's Transportation Future," says all major automakers -- including General Motors (GM), Ford, Toyota, Honda, Nissan, Daimler and Hyundai -- are invested in the technology and plan to launch vehicle lines in 2015. Other countries including Germany, Japan, and Korea have enacted policies to begin integrating the vehicles and refueling infrastructure in line with the 2015 vehicle launches. The study notes that the U.S. does not have a specific policy in place to begin introducing the vehicles, with the exception of California's state mandates.

According to press reports, DOE's Office of Energy Efficiency and Renewable Energy (EERE) is reviewing a list of new vehicle technologies that the agency is restructuring its programs to support. The industry sources say DOE is beginning to examine the proposals put forth in a Quadrennial Technology Review (QTR) it developed over a year ago, but has not yet implemented. The QTR recommended the agency shift its focus toward the development of advanced vehicle technologies and less on power generation and renewables for electricity. After evaluating DOE's technology development portfolio, the QTR found that it could gain more by focusing on transportation than its past focus on electricity and stationery energy. The
industry source says the new natural gas vehicle and hydrogen fuel cell focus is expected to be reflected in its upcoming fiscal year 2014 budget.

A Department of Defense (DOD) adviser says the military is also tracking the technology's progress and has made fuel cells a high priority to power installations, vehicle locomotion, and as a power source for warships and submarines.

Congress also appears to be backing the effort. On July 18, senators re-launched the Senate Caucus on Hydrogen and Fuel Cells. Its members include Sen. Ron Wyden (D-OR), who is expected to become energy committee chairman if Democrats retain power in the upper chamber following the November elections. Wyden told a hydrogen industry summit in June that he thought it was a mistake for DOE to decrease funding for fuel cells in prior budget requests and that he would fight to maintain high funding levels at DOE.

DOE and EPA are also hosting an international forum in early September in Baltimore, MD to underscore achievements in environmentally friendly vehicles and tout the Obama administration's support of the U.S. auto industry in helping reinvent the industry as an EV and fuel efficient global car maker.

The administration's apparent support for hydrogen is being driven by a series of factors, including limitations in battery technology that have prompted EVs to lag behind fossil-fuel powered vehicles on performance. A recent study conducted by DOE's Argonne National Laboratory (ANL) and published in the journal Energy & Environmental Science says battery technology remains far behind what is necessary to overcome range and recharging limitations, but the technological challenges are "daunting" and advancements will come incrementally.

Fuel cell proponents also say hydrogen is the next logical step in technological advancement to overcome the limitations EVs face. Fuel cells do not burn hydrogen, but use an electro-chemical process to produce electricity that can recharge an EV battery as it goes -- extending range comparable to a conventional gasoline vehicle -- or be used to drive an electric motor.

Fuel cells also eliminate problems associated with battery weight -- adding battery weight to expand EV range -- which in turn limits performance and makes EVs less practical for consumers. Battery technology is advancing, becoming lighter and smaller, but not at a rate where it will displace the need for new alternative power sources to offset its limitations, say industry sources.

The ANL study reiterates this point. "Today's lithium-ion batteries, although suitable for small-scale devices, do not yet have sufficient energy or life for use in vehicles that would match the performance of internal combustion vehicles," reads the report's abstract. "Energy densities 2 and 5 times greater are required to meet the performance goals of a future generation of plug-in hybrid-electric vehicles (PHEVs) with a 40--80 mile all-electric range, and all-electric vehicles (EVs) with a 300--400 mile range, respectively."

A July 17 report on hydrogen demonstration programs from DOE's National Renewable Energy Laboratory (NREL) says substantial breakthroughs have been made to commercialize the vehicles and deployment is expected to commence in two years. The report recommends that DOE support the development of fuel cell vehicle technologies given the near-term commercialization targets and the technology's maturity. NREL says the technical results from the demonstration projects "have exceeded the DOE expectations established in 2003." NREL concludes that fuel cell electric vehicles "have advanced rapidly in the last seven years. As the
We therefore expect continued progress to lead to several vehicle manufacturers introducing thousands of vehicles to the market in the 2014--2016 timeframe,” says NREL, “at which time the hydrogen community will have its first true test of whether the technology will be embraced by the public.”

Auto-industry sources have told the press that overcoming the battery hurdles are one of the reasons the auto-industry continues to pursue fuel cells. The sources say hydrogen fuel cells are a natural evolution in EV technology that overcomes the performance limitations of batteries, while reducing carbon emissions as a replacement for petroleum-based fuels.

General Motors, a leading developer of fuel cell vehicle technologies and one of the organizers of the Baltimore conference, is expected to tout the company’s EV, the Chevrolet Volt, which has a gasoline-powered range-extending motor that is used to recharge the battery as it drives. The Volt’s modular design enables it to swap out the gasoline motor for a fuel cell once the technology is commercialized.

Chrysler is also building new lines of compressed natural gas trucks.

36. US CO2 Emissions Fall to Lowest First-Quarter Level in 20 Years: EIA

Energy-related carbon emissions fell 8 percent from the same period a year ago to 1.134 billion metric tons (1.25 billion tons), according to the latest monthly energy review by the Energy Information Administration (EIA) - the energy department’s statistics arm. In the US, the first quarter usually represents the time of year when greenhouse gas emissions are at their highest because of strong demand for fossil-fuel generated power for home heating.

Emissions from coal use fell sharply by 18 percent to 387 million tons in the January-March 2012 period - the lowest-first quarter tally since 1983 and the lowest for any quarter since April-June 1986. The contribution of coal in US energy use is likely to continue its demise, with plant owners and operators reporting to the EIA last month that they plan to retire 27 gigawatts (GW) of capacity, or 8.5 percent, at 175 coal-fired facilities between 2012 and 2016.

Looming federal carbon and mercury regulations being developed by the Environmental Protection Agency (EPA) are also likely to force the retirement of more coal plants.

The EIA said that in addition to low natural gas prices, a mild winter and reduced demand for gasoline also contributed to the first-quarter emissions drop.

37. Alaska Sues to Block Low-Sulfur Fuel Requirement for Ships

The state of Alaska has sued the Obama administration to block environmental regulations that would require ships sailing in southern Alaska waters to use low-sulfur fuel. The lawsuit, filed in U.S. District Court in Anchorage, challenges the new federal regulations, which require the use of low-sulfur fuel for large marine vessels such as cargo and cruise ships. The rule is scheduled to be enforced starting on August 1 by the Environmental Protection Agency and the U.S. Coast Guard for ships operating within 200 miles of the shores of southeastern and south-central Alaska, according to the lawsuit.
The lawsuit faults the EPA, the Department of Homeland Security and others for using a marine treaty amendment as the basis for the new federal regulations without waiting for ratification of that amendment by the U.S. Senate.

The Alaska Department of Law said in a statement that the low-sulfur-fuel requirement would be costly, jacking up prices for products shipped by marine vessels and harming Alaska's cruise industry. "Alaska relies heavily on maritime traffic, both for goods shipped to and from the state, and for the cruise ship passengers who support thousands of Alaskan jobs," Alaska Attorney General Michael Geraghty said in a statement. "There are reasonable and equally effective alternatives for the Secretary and the EPA to consider which would still protect the environment but dramatically reduce the severe impact these regulations will have on Alaskan jobs and families."

The treaty amendment at issue is a 2010 agreement under the International Convention for the Prevention of Pollution from Ships, or MARPOL. The United States has signed onto MARPOL, and Secretary of State Hillary Clinton has accepted the 2010 amendment.

Domestic enforcement of the amendment is not permitted without ratification by two-thirds of the U.S. Senate, Assistant Alaska Attorney General Seth Beausang said. He said the EPA also erred by failing to conduct an environmental analysis. "The only thing they relied on was the treaty amendment in issuing the regulations," he told reporters, adding that Alaska was not coordinating its effort to overturn the regulations with any other state.

Every day of a typical trip, the Sapphire Princess cruise ship will emit the same amount of sulfur dioxide as 13.1 million cars, according to the Environmental Protection Agency, and as much soot as 1.06 million cars.

The new restrictions — which will phase out the world’s dirtiest transportation fuel in U.S. waters — represent one of the Obama administration’s most ambitious, and least-noticed, anti-pollution programs. But they have prompted a major counteroffensive from the cruise industry as well as several lawmakers, who argue that they will raise costs for vacationers and Alaskans who depend on ocean-going vessels for basic foodstuffs.

For years, large ships have burned a heavy fuel with 2,000 times or more the amount of sulfur as the diesel fuel used by trucks, locomotives, construction equipment and small marine vessels. The Bush administration proposed limiting sulfur dioxide emissions for ships in 2007; the International Maritime Organization three years later adopted the joint U.S-Canada proposal to create an “Emissions Control Area” within 200 miles of shore. Countries bordering the Baltic and North Sea enacted similar limits in the late 1990s. The new rule requires large ships to cut the sulfur content of their fuel, which now averages 2.7 percent, down to 1 percent on August 1st; in 2015 it must drop to 0.1 percent.
The EPA estimates that the new rules will avoid between 12,000 and 31,000 premature deaths each year by 2030, with the benefits outweighing the costs 95 to 1. Air pollutants from burning ship fuel off the Pacific Coast contribute to lung disease and affect air quality as far away as North Dakota, according to agency officials.

The container and vehicle shipping industry, which spends less time within the 200-mile zone than the cruise industry, has indicated that it can meet the new standards. But a couple of firms serving Alaska, including Totem Ocean Trailer Express, predict their fuel costs could eventually rise 25 percent as a result. The EPA estimates that when fully implemented the program will add $18 to the cost of shipping a 20-foot container and about $7 per day to the cost of a passenger’s cruise ticket. Cruise industry analysts, however, say it could add as much as $19.46 a day per passenger. The total annual cost of implementing the rule in 2020 will be $3.2 billion, according to the EPA, weighed against between $47 billion and $110 billion in benefits. Alaska officials are particularly worried about the program’s impact, because cruise liners destined for their state will be subject to the new limits for the entire journey, and because they receive almost all their goods by ship. While shippers will maintain their routes even if fuel prices rise, every major cruise line is rethinking whether it will need to scale back on some itineraries in order to control costs. Even the companies that have touted their environmental credentials the most — Disney Cruise Line and Royal Caribbean, for example — are lobbying the EPA to reconsider how it enforces the new rules.

Cruise companies have proposed that they be allowed to burn higher-sulfur fuel at some points in the 200-mile control zone while curbing emissions elsewhere. But the EPA, which is also fighting Alaska’s lawsuit, has rejected the cruise industry’s proposal, saying it would cut the program’s health benefits in half.

Cruise industry officials say they may have little choice but to explore routes outside the Emissions Control Area at some points in their itineraries to save money.

**38. Canada Matches U.S. Rules on Diesel Sulfur Content for Large Ships, Stationary Engines**

Operators of large vessels in Canada’s territorial waters will have to use diesel fuel with significantly lower sulfur levels starting June 1, 2014, under final regulations published on July 4. The amendments to regulations under the Canadian Environmental Protection Act harmonize Canadian standards with those in the United States, Environment Canada said in a statement published with the regulations in the Canada Gazette, Part II. The amendments also harmonize the two countries’ standards for sulfur in diesel fuel used in stationary engines effective June 1, 2014, the department said.

The fuel sulfur content standard meets Canada’s commitments under Annex VI of the International Convention for the Prevention of Pollution from Ships (MARPOL), Environment Canada said. The Annex VI provisions, adopted in March 2010, were based on a proposal by the United States, Canada, and France for creation of an Emission Control Area (ECA) for waters within 200 nautical miles of the Canadian and U.S. East and West Coasts.

The regulatory amendments create a new category of diesel fuel for use in large ships of more than 400 gross metric tons that would limit maximum sulfur content to 1,000 milligrams per kilogram, far below the 25,000 mg/kg sulfur content that is typical in diesel fuels currently used
in large vessels. Compliance may be accomplished through the use of low-sulfur marine fuel or adoption of measures that produce equivalent emissions, such as emission control technologies, alternative fuels, or onboard procedures.

The amendments also limit sulfur levels in diesel fuel for use in stationary engines to 15 mg/kg for stationary engines with per-cylinder displacement of less than 30,000 cubic centimeters and to 1,000 mg/kg for stationary engines with per-cylinder displacement of 30,000 cubic centimeters or more.

A request by the Canadian petroleum industry to retain the current 500 mg/kg limit for diesel fuel used in locomotives, rather than moving to 15 mg/kg as of June 1, 2014, to align with U.S. requirements, was accepted pending the collection of additional information, Environment Canada said. The industry suggested that major differences in fuel distribution systems in Canada and the United States required further study. The refining industry will gather data on sulfur pickup in Canadian pipelines and distribution systems, which often carry both crude and refined products, and provide it to Environment Canada in 2014. “If Environment Canada determines that future action may be warranted, the feasibility and possible infrastructure changes would be considered, and a regulatory amendment may be required,” it said.

39. Canadian Study Finds Minimal Risk to Environment, Health from Biodiesel

The production, distribution, storage, and use of biodiesel fuels pose no greater environmental or human health risks than conventional ultralow-sulfur diesel fuels, but do not lead to greater benefits either, Health Canada said in an assessment published on July 14th in the Canada Gazette, Part I. A review of a range of scenarios for the use of fuel blends containing 5 percent or 20 percent biodiesel mixed into ultralow-sulfur diesel (ULSD) indicated minimal air quality and health benefits or risks, and any potential impacts will likely diminish over time, the department said.

The assessment followed the government's imposition of a 2 percent renewable content requirement on diesel and heating oil, effective July 1, 2011, through amendments to the Renewable Fuels Regulations. The regulations do not specify the use of biodiesel fuel but permit the use of any liquid renewable fuel produced from a designated feedstock.

The use of biodiesel blends in on-road, heavy-duty diesel vehicles provides considerable reductions in tailpipe emissions of particulate matter, carbon monoxide, hydrocarbons, volatile organic compounds, and polycyclic aromatic hydrocarbons and has no net impact or a marginal increase in nitrous oxides emissions, the department said. The use of 20 percent biodiesel blends could reduce key exhaust emissions by double-digit percentages in the short term, for example, up to 14 percent for benzene.

However, the benefits will not extend beyond 2020 due to turnover in the Canadian fleet of heavy-duty diesel vehicles, the department said. Vehicles in the 2010 and beyond model years are already being equipped with new engine technologies and exhaust emission controls to meet more stringent standards, it said.

Biodiesel production facilities generate emissions or releases to water, air, and soil, including methanol, hexane, and particulate matter, but the department stressed that total emissions are expected to be relatively low and to meet regulatory requirements.
A toxicological review of biodiesel exhaust indicated that its health effects, including carcinogenicity, are similar to those of regular diesel fuels.

40. Study Finds Overlap in Greenhouse Gas Emissions from Oil Sands, Normal Crude

Perceptions that production of transportation fuels from Alberta oil sands is more greenhouse gas-intensive than production from conventional crude are generally supported by new research, though it may not be true in all cases, according to a report from University of Calgary and University of Toronto researchers in the journal Environmental Science & Technology. Using data from oil sands operations, researchers did a “well-to-wheel” life-cycle analysis of emissions from oil sands and conventional crude oil. They found that emissions for both types of production vary widely, depending on individual project operating conditions, technology used, and other factors.

The wide range of intensities argues against treating all oil sands or all conventional crudes as having the same level of emissions, the researchers said in a July 13th news release.

An EU proposal to assign pollution ratings to transportation fuels would label crude oil produced from oil sands as 22.3 percent more greenhouse gas-intensive than conventional crude. “Our study suggests it is not productive to get bogged down in a debate over whether fuels derived from the oil sands emit 5 percent or 20 percent more GHG emissions than fuels produced from conventional oils,” said Joule Bergerson, who led the University of Calgary group for the study. “We need to focus instead on finding a transparent, consistent, and reliable way of accounting for and reporting well-to-wheel greenhouse gas emissions across the industry and the entire economy.”

The team developed a model called GHOST (GreenHouse gas emissions of current Oil Sands Technologies), which accounted for upstream emissions associated with bitumen recovery, extraction, dilution, transportation, and upgrading. The data were combined with information from scientific literature on downstream emissions from refining, fuel delivery, vehicle refueling, and vehicle use to create a comprehensive analysis.

41. US Navy Unveils New Shore Energy Policy

The US Navy recently unveiled a major update of its energy policies while ashore, calling for improved efficiency, greater conservation and increased use of renewable power to cut energy consumption in half at bases worldwide by the end of the decade. Vice Admiral Phil Cullom, deputy chief of naval operations, said the first updated energy policy for shore installations in 18 years was aimed primarily at improving energy security for the Navy’s 70 bases and other facilities worldwide.

“Energy security is a strategic imperative and it applies to both ashore and afloat,” Cullom said in a telephone briefing for reporters on the policy. “The instruction that has just been published is ... the latest example of how we’re driving a Spartan energy ethos.”

The Navy has established a goal of cutting its power consumption in installations ashore in half by 2020. The Navy also wants half of its energy to come from renewable sources by the end of the decade, and it wants half of its installations to be net-zero consumers of energy by then.

The goals are part of President Barack Obama’s “all-of-the-above” push to boost green energy production and reduce U.S. dependence on foreign oil. The administration set a goal in April for
the Pentagon to produce three gigawatts of solar, wind and geothermal power on military bases by 2025.

The green energy drive came under fire in Congress after the Navy paid high prices for test batches of biofuel for use in jets and ships. It paid $424 a gallon in 2009 for an algae-based oil and nearly $27 a gallon for biofuels for its upcoming first test of a Navy strike force powered mostly by alternative fuel. Lawmakers angry over the cost are pushing legislation in Congress that would block the military from spending more on alternative fuels than it would pay for conventional petroleum.

Navy Secretary Ray Mabus has said the Navy does not plan to purchase operational quantities of biofuels until they can be bought at competitive prices.

Cullom said the Navy is beginning its push to reduce energy consumption ashore by installing advanced metering systems wherever possible to measure electricity, natural gas and steam consumption so officials know how much they are using. Beyond that, he said, the Navy hopes to train military personnel about the importance of adopting the same conservative energy practices ashore that they need to use at sea.

The new policy calls for integrating "mission compatible and cost-effective renewable energy sources" into the power supplies at shore installations. The Navy already produces alternative power at some facilities -- enough to power about 143,000 homes -- and is working with partners on additional projects.

Cullom said the Navy used an analytical model to ensure that its spending on new energy technologies produced a favorable return on investment. He said the new shore energy policy was radically different from the version published in 1994, with more focus on conservation. Back then, he said, the policy's main point was energy security and the Navy's need for assured access to power.

The Pentagon is pushing ahead with a $420 million effort to build refineries to make competitively priced biofuels, despite anger in Congress over the price the Navy recently paid for alternative fuels to test a carrier strike group. The government plans provide $210 million in matching funds to help firms build three refineries, each able to produce at least 10 million gallons of biofuel a year for military jets or ships, according to documents released this week. The Navy would supply $170 million and the Energy Department $40 million.

The military's spending on alternative fuels has drawn criticism from Republican lawmakers, with Senator Jim Inhofe charging that President Barack Obama's priorities are "completely skewed" and Representative Mike Conaway accusing Navy Secretary Ray Mabus of "squandering precious dollars." But Mabus warns that U.S. dependence on foreign oil is a strategic vulnerability that can only be addressed by reducing the military's reliance on petroleum as the sole source of fuel to power its jets, ships and tanks.

The Navy initiative to help private firms build biofuel refineries "will enhance our national security," Mabus said in discussing the $30 million first phase of the project. "It's going to help support the creation and commercial viability of a defense critical industry, and that's in domestic biofuels," he said.

The announcement came as the Navy is preparing to test a carrier strike force using alternative fuels on July 18 during the six-week, 22-nation Rim of the Pacific exercises, the largest annual
global naval maneuvers. The Navy purchased 450,000 gallons of biofuels for $12 million, or nearly $27 a gallon for the exercises. The fuel was then mixed with 450,000 gallons of petroleum to achieve a 50-50 blend that cost about $15 a gallon. The Navy expected the jet and marine biofuels to last about a day during the exercises.

Obama's opponents see the military's green energy push as another attempt by the White House to promote alternative fuels even if they don't make economic sense, as in the case of the government-funded solar panel maker Solyndra, which went bankrupt last year. President Obama is "pressing forward with his plan to force the DoD (Department of Defense) to spend $30 million on its so-called green fleet, all while he's gutting our military," Inhofe said in a statement provided to the press.

Conaway authored a provision, included in a bill authorizing defense programs, which would prevent Pentagon spending on biofuels that cost more than conventional fuel. The bill passed the House of Representatives, and a similar biofuels provision was approved by a Senate committee. Conaway said he was not opposed to the Navy buying alternative fuels so long as the price was not greater than that of fossil fuels, but paying $27 a gallon versus $4 a gallon for petroleum "makes no sense." "It's not about proving the technology. It's Mabus wanting to waste money ... on a publicity stunt for his green fleet," he said.

Conaway said he thought biofuels should be developed in the private sector, not with the Pentagon in the lead. But he said there was not as much support in Congress for trying to block the latest Navy project with the Energy and Agriculture departments because it involved research and development funds. "We didn't have the support to rein that in," he said, acknowledging that the Navy was making "a bit of an end run" around opponents of the biofuels program.

Proponents of alternative fuels warn that attacking the effort is short-sighted. "Simply saying that we can't afford to develop an alternative fuel strategy for our military is penny-wise and pound-foolish," said Democratic Senator Chris Coons. Coons said firms like DuPont in his home state of Delaware are making big strides in developing a competitive advanced biofuels industry. He said the defense authorization bills in Congress should permit work on biofuels but require the Pentagon to justify the spending each year.

Mabus said earlier this week that $100 million in funding for the program had been appropriated and authorized in the 2012 fiscal year budget. The Pentagon anticipated receiving another $110 million in funding for the program in the 2013 fiscal budget beginning in October, the documents say.

Participants competing for the grants would have to provide business plans and strategies for building refineries that could produce at least 10 million gallons of biofuel per year. They would also need the capability to blend the fuel with equivalent amounts of petroleum.

Senators who support the Pentagon's push to expand its use of biofuels said they have a plan to answer critics who argue the fuel is far too expensive to help develop at a time when the military faces massive cuts. "We have bipartisan support to undo the work of the committee," said Senator Mark Udall, a Democrat from Colorado who is leading the charge.

42. US EPA Aligns With ICAO on Aircraft NOx Standards; Action on GA Leaded Fuel
The United States Environmental Protection Agency (EPA) has adopted new oxides of nitrogen (NOx) emissions standards for aircraft engines with rated thrusts greater than 26.7 kilonewtons (kN), which primarily power commercial passenger and cargo aircraft to bring the United States into line with standards approved by ICAO. The EPA has also been under strong pressure for some years by environmentalists to rule on leaded avgas fuel used in small piston aircraft on public health grounds and the FAA has announced it is planning the transition from leaded to unleaded fuel for most of the US general aviation fleet by 2018.

The new NOx rule is being implemented under the US Clean Air Act, which directs the EPA Administrator to “propose aircraft engine emission standards applicable to the emission of any air pollutant from classes of aircraft engines which in her judgment causes or contributes to air pollution that may reasonably be anticipated to endanger public health or welfare.” According the EPA, around 154 million people in the United States live in designated so-called nonattainment areas and the new rule will allow it to enforce the ICAO emission standards and will be useful to states in attaining the ozone, particulates and nitrogen dioxide standards established under the National Ambient Air Quality Standards.

Specifically, the EPA is adopting two new tiers of more stringent NOx standards, referred to as Tier 6 (or CAEP/6) and Tier 8 (or CAEP/8). The standards will apply differently depending on the date the engine model received its original type certificate.

Engine models that were originally certificated prior to the effective date of the rule – 18 July 2012 – may continue production without meeting Tier 6 standards, which are around a 12% reduction in emission levels from the current Tier 4 standards, until 31 December 2012. This delay in complying with the Tier 6 standards for previously certificated engine models is intended to allow for an orderly transition. Engine models certified after 1 January 2014 must comply with Tier 8 standards, which represent a further 15% reduction from Tier 6 levels.

Tier 6 levels were actually adopted by ICAO in 2005 with an implementation date in 2008, and Tier 8 standards adopted by ICAO in 2008 to take effect in 2014.

The EPA is also adopting several additional changes that would affect all aircraft gas turbine engines that are subject to current emission requirements. The agency is clarifying when a design variation of a previously certified engine model causes the emission characteristics of the new version to become different enough from its parent engine that it must conform to the most current emissions standards. The EPA is also amending the emission measurement procedures. In addition, the EPA is requiring all gas turbine and turboprop engine manufacturers that are subject to exhaust emission standards to report to the EPA emission data and “other information necessary for the purpose of conducting emission analyses and developing appropriate public policy for the aviation sector”.

The EPA has faced heavy criticism from environmental groups over perceived non-action to deal with the health effects caused by lead in general aviation (GA) aviation gasoline (avgas). Friends of the Earth (FOE) first petitioned the EPA to act in 2006 and having failed to secure an adequate response from the agency took out a lawsuit in March. According to the EPA’s own estimates, 16 million people reside and 3 million children attend schools in close proximity to the 22,000 airports in the US where leaded avgas may be used. Findings by the EPA have shown that 16 areas in the United States were in violation of airborne lead standards and that the fuel, known as avgas or 100LL (100 octane low lead), was now the largest source of airborne lead emissions in the country.
Although lead was phased out of car gasoline use over 15 years ago in the United States, the move is not quite as simple for piston engine manufacturers, which claim that removing lead completely from avgas was technically “formidable”. However, the GA industry said in 2010 that it was “aggressively working to further reduce the lead content of avgas, by an additional 20% from the already low 100LL standard.”

Unveiling a new report, the FAA committed to developing “a fiscally responsible action plan” to meet its goal of making an unleaded fuel available for most of the GA fleet to replace 100 octane low-lead (100LL) by 2018. The FAA said it was considering recommendations contained in a final report by the Unleaded Avgas Transition Aviation Rulemaking Committee, which summarized the key issues the GA faces in the development and deployment of an unleaded avgas. The committee found that the effort to test new fuels would cost the FAA around $57.5 million over the next 11 years. However, the report has recommended, which the FAA has accepted, implementing an action plan, involving the FAA, EPA and industry, which covers tasks, costs and timing in developing unleaded avgas. The FAA says it has started the initial R&D work at the FAA Technical Center and has hired a transition consultant to start forming an industry-government collaborative organization.

43. After Ruling, Libertarian Group Eyes New Bid To Gut EPA’s GHG Risk Finding

The libertarian Cato Institute has created a document that could serve as the backbone of a new climate skeptics’ challenge to the science underlying EPA’s greenhouse gas (GHG) “endangerment finding” for motor vehicles, the basis of the agency’s GHG rules, now that a federal appellate court has upheld the finding and the related rules.

The institute recently released a new draft document that seeks to serve as a point-by-point response to the U.S. Global Change Research Program’s (USGCRP) 2009’s assessment, Global Climate Change Impacts in the U.S., a key assessment that EPA used to justify its endangerment finding for motor vehicle GHGs. The document mirrors the 2009 assessment in formatting and organization, and provides what Cato says is scientific information that the USGCRP document omits.

"While it's not yet in final copy, the latest draft is sufficient to give you the idea: this is the document to take down the Endangerment Finding," Patrick Michaels, senior fellow in environmental studies at the Cato Institute, said in a June 27th blog post, one day after the U.S. Court of Appeals for the District of Columbia Circuit ruled to uphold EPA's finding. "We expect this document is going to figure heavily in the next round in the fight to prevent EPA from imposing scientifically senseless but economically disastrous restrictions on energy use,” he added.

Many conservatives and business groups strongly criticized the Obama EPA’s finding in December 2009 under section 202 of the Clean Air Act that a group of six GHGs “threaten the public health and welfare of current and future generations” and that new vehicle tailpipe emissions “contribute to the greenhouse gas pollution.” That finding has enabled EPA to set GHG standards for vehicles, which EPA determined also triggered GHG regulations for certain stationary sources such as power plants under the Clean Air Act’s prevention of significant deterioration (PSD) and title V provisions. EPA is also crafting first-time performance standards for power plants and refineries.

But critics’ efforts to block the endangerment finding and related regulations failed when the appellate court ruled on June 26th to uphold the agency's actions. In a per curiam opinion in
Coalition for Responsible Regulation, et al., v. EPA, et al., the court rejected most of the critics’ arguments, including that there is too much scientific uncertainty for the agency to make judgments on the risks.

Citing past rulings that have upheld similar EPA determinations, the court said that preventing the agency from such findings is at odds with Clean Air Act requirements that the agency address pollutants that "may reasonably be anticipated to endanger public health or welfare." "This language requires a precautionary, forward-looking scientific judgment consistent with the [air act's] 'precautionary and preventative' orientation," the ruling says.

The court quoted from its 1980 ruling in Lead Industries Association v. EPA, which upheld EPA's national ambient air quality standard for lead, that "requiring EPA to wait until it can conclusively demonstrate that a particular effect is adverse to health before it acts is inconsistent with both the [Clean Air Act]’s precautionary and preventive orientation and the nature of the Administrator's statutory responsibilities. Congress provided that the Administrator is to use his judgment in setting air quality standards precisely to permit him to act in the face of uncertainty."

The court also rejected a string of arguments that EPA's science was improper. For example, the court rejected arguments that EPA inappropriately used external research. "It makes no difference that much of the scientific evidence in large part consisted of 'syntheses' of individual studies and research," the judges wrote. "Even individual studies and research papers often synthesize past work in an area and then build upon it. This is how science works. EPA is not required to re-prove the existence of the atom every time it approaches a scientific question."

One legal source told reporters that the ruling upholding the endangerment finding, while not surprising, nonetheless provides additional legitimacy for how EPA can make science-based decisions. "I think this opinion for endangerment finding is one that we keep coming back to when people discuss, 'What is the standard we should be using here?'' the legal source says.

The court's finding on how EPA should act in the face of some uncertainty "further frames the Clean Air Act around precaution" but may not have the same influence on other parts of environmental law, especially those without precautionary language, the source says. "[The Toxic Substances Control Act] tends to err more on side of, 'You have to show us there's really a problem,'" the source says.

Even before the ruling, critics had suggested they would appeal the issue to the Supreme Court in the event they lost. At a Cato Institute forum March 1, the day after the appellate court heard oral argument in the case, lawyers representing the critics vowed to continue to challenge the GHG finding. For example, Patrick Day, attorney for the coalition, said that EPA had never considered whether the regulations that stem from the endangerment finding "will do anything about [climate change] at all." EPA has not said "what meaningful impact on health and welfare" would flow from the resulting regulations, and is not requiring the endangerment finding to take into account whether it triggers rules that can actually solve the problem, Day said. "That is a fundamental legal flaw," he said. "Our contention is that the word 'endanger' does not compel regulation "when it cannot be done legally."

While more litigation is likely, what is not immediately clear is whether any groups plan yet on using the document for litigation and, if so, what legal pathway they can pursue to open a new challenge to the endangerment finding. But Cato's Michaels argues that opponents ought to switch from attacking the finding on scientific uncertainty grounds -- an argument the court flatly
rejected -- to criticizing the science itself. And he said the document provides opponents' legal teams with the needed comprehensive scientific information, all in one document, to do just that and puncture what he called "the selective science" EPA used to justify its finding.

He suggested opponents, for starters, could use the document to support legal challenge to EPA's proposed GHG new source performance standards (NSPS) for electricity generating units.

The legal source told reporters that opponents could challenge future endangerment findings made under different sections of the Clean Air Act, but only if in the presence of new science that calls into question the threat of GHGs. Even that will be a difficult bar to reach given the current strength of the scientific consensus on global warming and on humans' very likely contribution through GHG emissions, the source says.

Michaels, however, insists that the new document contains a wide array of "significant, comprehensive, new information" that EPA did not consider in crafting the endangerment finding and "that did not figure in the appellate court's ruling." "I don't think that appellate court ruling on Monday should close the door on the endangerment finding," Michaels said in the interview. He argued that the endangerment finding should not be considered a static document and should be subject to revisiting, saying that science is constantly evolving.

**ASIA-PACIFIC**

44. Japan Plans to Toughen Pollutant Emission Limits for Motorcycles, Diesel Vehicles

Japan's Ministry of the Environment plans to introduce stricter vehicle emission standards and has acquiesced in part to international pressure to adopt non-proprietary methods for testing emissions and fuel economy, a ministry official told reporters recently. The changes in emission limits will focus on nitrogen oxides from motorcycles and mopeds, diesel-powered motor vehicles, and diesel-powered specialty vehicles, according to Keiichiro Hamada of the Office of Environmental Control and Technology in the ministry's Water and Air Environment Bureau. The ministry plans to amend ordinances and directives relating to the Air Pollution Prevention Law by the end of the year or so to effect the new emission limits, Hamada said.

The ministry decided on the changes after its policy commission, the Central Environmental Council, called on August 10th for new measures to reduce vehicle emissions of nitrogen oxides as well as harmonization of Japan’s standards and regulations with those in other countries. Japan has been criticized for requiring U.S. and European automakers to use its unique methods for emission and fuel economy testing.

The new motorcycle emission regulations would take effect by 2016, the ministry said in an online posting. It did not mention timelines for new standards for diesel and gasoline vehicles, reflecting a need to coordinate details with other government offices. The ministry said Japan will adopt the Worldwide harmonized Motorcycle Test Cycle (WMTC) developed by the U.N. Economic Commission for Europe’s Working Party 29 (UN ECE/WP29). Standards for emissions of carbon monoxide, hydrocarbons, and nitrogen oxides set under WMTC would be introduced by 2016, the ministry said. Also, evaporative emission control devices would have to be installed on new motorcycles as of 2016 with the same limits as for gasoline and liquefied petroleum gas-powered automobiles. On-board diagnostic devices would also have to be installed as of 2016.
For heavy-duty diesel vehicles, the ministry plans to set stricter limits on emissions of particulate matter starting in 2016.

For gasoline and LPG vehicles, the ministry said Japan will review its JCO8 test method on fuel economy and gaseous emissions and will consider introducing the Worldwide harmonized Light duty driving Test Procedure (WLTP) developed by the U.N. ECE/WP29. It offered no timetable.

The ministry also said it would consider regulatory action on fine particulate matter and on biodiesel fuels in response to the growing use of fatty acid methyl ester.

45. Asia's Rapid Urbanization Putting Stress on Environment, ADB Report Says

Facing rapid urbanization, Asia must take more adequate steps to pave the way for green, resource-friendly cities, according to a report issued by the Asian Development Bank on August 15th. The bank's annual statistical publication, Key Indicators for Asia and the Pacific 2012, provided data and analysis of social, economic, financial, environmental, and Millennium Development Goal progress for its 48 regional members. A “special chapter” in the report addressed the region's rapid urbanization and measures needed to turn cities into environmentally sustainable growth centers.

According to Changyong Rhee, the bank's chief economist, Asia's urban population growth has put immense stress on the environment. “The challenge now is to put in place policies which will reverse that trend and facilitate the development of green technology and green urbanization,” he said in a prepared statement.

Asia, already home to almost half of the world's city dwellers, is urbanizing more quickly than any other region and faces a worsening of already serious air pollution, congestion, greenhouse gas emissions, lack of water and basic sanitation, and vulnerability to natural disasters. For example, if left unchecked, Asia's urban carbon dioxide emissions could reach 10.2 metric tons per capita by 2050, a level that would have disastrous consequences for both Asia and the rest of the world, the report said.

Still, the growth of cities can have many advantages, the report said. These include critical masses of people in relatively small areas, making it easier and more cost-effective to supply essential services like piped water and sanitation. It also said conservation and energy efficiency improvements will help. Many countries have begun tapping renewable energy sources and investing in energy-efficient buildings and sustainable transportation systems. Examples include Singapore's imposing congestion and emission charges and Indonesia's removal of inefficient fuel subsidies. These policies make prices more fully reflect social costs, the report said.

It urged Asian countries to take more steps, including the development and mainstreaming of green technologies.

46. China Tightens Pollution Standards for Steel, Iron Industries; Restructuring Expected

China's steel, iron, and coking industries will face new limits on emissions of water and air pollutants starting on October 1st according to the Ministry of Environmental Protection. The standards, posted on the ministry website on August 2nd, are part of an effort to reduce
environmental impacts and steer restructuring in these industries, which are plagued by
overcapacity and outdated production practices, Vice Minister Wu Xiaoqing told the state-run
newspaper People's Daily in an interview published on August 8th. The new limits are likely to
spur mergers and elimination of the most-offending enterprises, he said.

The requirements, which replace 1990s standards, will go into effect for new facilities on
October 1st; older facilities must comply by January 1, 2015, Wu said.

The standards are designed to reduce airborne emissions of sulfur dioxides and nitrogen oxides
and wastewater levels of ammonia nitrogen and chemical oxygen demand—the four key
pollutants targeted in the national 12th Five-Year Plan for reduction—as well as emissions of
course and fine particulate matter, Wu said.

Wu said full deployment of desulfurization technology is expected to cut sulfur dioxide emissions
from the iron and steel industries between 30 percent and 40 percent by 2015, compared to
2010 levels. Coking industry emissions of sulfur dioxide are expected to drop by 62.2 percent by
2015 under the new standards, nitrogen oxide emissions by 42.8 percent, ammonia nitrogen by
51.6 percent, and chemical oxygen demand levels by 73.3 percent, all compared to 2010 levels,
Wu said.

In a separate action, the ministry July 11 released a directory of advanced pollution control
technologies it encourages industries to adopt, replacing a 2010 version.

47. China to Spend $372 Billion on Cutting Energy Use, Pollution

China will plough $372 billion into energy conservation projects and anti-pollution measures
over the next three-and-a-half years, part of a drive to cut energy consumption by 300 million
tons of standard coal, the China's State Council said recently. A report from the State Council
said the investments will take China almost halfway to meeting its target to cut the energy
intensity 16 percent below 2010 levels by 2015.

The government has earmarked $155 billion of the money for projects that shrink energy use,
and while the plan did not detail which types of projects or sectors would benefit from the funds,
a big share of the cash is expected to go to industry. The Ministry of Industry and Information
Technology (MIIT) in February set an overall 21 percent energy intensity reduction target for
industry from 2010 to 2015.

The State Council plan said steel producers must reduce their energy use per unit of production
by a quarter over the five years, coal-fired power plants by 8 percent and cement manufacturers
by 3 percent.

China's economic growth over the past three decades has turned it into a major importer of oil,
gas and coal, and high international fossil fuel prices have contributed to huge losses at some of
China's large state-owned power companies.

The central government's drive to reduce China's insatiable appetite for fossil fuels is aimed at
improving the country's future energy security, and is a central plank of its policy to slow down
growth in greenhouse gas emissions. China, the world's biggest emitter of greenhouse gases,
plans to cut its CO2 emissions per unit of GDP by 40-45 percent from 2005 levels by 2020.
Over the past few years China has phased out thousands of old, inefficient factories and fossil fuel-fired power plants while becoming the world's biggest producer of renewable energy.

However, greenhouse gas emissions continue to rise, and according to a recent report, China's carbon output grew by 800 million tons to 9.7 billion last year, or 29 percent of the world's total CO2 emissions. Government officials said they expect China's greenhouse gas emissions to peak around 2030.

Seven Chinese cities and provinces will launch CO2 emissions trading schemes over the next two years ahead of a national scheme later in the decade, as China seeks to move away from traditional command-and-control measures to combat spiraling carbon emissions.

The plan, released on the state council's website on August 21, also reiterated goals for four key emissions: cutting airborne emissions of sulfur dioxide by 8 percent and nitrogen oxides by 10 percent from 2010 levels and levels of chemical oxygen demand by 8 percent and emissions of ammonia nitrogen in wastewater by 10 percent.

Of the 2.366 trillion Yuan expected to be spent through 2015, 1.55 trillion ($244 billion) has been budgeted for key energy savings projects and for enhancing energy-savings capabilities, while 816 billion Yuan ($128 billion) are devoted to efforts to achieve key emissions reduction goals.

The energy consumption and emissions-reduction goals will be achieved through more stringent energy efficiency standards across all industries and use of more energy-efficient household appliances such as air conditioners, refrigerators, and washing machines, which the country subsidizes by offering rebates to consumers for purchases of those meeting energy-efficient requirements, the plan states.

A series of tables listing energy-saving goals for specific areas of industry was published in the plan, as were specific sectoral targets for key emissions reductions—particularly in agriculture, thermal power, and textiles and paper—as well as a list of outdated capacity-reduction requirements for specific industries that need to be met to meet both goals.

48. iCET Report Says Imported Vehicles Could Hinder China's Efforts to Improve Fuel Economy

China will have trouble meeting its vehicle fuel economy targets unless it addresses imported models' energy consumption, according to a report released by the Innovation Center for Energy and Transportation (iCET). The report by iCET, a joint U.S.-China research institute with offices in Beijing and Los Angeles, said Chinese-produced passenger vehicles generally consume less fuel than imported automobiles because imports are primarily luxury models, sports cars, or sport-utility vehicles (SUVs) with larger engines.

The report, released in Beijing on July 25, suggested that the central government should do more to enforce fuel economy requirements, particularly for imported vehicles and foreign brands produced in China through joint ventures. About 1 million passenger vehicles were imported into China in 2011, a 28 percent increase from the previous year. The imported cars accounted for about 7 percent of all 2011 new car sales.

For new vehicles sold in China in 2011, domestically branded ones had an average fuel consumption of 7.2 liters per 100 kilometers (32.7 miles per gallon), while imported vehicles
averaged 10.1 liters per 100 km (23.3 mpg). Models produced through domestic-foreign ventures in China averaged 7.7 liters per 100 km (30.5 mpg).

Corporate Average Fuel Consumption (CAFC) Accounting Standards issued July 1 by the Ministry of Industry and Information Technology require manufacturers to meet a fleet average of 7.5 liters per 100 km (31.4 mpg) for new vehicles, though there is a transition period until Dec. 31, 2015. According to Ma Dong, lead research analyst for the iCET report.

“Around 99 percent of foreign vehicles, including Audi, Mercedes-Benz, and BMW, would fail to meet the requirement,” Ma told the press. “That's why the government has given the transition period.”

China's automotive industry development plan calls for new-vehicle fuel economy to improve to 6.9 liters per 100 km (34.1 mpg) by 2015 and 5 liters per 100 km (47 mpg) by 2020. That goal is at risk if the government does not address imported vehicle fuel consumption levels, and it would likely be met only by the significant introduction of new-energy vehicles such as pure electric and plug-in hybrid and other energy-saving models, the report said.

Ma said CAFC management regulations have been drafted by the Ministry of Industry and Information Technology and are being discussed with auto industry representatives. These include punishments for manufacturers and dealers that sell vehicles that exceed CAFC standards.

49. Beijing Plans to Levy Congestion Charges to Ease Traffic Jams

Beijing plans to build a system for imposing road-congestion charges on motorists, adding to caps on vehicle registrations as China's capital seeks to ease traffic jams and cut emissions. The municipal government will also accelerate the expansion of the subway network, increase dedicated bus lanes and encourage the use of bicycles for short commutes, according to a five-year development plan by the city's transportation commission posted on its website.

“Beijing faces a serious test in the next five years with the rapid growth in population and number of vehicles,” the commission said in its plan, which covers the period from 2011 to 2015. The document didn’t include details on the congestion charges or when they will be imposed.

If the plan goes ahead, Beijing will join London and Singapore among cities that levy congestion fees to deter usage. China's capital already caps the number of new vehicle registrations and limits the use of private vehicles on designated days based on their license plate numbers.

The city will also restrict growth in the number of official cars and targets to reduce vehicular emissions by 10 percent from 2010 levels, according to the plan.

Traffic jams eased to an average 55 minutes during weekdays in the first quarter, compared with 75 minutes a year earlier, the Beijing Transportation Research Center said in June. In 2010, commuters spent an average 2 hours and 25 minutes a day in gridlock.

50. Experts Review Beijing’s Air Pollution

Air pollution has been a persistent headache for Beijing, prompting experts to weigh in with their thoughts on what is causing the problem, as well as possible ways to fix it. In January, Beijing began to publish hourly air quality reports based on an international standard of measuring
PM2.5, or airborne particulate matter smaller than 2.5 micrometers in diameter, which experts say pose the most serious health hazard. Monitoring data show that the average PM2.5 concentration in the Chinese capital is nearly double the national standard, which is set at 35 micrograms per cubic meter.

Beijing used to release air quality readings based on the measurement of PM10, or particulate matter less than 10 micrometers in diameter, but its PM10 data has never met the national standard and currently exceeds the standard by 20 percent.

Air pollution control has been a priority for the city's policy makers since the "Defending the Blue Sky" project was launched in 1998. A five-grade classification of air quality on the basis of pollution indices has been used in Beijing, with grade I being the best and grade V the worst. Days with grade I or II air quality are considered "blue sky days." Annual "blue sky days" have increased from 100 in 1998 to 286 in 2011.

However, environmental authorities in Beijing announced in early June this year that they will stop counting "blue sky days," as the total could hardly reflect the specific situations in different parts of the city.

Experts say although the city's air quality has been improving gradually, the progress remains far from acceptable and serious challenges in improving air quality loom ahead.

Experts believe that vehicle emissions are the greatest source of Beijing's air pollution. More than 5 million vehicles are currently registered in Beijing, and the number keeps climbing, said Chai Fahe, deputy head of the Chinese Research Academy of Environmental Sciences. Chai said although the number of cars in Beijing is only half that in Tokyo, the frequency of use is much higher. Beijing cars run 45 km per day on average, while those in Tokyo run an average of 19 km per day. More than 70 percent of Beijing's cars are concentrated in the downtown areas, he added.

Li Kunsheng, an official with the Beijing Environmental Protection Bureau, said China still has no efficient laws and regulations for eliminating high-polluting vehicles. Du Shaozhong, another official in the bureau, suggested that Beijing should strengthen measures such as encouraging the scrapping of high-polluting vehicles and improving fuel standards.

Hao Jiming, an academician with the Chinese Academy of Engineering, said the city should improve its public transportation networks, as the high number of private cars and slow-running vehicles on the road increase emissions of harmful particles. Hao also said the city should readjust the locations of residential and working areas in order to reduce traffic flows.

Experts have also warned that air pollution in Beijing cannot be eased without taking measures to curb emissions of pollutants in surrounding cities. Tang Xiaoyan, a professor with Beijing-based Peking University, found that when air pollution is heavy in Beijing, the nearby cities of Taiyuan, Shijiazhuang and Hohhot, as well as Tianjin municipality, also face heavy pollution.

Wang Yuesi, a researcher with the Chinese Academy of Sciences, said hazardous heavy metals found in the air over Beijing come from ferrous metal smelting and coal burning in the Beijing-Tianjin-Hebei area. Data show that Tianjin municipality and Hebei province both have a large number of cement, steel, oil refining and petrification industries that burn a total of 350 million tons of coal per year. About 24.5 percent of the PM2.5 in Beijing comes from those industries. Dr. Wang Yuesi in addition to the Beijing municipal government, the central
government should also pay more attention to tackling pollution in the neighboring provinces of Hebei, Henan and Shandong.

Zhu Tong, a professor with Peking University, suggested building a scientific research and data collection platform to investigate and monitor the air pollution situations in Beijing as well as nearby cities and provinces. Moreover, a management platform that transcends administrative boundaries should also be established to coordinate and direct pollution control work in different provinces and cities, Zhu added.

51. "Greyjing"? Air Pollution Fouls Beijing's Name

With its parks, centuries-old palaces, history and culture, Beijing should be one of the more pleasant capitals of the world. Instead, it's considered among the worst to live in because of chronic air pollution. Lung cancer rates are rising among the 20 million residents of China's capital, health officials say. For many multinational companies, Beijing is considered a hardship posting and, despite the extra allowances that classification brings, some executives are leaving.

On some days, Beijing is enveloped in brownish-grey smog, so thick it gets indoors, stings the eyes and darkens the sky in the middle of the day. Smoke from factories and heating plants, winds blowing in from the Gobi Desert and fumes from millions of vehicles can combine to blanket the city in this pungent shroud for days. English-speaking residents sometimes call the city "Greyjing" or "Beige-jing".

Some foreigners plan their daily events around the U.S. Embassy's Twitter feed on Beijing's air quality which has hourly posts.

"On a bad day, you're going to change your plans," said American Chauvon Venick, who moved to Beijing from Los Angeles with her lawyer husband and young daughter earlier this year. "You wake up, look outside and it's a great day, you skip whatever you're going to do and go outside to enjoy it. If it's a really bad day, maybe we'll go and do something inside. "I'm not going to have her out and about," Venick added, referring to her daughter.

While the embassy's air quality index has been consistently in the "unhealthy" range around 170 recently, the winter months can be especially bad as residents crank up the heating. One day in early December, Beijing's smog was so severe it forced the main airport to shut for several hours, and the U.S. Embassy's index reached its ceiling with a reading of 500, meaning the air was hazardous to human health.

Last year, the state-run China Daily quoted a Beijing health official as saying the lung cancer rate in the city had increased by 60 percent during the past decade, even though the smoking rate during the period had not seen an apparent rise.

The Economist Intelligence Unit's livability index this year ranked Beijing's pollution at 4.5, with 5 being the worst. Out of 70 cities surveyed, the only ones rated worse were Mumbai, New Delhi, Karachi, Dakar, Dhaka and Cairo.

Beijing has a lot going for it, aside from being capital of the world's second-largest economy and home to UNESCO World Heritage sites like the Summer Palace and world-famous cuisine. But the pollution has reached such levels it can be hard convincing foreign executives to move to the city. "We can't get people to move here. Pollution is a big worry, especially if you have
children," said a Beijing-based executive for a large Western financial services firm, who spoke to the press on condition of anonymity. "Beijing is considered a hardship posting nobody wants."

Those taking advantage include companies that make air purifiers, which report booming business and count big foreign firms among their clients. "Sales last year were three times the average of what we had seen in previous years," said Zheng Hui, a sales consultant for Swiss company IQ Air, which entered the Chinese market more than five years ago.

Chinese authorities made an all-out effort to improve air quality during the 2008 Summer Olympics, curtailing vehicle movements and relocating outdated, polluting factories. The relief was temporary, as curbs on factories were relaxed and car sales continued to rocket.

It is still a sensitive issue, especially as Beijing tries to position itself as a global business hub.

Last month, a senior Chinese official demanded foreign embassies stop issuing air pollution readings, saying it was against the law and diplomatic conventions, in pointed criticism of the U.S. Embassy index.

The Beijing authorities say they are well aware of the air pollution problem. "We are trying to improve air quality. It is not only to attract investment from abroad; we are also doing it for the health of all Beijingers," an official at Beijing's environmental protection bureau told reporters.

Elsewhere in China, there have been protests in recent weeks over threats to the environment. Recently, officials cancelled an industrial waste pipeline project after anti-pollution demonstrators occupied a government office in eastern China, destroying computers and overturning cars. Earlier this month, thousands took to the streets in Sichuan province's Shifang town to protest against a $1.6 billion copper refinery they feared would poison their families. The city government swiftly called off the project.

52. Hong Kong Smothered In Worst Air Pollution in Two Years

Pollution readings were "very high" recently in business and shopping districts such as Central, Western, Causeway Bay and Mongkok, air monitoring stations showed, surpassed only once in March 2010 when a sandstorm in northern China covered Hong Kong in dust.

Air pollution in Hong Kong is a major source of worry for local citizens and foreign businesses, which increasingly see it as compromising the quality of life. In a recent survey by human resources consultancy ECA International, Hong Kong distinguished itself as a place where its air quality was among the worst in the world.

The pollution comes largely from coal-fired power stations and traffic, though a significant contribution wafts down from the tens of thousands of factories in China's neighboring manufacturing heartland of the Pearl River Delta.
Under intense lobbying, the government has been gradually tightening its air-quality objectives and monitoring measures to meet World Health Organization standards, but these remain far short of global guidelines, green groups say.

53. Pressure Builds for Hong Kong's New Leader to Clean the Air

As Hong Kong strives to consolidate its reputation as a financial hub and major offshore conduit for China’s wealth, the smog that often envelops its skyscrapers exacts a heavy cost on its pro-business credentials and competitiveness. Business and green groups say outgoing chief executive Donald Tsang has failed to address a problem that costs an estimated $6 billion each year, according to health experts, with air quality in the former British colony now among the worst in Asia.

Concerns over air quality cropped up long before Tsang came to office in 2005. Five years earlier, legislators and environmentalists had voiced concerns about nightly fireworks at Hong Kong's Disney theme park on the rural outlying island of Lantau adding to the problem. Now, a blanket of haze at times shrouds the view even from the hills of leafy Lantau. Sometimes it is almost impossible to see one of the world's most spectacular sights, the concrete, steel and glass jungle of the skyscrapers on Hong Kong Island, from just across the harbor in Kowloon.

The think tank Civic Exchange attributed 7,240 premature deaths and over half a million avoidable hospital bed days from "persistently poor air quality" during Tsang's seven years in office.

Tsang recently stepped down on the 15th anniversary of Hong Kong's return to Chinese rule. In 2006, he pledged to bring back blue skies with the quip "Clean Air for a Cool Hong Kong!" "Under the current administration, the targets have been weak and delayed, and fairly unhelpful in driving change," said Mike Kilburn, an environmental expert at Civic Exchange.

Nearly a quarter of businesses polled by the American Chamber of Commerce say they experienced difficulties in recruiting professionals last year due to environmental concerns.

The pollution comes largely from coal-fired power stations and traffic, though a significant contribution wafts down from the tens of thousands of factories in China's neighboring manufacturing heartland of the Pearl River Delta.

Roadside nitrogen dioxide hit record levels last year, though regional levels of sulfur dioxide and suspended particulates have been reduced over the past decade.

Under intense lobbying, the government has been gradually tightening its air-quality objectives and monitoring measures to meet World Health Organization standards, but these remain far short of global guidelines, green groups say. Even mainland China, home to some of the world's most polluted cities, released air-quality objectives early this year that were far more stringent than Hong Kong, but it has so far failed spectacularly to solve the problem, even in the capital, Beijing.

With a new airport runway planned at Hong Kong's Chek Lap Kok airport, adjoining Lantau, along with a sea bridge bringing heavy freight and vehicle traffic from Zhuhai and Macau, environmentalists and business chambers say Hong Kong is running out of time.
"In Singapore, when the government makes long-term plans for the economy, environmental performance targets are well defined for each business sector. Contrasting this to Hong Kong, what we really need is policy that is holistic, decisive and long term," said Evan Auyang, environment steering group chairman at the American Chamber of Commerce in Hong Kong.

Hong Kong authorities say measures are in the works including weaning power stations on to cleaner natural gas, replacing old bus engines and tightening standards for new vehicles, tasks which will be a high priority for new leader Leung Chun-ying.

Guangdong province in southern China, Hong Kong and Macau have reaffirmed a commitment to bolster co-operation, monitoring and tackling of pollutants. But critics say the promises are mere words. "Both China and Hong Kong are involved in too much talking, but it's never enforced with fines to factory owners," said Hak Kan Lai, an environmental expert at the University of Hong Kong.

"There's no reason for us to neglect this problem," said Andrew Lai, a deputy director of the Environmental Protection Department. "We're all living in Hong Kong, we breathe the same air. We're concerned, I'm concerned. There's always room to do more."

54. Diesel Price Hike Likely In Next Two Months: Rangarajan

A hike in diesel prices is expected in the next two months, Prime Minister's Economic Advisory Council (PMEAC) Chairman C Rangarajan said recently. "I think it will happen," he told Rajya Sabha TV when asked if diesel price increase could happen in the next two months. He, however, added PMEAC's role is only to emphasize what needs to be done and the decision has to be taken by the government.

"The decision finally will have to be taken by the government as a whole. Several ministries are involved in this ... I think our role is only to indicate what needs to be done...," he added.

In the Economic Outlook for 2012-13, the PMEAC had suggested that the government could raise diesel prices in one or more steps. The report said that priority consideration may be given to a suitable increase in the price of diesel, which is being sold at subsidized rates, to contain the fiscal deficit. Widening fiscal deficit, which touched 5.8 per cent of GDP last fiscal year, is a concern for the government.

The government has not been able to implement its decision to free diesel prices because of opposition from various quarters. It had freed petrol prices in 2010.

The government has budgeted a petroleum subsidy of around Rs 43,000 crore for the current fiscal, but with the huge under-recoveries of the oil marketing companies, the subsidy burden is expected to go up.

Rangarajan also projected India's economic growth in the current fiscal year at 6.7 per cent. The government had earlier pegged the GDP growth at around 7.6 per cent. India's GDP slumped to a near nine-year low of 5.3 per cent in last quarter of 2011-12.

55. Australia's Opposition Backs Kyoto 2

Australia's opposition Liberal party climate spokesman Greg Hunt recently gave his "in principle" backing to signing up for a second commitment period of the Kyoto Protocol, making it easier for
the under-fire government to sign the U.N. climate treaty. Hunt told The Age newspaper that the opposition coalition's intention is to join a new Kyoto period, although a final decision would depend on the exact terms. "What the world really needs is to bring China and India on board, to bring Russia and Brazil on board. I think it will be easier to strike a 2016 agreement to commence in 2020, if there is a Kyoto 2," Hunt said, according to The Age.

If Australia signs up to a new target under Kyoto, it will become the first non-European developed nation to do so.

The first commitment period of the 1997 U.N. treaty, which puts legally binding emission targets on some 40 developed countries, expires this year. But amid limited progress in international climate negotiations there has been little enthusiasm among rich countries to prolong the treaty.

Canada has already pulled out of Kyoto altogether, while Japan and Russia have said they will not sign up for a new period due to the low share of global emissions covered. The U.S. never ratified Kyoto, while major emitters in the developing world, such as China and India, have no targets under Kyoto.

The main focus of current U.N.-led climate negotiations is the Durban platform agreed on last December, which states that parties shall agree by 2015 on a new international pact to bind all emitters by 2020. Until such a deal is in place the Kyoto Protocol would be the only existing international treaty to address climate change, and Hunt's comments are likely to be welcomed by negotiators when they meet in Bangkok.

So far the Australian government has ducked making any commitments towards a new Kyoto period. Prime Minister Julia Gillard's decision last year to introduce a carbon tax has been highly controversial, and the opposition's popular anti-carbon tax agenda has made the coalition favorites to win next year's election by a landslide.

Australia's decision on a new Kyoto period is expected to be made at the U.N. talks in Doha in December, and Erwin Jackson at research group The Climate Institute said Hunt's comments might make it easier for Gillard to sign up. "This is an important development as the biggest political obstacle to the government taking on a second commitment period is how it plays out in domestic politics." One major concern for Australia would be whether it would have access to the U.N.-regulated carbon market if it doesn't sign up to Kyoto 2, Jackson said. Australia will launch an emissions trading scheme on July 1, 2015, and plans to let emitters used U.N.-issued offsets to meet up to 50 percent of their domestic targets.

56. Asia-Pacific Countries Move to Update Framework for Environmental Protection

Environmental officials from Asia-Pacific Economic Cooperation countries have agreed on a statement on environmental cooperation and protection that addresses green growth, climate change, and cross-boundary air pollution. Environment ministers and senior officials from the APEC countries, including Russia, China, the United States, Australia, Indonesia, Japan, South Korea, Mexico, and Thailand, approved the statement at a meeting in Khabarovsk, Russia on July 18th. The document is expected to be adopted at the APEC ministerial meeting in Vladivostok in September.

The statement provides an updated framework for APEC countries to cooperate on environmental protection, in recognition that "the environmental situation has not significantly
improved over the last decades and .... there are new environmental challenges which need to be addressed," the officials said in a press release.

The APEC environment statement names species extinction, deforestation, natural resources depletion, ocean and atmospheric pollution, unsustainable consumption, global climate change, and fresh water supply as key issues. It says climate change is "one of the most important sustainable development issues" and "effective policies and programs" are needed in the APEC economies.

“We note the need for actions to reduce greenhouse gas emissions, including through increasing energy efficiency, developing low-carbon technologies and alternative and renewable energy sources, promoting sustainable transport and urban infrastructure development and addressing deforestation and forest degradation," the statement says.

57. China's Efforts to Reduce Pollutants Slows Down Along With Economy

The latest data on four key pollutants announced by China's Ministry of Environmental Protection show a slowing rate of reduction that a government official blamed on relaxed policies linked to the country's cooling economy. In a July 4th videoconference broadcast on the ministry's website, Vice Minister Zhang Lijun said figures for the first half of 2012 showed sulfur dioxide emissions fell 2 percent, chemical oxygen demand (COD) measured in wastewater fell 1.5 percent, and nitrogen oxide emissions in air and ammonia nitrogen emissions in wastewater were unchanged compared to the first half of 2011.

Overall goals for the four pollutants, which were singled out in the 12th Five-Year Plan (2011-2015), call for reducing sulfur dioxide emissions and COD levels 8 percent, and nitrogen dioxide and ammonia nitrogen emissions levels 10 percent by 2015, compared to 2010 levels.

Premier Wen Jiabao recently said China's economy faces "relatively large" downward pressure. Zhang said the global economic situation and China's own slowing economy meant some areas had "relaxed" their emission control policies and some local government and state-owned enterprises had "lagged far behind" in their emission reduction tasks. Zhang said the ministry will explore administrative, technical, and economic incentive options to spur more reductions. This effort will include allocating funds for the promotion and use of denitrification technology in the cement industry, Zhang said.

He pointed to continuing problems with the construction and operation of wastewater treatment facilities, as well as the operation of desulfurization and denitrification equipment.

The government plans more research on why the pollution reduction rates are slowing and will step up inspections in the petroleum, petrochemical, steel, cement, and livestock sectors, Zhang stated.

58. Antipollution Plan To Combat High PM2.5 in Normally Clean Benchmark Area

A three-year environment protection project has been launched in Qingpu District to cut the emission of some major pollutants by 20 percent as a way to battle PM2.5 pollution, the environmental agency announced recently. The announcement came after the district's Dianshanhu monitoring site, the city's current clean air benchmark, was reported to have higher readings for PM2.5 pollution than nine other monitoring locations used in the local air quality evaluation system.
PM2.5 will be included in the city's overall air quality evaluation system at the end of this year.

Environmental officials said experts are still trying to figure out why the site, which used to have very good results from standard monitoring measures, now has the highest PM2.5 readings. But they said that the district's total emission of sulfur dioxide and nitrogen dioxide, which may form PM2.5 particles after chemical reactions, is expected to be reduced by 20 percent in the three-year project.

The project, in which the government has invested a total of 1.2 billion Yuan, would cover eight parts including development of clean energy, treatment of volatile organic compounds, the control of dust and others, said an official with the Qingpu Environment Bureau. In the project, a total of 300 tons of coal burned for industrial uses would be replaced by natural gas.

Meanwhile, a new ecological wetlands area covering a total of 4.6 square kilometers at the Dianshanhu area is expected to open to visitors next year, which may also improve the area's air quality and environment, government officials said.

City officials said they are still working with experts to provide an explanation for the high PM2.5 readings. "One common theory is that the sulfur dioxide and nitrogen dioxide pollutants were blown to the area by wind from central city," said an official with the Shanghai Environment Bureau. "The pollutants were not PM2.5 particles so they were not detected in other monitoring spots. But after they were blown to the Dianshanhu area, they might form PM2.5 particles during an oxidation process."

The official said there were also many other theories to explain the problem-some say the residents' burning of straw in fields or joss sticks at a nearby temple led to the pollutants, while some say it was from cars at a nearby highway. Some even raised doubts as to whether the PM2.5 monitoring devices could have mistaken water molecules for pollutant particles. But all the theories are just speculation without evidence, said the official.

59. Despite Ambitions, Growing Gap in China’s Battery-Powered Cars

China has made progress in electric vehicles, but compared with some developed countries, the gap in core technologies and industrialization is actually widening, according to a recent report on the nation's auto industry jointly formulated by the Development Research Center of the State Council, the Society of Automotive Engineers of China and Volkswagen Group China. Battery-electric vehicles are a mandated priority in China's new energy vehicle R&D, but domestic carmakers still lag behind their foreign counterparts in vehicle reliability and engineering, said the yearly report.

The report said that the performance of single-power batteries made in China is close to the international advanced level, but the country trails far behind in battery pack engineering and management.
In addition, China lacks popular mass-produced electric products like General Motors' Volt and the Nissan Leaf, another indication of the widening gap, the report said.

The most well known electric carmaker in China is BYD, a Shenzhen-based company that also makes batteries for cell phones and laptops. Its e6 electric is used in taxi services in the southern city. The company backed by billionaire Warren Buffett has plans to sell its electric vehicles in the US. It also operates a joint venture with German's Daimler AG that is developing electric vehicles under the independent brand Denza. But a recent traffic accident that left an e6 electric taxi incinerated has triggered concerns over the safety of the product and the new technology. The local government has not yet released results of its investigation into the incident.

Feng Fei, head of the industrial economy research department at the DRC, said that though the recent report shows that the gap is widening between China's electric vehicle development and world leaders in the sector, it doesn't mean that the trend will continue. "China is now in the process of making preparations," he said. "With strong support from both central and local governments, the development of new energy vehicles in the country is likely to accelerate in the next few years."

On the same day the joint report on the nation's electric vehicles was released, the State Council announced a target for both production and sales of 500,000 plug-in hybrid and all-electric vehicles by 2015, with the number projected to reach 5 million by 2020. The industrialization is also expected to help achieve an annual production capability of 2 million pure electric and plug-in hybrid vehicles by 2020, the plans said. Su Bo, vice-minister of Industry and Information Technology, said that the goal is challenging since it's only three and half years until the end of 2015, but an ambitious target could stimulate the industry.

The blueprint has outlined generous subsidies to consumers and producers of the new generation of greener vehicles, as it aims to ease the country's heavy dependence on imported oil, cut emissions, and speed up the restructuring of its automobile sector into a more environmentally sustainable model. According to the details, there will be heavy government investment in the core technology needed to build a strong and globally competitive new-energy vehicle industry. The short-term emphasis will be on developing pure electric and plug-in hybrid vehicles, as well as wider usage of hybrid vehicles and energy-saving combustion engine automobiles.

It is hoped that the efforts outlined will reduce the average fuel consumption of passenger vehicles to 6.9 liters per hundred kilometers by 2015, and less than 5.9 liters per km for energy-saving cars. The figure will further be lowered to 5 liter per km for the passenger vehicles in 2020, and 4.5 for energy-conservative cars.

In May, the government announced it would provide a subsidy of 26.5 billion Yuan ($4.16 billion) to stimulate purchases of energy-saving products — mainly automobiles and household appliances. According to the Ministry of Finance's website, the central government will also provide as much as 2 billion Yuan in annual subsidies, starting this year, to support the manufacturing of new-energy vehicles, as well as encourage research related to energy-saving vehicles.

Another focus of the plan is the production of electric batteries. The government said it hopes to have two or three leading batteries enterprises with annual production capacity of more than
tens of billions of kilowatt hours, to strengthen the industry from upstream core parts and technology supply.

The plan aims to lower the price of batteries used for electric vehicles to 2 Yuan for each kilowatt-hour by 2015 and 1.5 Yuan a kilowatt-hour by 2020 as part of a stimulus for the new-energy vehicle industry. Companies focusing on battery and related technologies will also benefit from the new policies, said analysts.

Answering the central government's appeal for a greener society, Beijing municipal government recently said it plans to purchase 1,000 new energy vehicles, while Shanghai will spend 6 billion Yuan into the R&D and manufacture of hybrid and pure electric vehicles.

Feng from the RDC noted that the challenges of electric vehicle are common across the globe - immature technology, high prices and a lack of charging infrastructure. He called for alliance between car companies to make significant breakthroughs.

Zhang Suixin, executive vice-president of Volkswagen Group China, agreed that cooperation between countries, governments and companies is crucial to mass production and broad use of electric vehicles. Zhang said that Volkswagen will launch several electric models next year globally and later introduce them to China.

**60. China's Motor Vehicles Top 233 Million**

The number of motor vehicles in China in June topped 233 million, including 114 million automobiles and 103 motorcycles, new figures released by the Ministry of Public Security (MPS) have showed.

The number of vehicles has maintained rapid growth, as it shows an increase from last year of 3.67 percent, or 8.26 million in number, the Traffic Management Bureau of the MPS said, adding that the number of automobiles has increased by 7.66 percent during the same period.

Eight provinces have more than 10 million motor vehicles each, while Shandong and Guangdong have more than 20 million. Automobiles in five cities, including Beijing, Chengdu, Tianjin, Shenzhen and Shanghai, have topped 2 million, according to the bureau.

Meanwhile, 247 million people have driver's licenses, 186 million of them for automobiles.

**61. Beijing to Add More Parking Space for Its 5 Million Vehicles**

Beijing is planning to add 110,000 parking lots in downtown by the end of 2013 in a bid to accommodate its 5 million cars, the Beijing Morning Post has reported. The national capital city is short of about 3 million parking spots, as it has only 2.48 million parking spaces for 5 million vehicles, according to the 2011 Development Report for Chinese cities. To encourage the building of parking spaces, Beijing offers a one-off sum of 2,000 Yuan (about 314 U.S. dollars) for each parking spot built in new residential quarters, the report said, citing the Beijing Municipal Commission of Transport (BMCT).

By September this year, about 9,000 parking spaces will be built in 68 downtown residential communities, BMCT said in a notice posted on its website on July 4th.
Roads in Beijing are overloaded with cars. Car owners often find it difficult to find a place for their vehicle and have to park their car on pavement or along the road side.

Authorities in Beijing have tried to put the brakes on the number of new vehicles. In 2011, the city began to distribute car plates by a lottery system, limiting the number of new cars to 240,000 each year.

62. Petrol-Diesel Price Gulf Widening in India's Used Car Market

For those on the lookout to buy a used diesel car, be prepared to fork out 20% more than the price that you bargained for a year ago. Petrol used car buyers though, can bargain for a sticker price that is 15% lower than before. According to Mahindra First Choice (MFC) vice-president (operations and network) Yatin Chadha, the price gap between diesel and petrol vehicles in the used car market has widened following the skewed fuel pricing after successive rounds of petrol price hike while diesel prices remained constant.

"The demand for used diesel cars is on the rise. Though we are still a small player in the sector and have enough stock to meet the sales target, bigger players will be in trouble as the market gets further skewed due to fuel. There just aren't enough used diesel cars in the market at present," he said.

While the ratio between petrol and diesel used car sales was 80:20 last year, it has reduced to 70:30 this year. With the price differential between used diesel and petrol cars around Rs 60,000-70,000, customers are switching to diesel even if their distance travelled doesn't warrant the additional payout. It makes sense to buy a diesel car only if one does 2,000 km a month.

The slowdown in the automotive industry is also reflected in the used car market sales. "There is a distinct increase in buying time. While people decided on a purchase in two days earlier, they are taking four-five days to make up their mind. There are others who are postponing their purchase decision. And then there are those who would have ordinarily gone for a new car are now buying used car," Chadha said.

MFC is the third major organized player in the used car market after Maruti Suzuki True Value and Hyundai Advantage. MFC expects to sell 45,000 cars this year, up from 34,000 cars last year. In contrast, True Value sold 2.4 lakh cars while Advantage sold 84,000 cars. However, an overwhelmingly big chunk of the 2.7 million used car market is controlled by unorganized players. While MFC has 171 outlets at present, it plans to ramp up the numbers to touch 500 outlets by 2014-15.

63. Study Finds That Pollution Kills 1170 A Year in New Zealand

Air pollution from fires, vehicles and industry kills 1170 people prematurely each year and causes $4.28 billion in social costs, researchers have estimated. Natural sources of air pollution, such as sea spray and wind-blown dust, lead to a further 1136 early deaths, producing a national toll of 2306, say the researchers from four private consultancies and two universities.

Home-heating fires are the leading cause of the man-made air-pollution deaths, except in central Auckland, where exhaust from motor vehicles is the top killer.
The estimates are based on exposures to tiny pollution particles, less than one-hundredth of a millimeter in diameter. They can lodge in the airways and lungs; the smaller “ultra-fine” particles can even enter the bloodstream. The particles can cause or contribute to various sicknesses, such as bronchitis, lung cancer, asthma and heart attacks.

The death estimates, only just made public, are based on data from 2006. They update research published in 2007, which was based on 2001 data from fewer places than the new report, Health and Air Pollution in New Zealand. Since the two reports are not directly comparable, the researchers revised the older findings with their updated approach. This increased the older report’s estimate of 901 premature deaths a year from human-caused air pollution, to 1058.

“All [man-made] sources except motor vehicles show a predicted increase in health impacts between 2001 and 2006,” the report says, “largely in response to the increase in population combined with minimal or no changes in emissions. “The reduction in motor vehicle impacts reflects the significant and genuine improvements made in fuel quality and emissions standard requirements introduced after 2001.

“Comparable improvements have occurred in domestic fire emissions in response to the introduction of the woodburner standards and various insulation and clean-heat retrofit programs.”

Areas such as Nelson and Christchurch experienced significant reductions in the levels of fine-particle air pollution from 2001 to 2006, but changes in most areas were after 2006. “For a lot of places their concentrations [of pollution] have been going down appreciably since 2006 but we weren’t able to capture that in this study,” lead researcher Dr Gerda Kuschel said.

These later changes are expected to show up as improvements in any new updates. One was planned for last year in line with the five-yearly Census, but the Census has been delayed until next year because of the Christchurch earthquakes.

The social cost per person of human-caused air pollution is $1061 a year, of which 56 per cent is from domestic fires, 22 per cent from motor vehicles, 12 per cent from open burning and 10 per cent from industry.

The only region where domestic fires don’t dominate is Auckland, particularly in the old Auckland City Council area, “where motor vehicle health impacts are nearly twice those of domestic fires”. But because the researchers could not robustly assess nitrogen dioxide levels, they expect the latest figures probably underestimate the impact of motor-vehicle air pollution.

The Automobile Association said the reduction of sulfur content in petrol and diesel and rules preventing the importation of older Japanese vehicles would have improved emissions. Sulfur in diesel, a big source of fine particles, has been cut to 10 parts per million, from 3000 in 2001.

Co-author, air quality scientist Dr Gerda Kuschel helped compile the study for the health, environment and transport ministries.
The report reached the figure by taking into account areas’ populations according to the 2006 census, the source of the emissions, and the number of premature deaths, hospital admissions or restricted activity days caused by particulate pollution exposure.

64. Car Pollution Puts Child Health at Risk in Australia

Car pollution is creating asthma-like symptoms in otherwise healthy children, and potentially affecting their lung growth, according to a report that suggests Australia's air-quality standards should be upgraded. A study of 2860 primary school children representing most states revealed nitrogen dioxide (NO2), found in motor vehicle exhaust, was present in the lungs of two thirds of the students tested at the 55 sample schools. The schools were chosen near to air quality testing stations, so results could be cross-checked with daily pollutant levels.

In the cases where NO2 was detected in children's lungs, the researchers consistently found those children experienced "asthma-like" symptoms, including "wheeze". Their lung volume was reduced and their airways inflamed. Researchers concluded the NO2 was not producing typical asthma, but a non-specific lung effect, which did not improve with asthma medication. "Although air pollution levels are relatively low in most regions of Australia, they may not be low enough to prevent adverse health effects," the report warned.

The study found children inhaled and retained more air pollution per unit of body weight than adults, partly because they played outdoors, and that pollution had a greater impact on children because their lungs were still developing. While the impacts measured were small, long-term exposure to NO2 could affect them into adult life, the report warned.

The National Environment Protection Council commissioned the Australian Child Health and Air Pollution Study, partly to fill gaps in scientific knowledge on the effect of local pollutants on children. It was designed to contribute to the National Environment Protection Measure standards review which was to be updated by 2008 but has been delayed. The council comprises state and federal environment ministers, and sets the standards.

The report called for major reductions in particulate matter (airborne fine particles of soot), NO2 and ozone, saying there were many pollutants without a safe "threshold". The report suggested this be done by limiting motor vehicle emissions, investing in more public transport and through better urban design.

65. Air Pollution Worsening In Dimapur, India

Air pollution in Nagaland’s commercial hub Dimapur, particularly during the dry season, is crossing permissible limits according to the Nagaland Pollution Control Board (NPCB) in a report on the ‘Air Quality Status of Dimapur city during 2010 & 2011’.

The NPCB has been monitoring the ambient air quality of Dimapur for the last 10 years at two stations located at Bank Colony and Dhubinala. Four air pollutants are monitored and analyzed, namely Nitrogen dioxide (NO2), Sulfur dioxide (SO2), Respirable Suspended Particulate Matter (RSPM) and Suspended Particulate Matter (SPM). The monitoring of pollutants is carried out for 24 hours (4 hourly sampling for gaseous pollutants (NO2 & SO2) and 8 hourly sampling for particulate matter (RSPM & SPM)).

In the year 2011, the average concentration of RSPM was found to be highest in the month of January at both the stations – Bank Colony (317) with 158 µg/m3 and Dhubinala (448) with 166
µg/m³ exceeding the permissible limit of 100 µg/m³. The lowest reading of RSPM was recorded in the month of July with 20 µg/m³.

However, it said the gaseous pollutants, namely Nitrogen Dioxide and Sulfur Dioxide are within permissible limits at both stations.

The NPCB said the data for the years 2010 & 2011 show that the RSPM for both the stations indicates slight variations, except in the month of January 2011, at Bank Colony. In the case of Dhobinala station, the variations during the year 2011 are higher compared to 2010.

The Board also pointed out that both RSPM and SPM concentration increase in dry season because of bad road condition which raises dust through vehicular movement or wind after which particulate matters take time to settle down. The increasing population and number of automobiles and other small scale industries such as stone crushers, sand mahals, vulcanization, and improper waste management may be the other reasons for the increased air pollution, it said.

Stating that the records had been taken from the permanent stations at Dhobinala and Bank Colony, the NPCB said variations can be expected from colony to colony.

However, pointing out that this is evidence that air pollution, in Dimapur is definitely crossing permissible limits, the Board has strongly recommended implementation of remedial measures such as improving the road, relocating polluting industries to the outskirts, relocating sand mahals, better waste management, and maintaining green cover to improve the ambient air quality of Dimapur city.

### 66. $160 Million Renault-Nissan Korea Investment Includes Zero Emissions Vehicles

The Renault-Nissan Alliance has announced it is pouring $160 million into the Republic of Korea for production of next generation vehicles via its Renault Samsung Motors subsidiary. These will include the upcoming iteration of the Nissan Rogue crossover-utility and a zero emission version of the Renault SM3 compact car, based on the Fluence Z.E., which is being partly financed by the ROK Government.

The move comes as Renault continues to expand its presence outside Europe in an effort to strengthen its position, while Nissan continues to look at moving more production away from Japan in an effort to reduce the impact of a rising yen on exports.

In South Korea, RSM currently sells the conventional SM3 as well as the SM5 midsize and SM7 large sedans along with the QM5 SUV (known as Koleos in other markets). However, according to Renault-Nissan Alliance CEO and Chairman Carlos Ghosn, adding additional production to Korea shows “a commitment across the Alliance to helping RSM achieve its targets for cost competitiveness and growth.”
The introduction of a Korean built zero emissions vehicle will likely further help the Alliance achieve economies of scale on such vehicles, since both automakers are taking an active role in pushing EV technology closer to the mainstream and Nissan has already put in place plans to expand electric car production; notably by setting up Leaf assembly in the U.S.

67. Taiwan's Gasoline and Diesel Prices Increase for Third Straight Week

Taiwan's two major refiners have raised gasoline and diesel prices for the third week in a row, after international oil prices became more expensive. CPC Corp., the state refiner, has raised gasoline by NT$0.9 a liter and diesel by NT$1. After the price adjustment, CPC Corp. is now selling 92-, 95- and 98-grade gasoline at NT$32.9, NT$34.4 and NT$36.4 a liter, respectively, and super diesel at NT$31.7 a liter.

Formosa Petrochemical, CPC's main competitor, also raised its fuel prices by the same margin. With Formosa's price increase, its 92-, 95- and 98-grade products are sold for NT$32.8, NT$34.4 and NT$36.6, and diesel at NT$31.7.

Fuel prices have gone up by over NT$2 over the past week on various negative events in oil producing countries. Tensions in the Middle East escalated after bomb attacks in Israel and Syria. Meanwhile, a supply disruption in Iran continued to be a concern.

The benchmark that CPC uses, an average between oil traded on Dubai and Brent indices rose to US$102.63 per barrel, up US$4.74 from the US$97.88 a week earlier. The figures translate into a price increase of 3.89 percent, or NT$0.9 and NT$1 a liter, respectively, for local gasoline and diesel.

CPC stresses that oil prices go up and down and said it will continue to monitor prices carefully. It also noted that Taiwan fuel prices are lower compared to neighboring countries and urges the public to save on fuel and conserve energy.

SOUTH AMERICA

68. Cargill Says To Open Brazil Biodiesel Plant This Month; NOx Concerns Remain

Global grains trading powerhouse Cargill Inc will open a biodiesel plant in Brazil's Mato Grosso do Sul state by the end of August, the company's vice president of corporate affairs in Brazil, Valeria Militelli, has announced. Cargill, one of the largest soybean exporters in Brazil, announced an investment of some 130 billion reais, ($64.5 million) in the plant located in the Tres Lagoas municipality in 2010.

Brazil's young biodiesel industry, that began about a half decade ago, is small compared to its vast ethanol market, but it benefits from a mandated 5 percent blend in all commercial diesel. Soybean oil makes up about 85 percent of the feedstock for its production.

Biodiesel production in Brazil lags that in neighboring Argentina, where export companies including Cargill have joined local firms in exploiting Argentine soy fields to make biofuels. Brazil is the world's No. 2 soybean producer behind the United States and ahead of Argentina.

The impact of biodiesel and second generation biofuels on nitrogen oxides (NO\textsubscript{x}) emissions from heavy-duty engines was recently investigated using a California Air Resources Board
(CARB) certified diesel fuel. Two heavy-duty engines, a 2006 engine with no exhaust aftertreatment, and a 2007 engine with a diesel particle filter (DPF), were tested on an engine dynamometer over four different test cycles. Emissions from soy- and animal-based biodiesels, a hydrotreated renewable diesel, and a gas to liquid (GTL) fuel were evaluated at blend levels from 5 to 100%. NOx emissions consistently increased with increasing biodiesel blend level, while increasing renewable diesel and GTL blends showed NOx emissions reductions with blend level. NOx increases ranged from 1.5% to 6.9% for B20, 6.4% to 18.2% for B50, and 14.1% to 47.1% for B100. The soy-biodiesel showed higher NOx emissions increases compared to the animal-biodiesel. NOx emissions neutrality with the CARB diesel was achieved by blending GTL or renewable diesel fuels with various levels of biodiesel or by using di-tert-butyl peroxide (DTBP). It appears that the impact of biodiesel on NOx emissions might be a more important consideration when blended with CARB diesel or similar fuels, and that some form of NOx mitigation might be needed for biodiesel blends with such fuels.

**MIDDLE EAST**

69. Israel Proposes to Require Gasoline Vapor Recovery

All Israeli gas stations would be required to install and use vapor recovery systems by the end of 2015 under a proposal circulated by the Environmental Protection Ministry on August 5th. Such systems are currently required only at gas stations located within 40 meters of residential areas. The systems—which must be installed on equipment used to transfer fuel from tankers into underground holding tanks, as well as on pumps used to fuel motor vehicles—would reduce fumes by 90 percent, the ministry said. Monitoring systems, tank sealing systems, and backup systems to shut down the pumps automatically in case of a fuel or fume leak would also have to be installed if the directive is finalized. Regular inspections would be required to ensure the systems were working properly. Violations would be punishable by up to six months in jail and a 450,000 shekel ($115,000) fine. The directive is available for public comment until September 1st, after which it will be sent to the Knesset's Internal Affairs and Environment Committee for approval.

**GENERAL**

70. Arctic Sea Ice Shrinks to Record Low, By Some Estimates; Still Shrinking

The area of ice in the Arctic Ocean has thawed to a record low, surpassing the previous 2007 minimum in a sign of climate change transforming the region, according to some scientific estimates. "We reached the minimum ice area today. It has never been measured less than right now," Ola Johannessen, founding director of the Nansen Environmental and Remote Sensing Center in Norway, told reporters. "It is just below the 2007 minimum."

The U.S. National Snow and Ice Data Center (NSIDC), widely viewed as the main authority on sea ice, has projected that the 2007 minimum extent is set to be breached next week. The summer thaw usually continues well into September. "A new daily record ... would be likely by the end of August," said Ted Scambos, lead scientist at the data center, which monitors ice in

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2 "Evaluation of the Impacts of Biodiesel and Second Generation Biofuels on NOx Emissions for CARB Diesel Fuels", Maryam Hajibabaei,† Kent C. Johnson,† Robert A. Okamoto,‡ Alexander Mitchell,‡ Marcie Pullman,‡ and Thomas D. Durbin*,†. †Department of Chemical, Environmental Engineering, Bourns College of Engineering, Center for Environmental Research, Technology (CE-CERT), University of California, Riverside, California, ‡California Air Resources Board, 1001 "I" Street, P.O. Box 2815, Sacramento, California 95812
the Arctic and elsewhere. "Chances are it will cross the previous record while we're still in sea ice retreat."

Other scientists monitoring the ice interpret satellite data in slightly differing ways.

An ice chart compiled by the Danish Meteorological Institute (DMI) showed the ice extent had also just shrunk a fraction past the 2007 minimum. The DMI said it would defer to the NSIDC to judge when a record had been set.

Ice has been shrinking steadily in recent decades in the Arctic, threatening the livelihoods of indigenous peoples and wildlife. It is also helping to open an area rich in oil and gas and bringing the promise of new, shorter shipping routes.

"This is due to climate change," Nicolai Kliem, head of the ice service at DMI, said of the long-term decline in summer ice. Scientists project that summer sea ice could vanish completely in coming decades.

The retreat of the ice may be self-reinforcing. Ice reflects sunlight back into space and as it shrinks it exposes dark water that absorbs more heat, accelerating thawing.

Johannessen stressed his measurement was of the "area" of ice, now less than 4.0 million sq. km (1.5 million sq. miles), omitting the open water between ice floes. The NSIDC prefers a bigger "extent", including such gaps, on the grounds that pools of melt water that form on sea ice are hard to distinguish from open ocean.

Kliem said the ice was becoming more prone to melt because there was less of the hard, resilient ice that endures more than one year. The ice usually reaches a minimum in September before forming again as winter approaches and reaching a maximum in March. "We had quite a big ice cover in March 2012, above average. But because there is little long-term ice it melts more quickly in summer," he said.

The amount of sea ice in the Arctic is important because this region is a potent global weather-maker, sometimes characterized as the world's air conditioner. As parts of the Arctic melted, 2012 also set records for heat and drought in much of the Northern Hemisphere temperate zone, especially the continental United States.

This summer could see the ice retreat to less than 1.5 million square miles (4 million square km), an unprecedented low, Scambos said. The previous record was set in 2007, when Arctic ice cover shrank to 1.66 million square miles (4.28 million square km), 23 percent below the earlier record set in 2005 and 39 percent below the long-term average from 1979 to 2000. However, 2007 was a jaw-dropping "perfect storm" of conditions that primed the area for thawing sea ice: warmer and sunnier than usual, with extremely warm ocean water and winds all working together to melt the Arctic.

Last year, Arctic sea ice extended over the second-smallest area on record, but that was considered to be closer to a "new normal" rather than the extreme conditions of 2007, NSIDC said then. This year is similar to 2011, Scambos said. The melt season started between 10 days to two weeks earlier than usual in some critical areas including northern Europe and Siberia.

If the sea ice record is broken this month, that would be unusually early in the season; last year's low point came on September 9, 2011. Typically, the melting of Arctic sea ice slows down
in August as the Northern Hemisphere moves toward fall, but this year, it has speeded up, Scambos said. "I doubt there's been another year that had as rapid an early August retreat," he said.

Overall, the decline of Arctic sea ice has happened faster than projected by the United Nations Intergovernmental Panel on Climate Change five years ago, according to NSIDC data. To Scambos, these are clear signs of climate change spurred by human activities, notably the emission of heat-trapping greenhouse gases including carbon dioxide. "Everything about this points in the same direction: we've made the Earth warmer," he said.

This visualization shows the extent of Arctic sea ice on Aug. 26, 2012, the day the sea ice dipped to its smallest extent ever recorded in more than three decades of satellite measurements, according to scientists from NASA and the National Snow and Ice Data Center. The data is from the U.S. Defense Meteorological Satellite Program’s Special Sensor Microwave/Imager. The line on the image shows the average minimum extent from the period covering 1979-2010, as measured by satellites. Every summer the Arctic ice cap melts down to what scientists call its “minimum” before colder weather builds the ice cover back up. The size of this minimum remains in a long-term decline. The extent on August 26th 2012 broke the previous record set on Sept. 18, 2007. But the 2012 melt season could still continue for several weeks. Image credit: Scientific Visualization Studio, NASA Goddard Space Flight Center

The sea ice cap naturally grows during the cold Arctic winters and shrinks when temperatures climb in the spring and summer. But over the last three decades, satellites have observed a 13 percent decline per decade in the minimum summertime extent of the sea ice. The thickness of the sea ice cover also continues to decline.

"The persistent loss of perennial ice cover -- ice that survives the melt season -- led to this year's record summertime retreat," said Joey Comiso, senior research scientist at NASA's Goddard Space Flight Center in Greenbelt, Md. "Unlike 2007, temperatures were not unusually warm in the Arctic this summer."

The new record was reached before the end of the melt season in the Arctic, which usually takes place in mid- to late-September. Scientists expect to see an even larger loss of sea ice in the coming weeks.

This summer has also seen unusual melting of the ice sheet covering Greenland, with NASA images showing that for a few days in July, 97 percent of the northern island's surface was thawing. The same month also saw an iceberg twice the size of Manhattan break free from Greenland’s Petermann Glacier.
In a sign of widening interest in the polar region as a short-cut shipping route between the Pacific and the Atlantic, Beijing sent an icebreaker across the Arctic this summer to Iceland - the first Chinese vessel to cross the Arctic Ocean.

A general view shows Chinese ice breaker ship "Xuelong", also called "Snow Dragon", docking at Tianjin November 3, 2011. Photo: China Daily

An icebreaker has become the first ship from China to cross the Arctic Ocean, underscoring Beijing's growing interest in a remote region where a record thaw caused by climate change may open new trade routes.

The voyage highlights how China, the world's no.2 economy, is extending its reach to the Arctic which is rich in oil and gas and is a potential commercial shipping route between the north Atlantic and Pacific oceans.

The icebreaker Xuelong arrived in Iceland this week after sailing the Northern Route along the coast of Russia. Expedition leader Huigen Yang, head of the Polar Research Institute of China, said he had expected a lot more ice along the route at this time of year than the vessel encountered. "To our astonishment ... most part of the Northern Sea Route is open," he said. The icebreaker would return to China by a route closer to the North Pole.

He said that Beijing was interested in the "monumental change" in the polar environment caused by global warming.

"The (Chinese) journey indicates a growing interest in the melting of the ice in the northern regions and how climate change is affecting the globe and the future of all nations," the office of Icelandic President Olafur Ragnar Grimsson said.

"China's interest is a mix of business, science and geo-politics," said Jan Gunnar Winther, director of the Norwegian Polar Institute. For countries outside the region like China, there may be more opportunities to supply equipment to aid drilling, he said. South Korea's Hyundai, for instance, is building a floating production unit for the Goliat oilfield in Norway's Barents Sea. Winther said that research into climate change in the Arctic was also relevant to China's understanding of weather patterns that could affect its farmers. China has applied to become an observer at the Arctic Council, made up of the United States, Russia, Canada, Sweden, Finland, Norway, Denmark and Iceland. "The application will be handled in May next year," said Nina Buvang Vaaja, head of the Arctic Council Secretariat.
Other applicants seeking to join the Council, which oversees management of the region, are Japan, South Korea, the European Union Commission and Italy. Germany, Britain, France, Poland, Spain and the Netherlands are already observers.

**71. Iceberg Twice Manhattan's Size Breaks Off Greenland Glacier**

An iceberg twice the size of Manhattan broke free from Greenland's massive Petermann Glacier, which could speed up the march of ice into northern waters, scientists said recently. This is the second time in less than two years that the Petermann Glacier has calved a monstrous ice island. In 2010, it unleashed another massive ice chunk into the sea.

The latest break was observed by NASA's Aqua satellite, which passes over the North Pole several times a day, and was noted by Trudy Wohlleben of the Canadian Ice Service. "At this time of year, we're always watching the Petermann Glacier," Wohlleben said, because it can spawn big icebergs that invade North Atlantic shipping lanes or imperil oil platforms in the Grand Banks off Newfoundland. A large piece of the 2010 iceberg did just that, but caused no damage, she told reporters.

NASA images showed the iceberg calving -- breaking off from a floating river of ice called an ice tongue, part of the land-anchored Petermann Glacier -- and moving downstream along a fjord on Greenland's northwest coast. A rift in the ice had been identified in 2001, but a crack recently became evident. Then, the satellite spied a bigger gap between the glacier and the iceberg, and the ice chunks further downstream were breaking up, NASA said online.

"The floating extension (of the glacier) is breaking apart," Eric Rignot of NASA's Jet Propulsion Laboratory said in a statement. "It is not a collapse, but it is certainly a significant event."

One difference between the 2010 event and this one is that the present ice island broke off further upstream, where the ice was right up against the fjord's rocky side walls, effectively damming the glacier's seaward movement.

"This piece that has been much further back, may have actually been providing more of a frictional effect to cork (the glacier) up than the piece that broke off in 2010, which was much further out," said Andreas Muenchow, an Arctic oceanographer at the University of Delaware.

The 2010 break accelerated the Petermann Glacier's movement toward the sea by 10 percent to 20 percent, Muenchow said by telephone. The current break could have a greater effect on the glacier's movement.

Coastal glaciers like this floating ice tongue tend to block the ice flow headed for the sea. When ice chunks break loose, the land-based glaciers behind them often move more quickly, Muenchow said.

The accelerated movement of the Petermann Glacier after the 2010 break was "noticeable but not dramatic," he said on his website icyseas.org.

The movement of this huge amount of ice into open water will have no immediate impact on sea levels, since this ice was already part of an ice shelf that was attached to land but extended over water, just as a melting ice cube in a glass of water does not raise the level of water in the glass.
Muenchow said climate change was a factor in the current state of the Petermann Glacier. He said this glacier is as far back toward the land as it has been since the start of the Industrial Revolution more than 150 years ago.

72. Foes of EU Airlines Carbon Plan Say Back UN Scheme

The European Commission has repeatedly said the only grounds for waiving its scheme, which has stirred threats of an international trade war, would be if the UN's International Civil Aviation Organization (ICAO) could come up with an equally effective world-wide solution to rising airline emissions. The US State Department and Department of Transportation concluded a recent two-day meeting of countries opposed to the EU's emissions trading system (ETS) without a joint declaration, but planned to address the greenhouse gas emissions issue within the ICAO.

"In a nutshell, the meeting confirmed the very solid and strong opposition to the ETS, but also indicated that there is a lot of interest among countries in continuing to work on the suite of activities in ICAO," the senior US official told a news briefing.

Joining the United States at the meeting were Australia, Brazil, Canada, Chile, China, Colombia, India, Japan, South Korea, Mexico, Nigeria, Russia, Saudi Arabia, Singapore, South Africa and the United Arab Emirates.

The talks differed from previous meetings of opponents of the EU scheme in that it did not draw up retaliatory measures and its stated goal was to spur efforts for a constructive solution. The countries aim to implement the goals and actions they agreed to at the 2010 ICAO assembly. These include a voluntary target to cap net carbon emissions by 2020, national action plans, improving air traffic management, and an emissions standard for aircraft, the meeting chairman's summary said. There was also broad agreement that they would continue to develop market-based measures to curb emissions, the senior official said.

But he said work on the feasibility and on implementing an international emissions trading or carbon offsetting system would take "a substantial period of time". "I don't have any basis for projecting whether there will be any agreement by the time of the 2013 assembly," the official said, referring to the body's next meeting of all 190 members late next year.

The European Commission has repeatedly said it is keen for ICAO to devise a global scheme to curb rising levels of airlines emissions and it only introduced its law because years of ICAO talks had been unproductive. "Noteworthy that there was no agreed statement from the meeting and nothing new on substance. Good that parties promise to engage in ICAO - the EU has done so for years. But will they engage more? How will they make ICAO deliver? Still many unanswered key questions," said Climate Commissioner Connie Hedegaard.

"We welcome that the participants of the Washington meeting expressed their commitment for concrete action and progress at the ICAO, but what we need is to see this materialize in practice. What we need are actions not words," Commission spokesman John Clancy told reporters in Brussels.

Many environmental campaigners are skeptical about the ability of the ICAO to deliver an effective global alternative and were highly critical of proposed blocking legislation recently by a US senate committee. EU Parliament Environment Committee Chairman Matthias Groote said the Senate bill was a distraction and could impede progress on a global ICAO framework. "The US bill to allow their airlines to flaunt (sic) EU legislation is disrespectful and counterproductive,"
he said in a statement. "The EU and the US fully agree that an agreement within ICAO is the best solution, so let's work in this direction in good faith."

73. Union Pacific Tests New Diesel Emissions Technology

The Union Pacific Railroad is investing $20 million to test new technology designed to reduce emissions from diesel powered freight locomotives in California. A series of twenty five experimental locomotives will be based in two Union Pacific rail yards in California as part of a rigorous test of emissions-reducing technologies. The investment represents Union Pacific's latest effort to further reduce emissions and move closer to America's EPA's Tier 4 emission standards for new locomotives due to commence in 2015. The experimental engines are intermediate line-haul units, with an operating range of approximately 200 miles, and will be used exclusively in California. Mike Iden, Union Pacific general director, car and locomotive engineering said:

"The testing and analysis of these locomotives is part of an ongoing initiative at Union Pacific to develop and use technology in pursuit of emissions reductions. This effort is emblematic of our continued commitment to provide environmentally responsible freight transportation."

One locomotive in this series of twenty five will be based in Roseville to test the combined use of exhaust gas recirculation (EGR), diesel oxidation catalyst, and diesel particulate filtering. In testing the combined benefits of these three technologies on one freight locomotive, this Union Pacific unit is the closest an Electro-Motive Diesel (EMD) locomotive has come to achieving Tier 4 standards. The move toward Tier 4 is made up of a 45% reduction in the oxides of nitrogen emissions compared to current Tier 2 standards and an 85% reduction in particulate matter emissions based on preliminary analysis. Union Pacific and the California Air Resources Board will jointly analyze the emissions reductions capability of this locomotive over the next eighteen months.

Nine of the experimental units fitted with the EGR technology are based in the Colton, California area and will be tested through operations in the southern California region. The remaining 15 experimental units will work out of Roseville for operations in northern California. These locomotives have the capability to be retrofitted with EGR and other emissions reduction technologies as testing progresses. The Proposition 1B – Goods Movement Emission Reduction Program is partially funding this set of locomotives. Testing on all 25 locomotives is scheduled to last through 2014.
In partnering with EMD to develop these experimental locomotives, Union Pacific continues working to upgrade and improve the fuel-efficiency of its locomotive fleet. Since 2000, Union Pacific has invested approximately $6.56 billion to purchase locomotives that meet the EPA's updated emissions guidelines and an additional $200 million to upgrade older locomotives in the fleet to reduce emissions and increase fuel efficiency. That's nearly 3,800 new, fuel-efficient locomotives in all. These purchases allow Union Pacific to retire older, less-efficient locomotives, thus improving overall fleet fuel economy and reducing Union Pacific's emissions rate.

UP 9900, an “SD59MX,” is the signature unit in the series of 25 locomotives, developed jointly with Electro-Motive Diesel, that UP will use in the test to create the space needed to install aftertreatment technology in the body of the locomotive, engineers reduced the engine size of a long-haul locomotive. UP 9900 is a repower of an SD60, and uses a 12-cylinder, 3,200-hp EMD 710 prime-mover rather than a 16-cylinder, 3,800-hp 710.

74. GE Says It Is First To Meet 2015 U.S. Rail Emission Rules

General Electric Co plans to unveil a new generation of railroad locomotive that will meet strict U.S. emission standards set to take effect in 2015. The new Evolution locomotive arguably keeps the largest U.S. conglomerate a step ahead of rival Caterpillar Inc.’s Electro-Motive Diesel train unit and will allow railroads to meet emission standards without adding another fluid to the list of chemicals needed to maintain trains, GE officials contend.

The locomotive aims to meet the U.S. Environmental Protection Agency standard that will require a 76 percent reduction in diesel engines’ emissions of nitrogen oxide as well as limiting particle emissions, without using the additive urea. In going without urea, GE is using a different technology than makers of heavy trucks have chosen. Navistar International Corp last month backed off from its effort to develop a compliant urea-free engine after extensive delays in its efforts to win EPA approval, saying it would begin buying engines made by Cummins Inc that use urea -- the same technology its rivals have adopted.

GE officials said they are confident their locomotive will meet the new emission standards -- a critical step to keep the company's fastest-growing division on track. Through the first six months of 2012, profits at the rail division rose 53 percent to $514 million on a 33 percent rise in sales to $2.84 billion.

"We've spent a lot of time with the EPA as we've gone through this," said Lorenzo Simonelli, CEO of GE's Transportation arm, which makes locomotives. "We're very confident that with our global research center, with the amount of testing we've done, that we've got a solution that works." The company has invested $600 million in the locomotive.

GE's approach works by carefully managing the engine's temperature -- hitting a point hot enough to limit the amount of nitrogen oxide produced by burning diesel fuel but not getting so hot to cause a dramatic rise in output of carbon dioxide, a greenhouse gas linked to climate change.

Finding a way to meet the standards without using urea was a higher priority for railroads than truckers, said Rob McKeel, general manager of GE's global locomotive operations. "Our customers didn't want to go that way because of the infrastructure investment that would be required for such a fixed network. They can't do like trucks and just turn left," into a service station if it needs urea, McKeel said.
The engines GE has tested in labs so far have all met the EPA's numeric targets, McKeel said. The company will not submit a locomotive for EPA approval until it has tested them in actual use -- a step it plans to take over the next two years, as it plans to ship 30 locomotives to the largest U.S. railroads to test in a variety of load and climactic conditions.

While the company has not yet secured commitments, it aims to conduct tests with all the largest U.S. railroads, McKeel said. That group includes Union Pacific Corp, CSX Corp and Norfolk Southern.

**75. ICAO Committee Agrees Aircraft CO2 Metric**

A CO2 emissions metric for new aircraft was recently adopted by the environment committee of the International Civil Aviation Organization (ICAO), paving the way for a future emissions standard. The metric, which has been under discussion since 2010, is based on the fuel burned per unit of distance, divided by cabin area. It still has to be approved by the full ICAO membership at its next meeting in autumn 2013 and an emissions standard must be set.

ICAO already has limits for nitrogen oxides and noise. It says its CO2 standard will be based on technical feasibility, cost effectiveness and environmental benefit. The UN body is also developing a market-based mechanism to address the sector’s carbon footprint.

Some observers have criticized the metric as being too simplistic, arguing that it should instead be based on measures such as aerodynamic drag, engine design and empty weight; however these criteria may be commercially sensitive.

Bill Hemmings, aviation campaigner at green group T&E, said the metric was "not perfect, but not one that cannot work". He said the standard could increase the rate at which fuel efficiency in the aviation industry is improving, which has tailed off in recent years.

**76. Shipping Industry Backs CO2 Emissions Fund**

Making payments into an EU fund to help develop more energy-efficient maritime technology would be the best regional option for reducing ships’ CO2 emissions, industry associations have told the European Commission. But the trade bodies would prefer the EU to wait for international action under the International Maritime Organization (IMO).

The commission consulted on a range of measures earlier this year, including emissions trading, a tax and binding ship-based targets, after the IMO failed to meet its deadline for an international deal.

Responses from the European Community Shipowners’ Associations (ECSA), the Baltic and International Maritime Council (BIMCO), the Norwegian Shipowners' Association (NSA) and the European Sea Ports Organization (ESPO) all oppose the inclusion of shipping in the EU emissions trading scheme (ETS).

A similar measure for aviation has proved controversial, they point out, and ECSA warns emissions could increase if ship owners reroute sailings to avoid the scheme.

Although opposed to any regional initiative, the organizations are more inclined towards a 'compensation fund' under IMO control.
Bill Hemmings of green group T&E suggests payments into the fund could be linked to exceeding a set speed. This mechanism, which has also some international support, would avoid competitive distortions and be simple to police, he said.

A summary of consultation responses is due in the autumn followed by a legislative proposal from the commission around the end of the year.

**77. Report Concludes Global CO2 Emissions Rose 3 Percent In 2011**

Global carbon dioxide emissions rose 3 percent to 34 billion tons in 2011, according to a new EU report, undermining a U.N. goal to limit the rise in global average temperatures to 2°C above industrial levels by 2050. According to the report, Trends in Global CO2 Emissions: 2012 Report, published recently by the European Commission's Joint Research Centre (JRC) and the Netherlands Environmental Assessment Agency, nations cannot emit more than 1,500 trillion tons of CO2 between 2000 and 2050 to meet the threshold recommended by a U.N. scientific panel. "If the current global trend of increasing CO2 emissions continues, cumulative emissions will surpass this limit within the next two decades," the JRC said in a statement.

The study said 420 million metric tons (463 million tons) have already been pumped into the atmosphere since the turn of the century.

According to the report, China's emissions rose last year by 800 million tons of CO2 to 9.7 billion tons, an increase of 9 percent. Meanwhile, U.S. emissions fell by 110 million tons, or 2 percent, to 5.42 billion tons of CO2. China surpassed the U.S. as the world's biggest emitter of carbon dioxide in 2009, and now represents 29 percent of global emissions versus 16 percent for the U.S., the report said.

The EU accounts for 11 percent, India 6 percent, Russia 5 percent and Japan 4 percent.

Soaring emissions in China, the world's second biggest economy, means the country's per capita emissions now have reached 7.2 tons, higher than EU nations such as France, Italy and Spain.

Beijing has set itself a target of reducing its CO2 emissions per unit of GDP by 40-45 percent from 2005 levels by 2020, but its rapid economic growth means the country's emissions continue to skyrocket in absolute terms.

However, Australia remains the world's biggest emitter of CO2 emissions per capita among major nations at 19 tons, followed by the U.S. at 17.3 tons and Saudi Arabia at 16.5.

The report's figures are "preliminary estimates" derived from data from the Emission Database for Global Atmospheric Research (EDGAR), a project started in 1992 by Dutch government agencies and later involving the EU Joint Research Center.

According to the report, the main causes of increased emissions were Chinese "building construction and expansion of infrastructure, as indicated by the growth in cement and steel production." Increased Chinese energy demand meant that both its domestic consumption and imports of coal increased by about 10 percent, the report said.
There has been dramatic change since 1990, when China generated 11 percent of global emissions and the United States generated 22 percent, the report showed.

78. NOAA Finds La Niña Impacts as Dominant Complication for 2011 Climate

The Pacific Ocean temperature oscillation known as La Niña helped make 2011 the coolest year on average globally since 2008, according to the National Oceanic and Atmospheric Administration. Even so, the temperature average for 2011 remained above the 30-year average, NOAA said in its 2011 State of the Climate report, released on July 10th.

The annual NOAA report described a strong La Niña at the start of 2011 that faded and redeveloped to constitute back-to-back La Niñas that helped cool the eastern Pacific and contributed to temperature and rainfall variables elsewhere.

The year included droughts in East Africa, the southern United States, and northern Mexico, and exceptionally wet weather in Australia. NOAA cited a number of extreme weather events but cautioned against connecting them to climate change, noting, “Determining the causes of extreme events remains difficult.”

Unusually high temperatures affected most land areas, especially Russia, while unusually low temperatures were recorded in parts of Australia, the northwestern United States, and central and southeastern Asia.

Ocean heat content, measured from the surface to 2,300 feet deep, rose to a record high in 2011. La Niña cools surface waters, not the whole body of water.

Concentrations of greenhouse gases, including carbon dioxide, methane, and nitrous oxide, continued to rise in 2011, according to the NOAA report. Carbon dioxide exceeded 390 parts per million (slightly less than four one-hundredths of 1 percent) in the atmosphere at Earth’s surface for the first time since instrumental records began. The carbon dioxide increase was slightly larger than the 10-year average increase.

NOAA said carbon dioxide emissions from fossil fuel combustion and cement production decreased only 1.4 percent in the wake of the 2008 global financial crisis. In 2010, those emissions are estimated to have increased by 5.9 percent over 2009, mostly as a result of Chinese emission growth, NOAA said.

The combined effect of the concentrations of various greenhouse gases amounted to a 30 percent increase in “radiative forcing” over a 1990 baseline, the report said. “Radiative forcing” refers to the estimated influence that something may have on Earth’s energy balance.

Arctic sea ice shrank during the summer to its second smallest extent on record. Overall, glaciers around the world continued to lose mass.