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1. **Test Loopholes Take Gloss off Europe's Cleaner Cars**

New cars sold in the European Union were four percent cleaner in 2013 than the previous year, data from the European Environment Agency (EEA) showed, although environmental campaigners said the improvement was exaggerated. The decline in carbon dioxide emissions from cars to an average of 127 grams per kilometer (g/km) means car-makers easily achieved the European Union target of cutting emissions to 130 g/km two years ahead of a 2015 deadline. Set in 2008, that target was Europe's first legally-binding cars CO2 standard. It was cut further late last year, after months of haggling, to 95 g/km by 2021.

However, Commission research has shown EU car manufactures have exploited test loopholes to make their cars seem more fuel efficient than they are in real-world driving conditions. Techniques such as using tires with extra traction or driving on an unrealistically smooth road surface could account for about a third of the recorded drop in average carbon dioxide (CO2) emissions across the European Union between 2002 and 2010, the research found.

Industry has repeatedly resisted more rigorous goals, which require it to invest in fuel-efficiency technology to cut emissions blamed for pollution and health problems as well as climate change. The 2021 deadline was a year later than the European Commission, the EU executive, had proposed after Germany, home to makers of luxury cars, such as Daimler and BMW, led the calls for more time.

For 2013, the EEA’s figures showed average emissions across the EU fleet were 127 g/km compared with 132.2g/km in 2012, but it also said rising traffic volumes will mean cleaner cars are only part of the answer. Overall transport emissions rose by about 17.2 percent between 1990 and 2012 and they account for about one fifth of the EU’s total CO2 emissions, the EEA said.

The numbers are provisional because although the collective target has been met, inspectors have not yet checked whether individual carmakers have met their individual goals. Final figures for 2012 released last year were less than 0.01 g different from the provisional ones.

2. **EU Policymakers Inch Towards Regulating Truck Emissions**

On May 21st, the European Commission said it would publish in 2015 legislative proposals to require the manufacturers of trucks, buses and other heavy-duty vehicles sold in the European Union to measure and report fuel consumption and carbon dioxide emissions data. In a strategy paper on reducing the fuel consumption and emissions of heavy-duty vehicles, the commission said that unlike cars and vans, the emissions of trucks and buses in the EU “are not measured in a standardized way.”

This is in contrast to Canada, Japan and the U.S., where measures to curb heavy-duty vehicle carbon dioxide emissions have been introduced. An EU-level measure was therefore “important for EU competitiveness,” the commission paper said.

As part of wider efforts to cut the need for imported energy, especially from Russia, the European Commission is seeking to improve energy efficiency across all sectors. It has introduced carbon
dioxide limits, based on improved fuel efficiency for cars and vans, but emissions from what the Commission refers to as heavy-duty vehicles are unregulated.

EU nations have agreed to reduce emissions from new cars to 95 grams of carbon dioxide per kilometer (g/km) by 2021, down from around 127 g/km in 2013, but emissions from heavy-duty vehicles (HDVs) have been rising. The numbers are less exact than for cars, but the Commission estimates that overall HDV emissions rose by 36 percent between 1990 and 2010.

It said heavy trucks represent about a quarter of road transport emissions and 5 percent of total EU greenhouse gas emissions.

The EU has been a world leader in car emissions standards, but on trucks campaigners say it risks lagging the United States, which has begun to introduce fuel efficiency standards for the sector.

The commission paper said that specific carbon dioxide limits could be eventually considered for heavy-duty vehicles, but first data needed to be generated to close the “knowledge gap” on fuel economy and emissions of different truck and bus makes and models. The commission did not say when further measures based on the collected data might be considered.

The legislation to be proposed in 2015 would require EU member state authorities to certify the fuel consumption and carbon dioxide emissions of heavy-duty vehicle models when they are approved for the EU market, and to report this information to the commission.

The European Automobile Manufacturers’ Association, which includes among its members commercial vehicle manufacturers such as DAF, Daimler Trucks and Scania, said in a statement May 21 that it welcomed the commission's approach because it would result in comparable data on heavy-duty vehicle fuel economy.


A number of Asian automakers will need to significantly improve the fuel economy of their vehicles if they are to comply with a European Union cap on carbon dioxide emissions from private cars, which starts to apply in 2020, the nonprofit advocacy group Transport & Environment (T&E) said on May 27th. After analyzing provisional emissions data provided by the European Environment Agency, T&E said that based on current rates of progress, Suzuki would meet mandatory EU standards in 2023, Hyundai and Mazda would comply in 2025, and Honda would not meet the standard until 2027.

Under an EU regulation formally adopted in March, automakers are required to cut the emissions on average of passenger cars sold in the EU to 95 grams per kilometer (g/km, 152 grams per mile), compared to a limit of 135 g/km that started to be phased in from 2012 and must be achieved by all new cars on average by 2015.

The 95 g/km average limit applies from 2020, when 95 percent of new passenger cars must comply. In 2021, all new passenger cars must comply. Under the regulation, failure to comply could trigger an “excess emissions premium” of 95 euros ($129.50) per g/km per vehicle above the limit.
T&E said that EU manufacturers Fiat and BMW also needed to improve their cars’ fuel economy more rapidly, or they would only meet the 95 g/km target in 2022 and 2024 respectively. Daimler, Ford, Peugeot-Citroen, Renault, Toyota and Volvo would likely comply early, and Nissan and Volkswagen are on schedule to meet the targets in 2020 and 2021, T&E said.

Greg Archer, T&E clean vehicles manager, said in a statement on May 27th that the report showed that “most European carmakers are well positioned to hit their CO2 targets,” and “industry claims to the contrary have just been scaremongering.”

No automaker has so far been fined for breaching the mandatory limit of 135 g/km, which in 2012, 65 percent of new cars on average were required to meet.


Germany ordered 61 aircraft operators from countries including Russia and the U.S. to pay fines for breaching European Union emissions trading rules. The penalties are the first since the EU in 2012 included aviation in its carbon dioxide market, the world’s largest, drawing protests from the U.S. and emerging countries. The Emissions Trading System (ETS) allows sanctions at the EU level and by individual governments for actions including failure to submit emissions permits to cover greenhouse gas discharges.

German regulators sent sanction letters, which order the recipients to pay fines, to 17 operators in Germany and 44 in other countries in and outside of Europe for not observing ETS rules in 2012, a spokesperson for emissions trading at the German environment agency said on April 29th. Total penalties amount to 2.7 million euros ($3.7 million), said the spokesperson; German officials declined to name the recipients of the sanction letters.

Emitters that fail to surrender the required number of permits face fines of 100 euros per metric ton of carbon dioxide under EU law. Member countries can also impose further penalties.

Germany is responsible for overseeing about 500 aircraft operators under the ETS, including international airlines such as Delta Air Lines Inc., Air China Ltd. and Russia's OAO Aeroflot, as well as companies or individuals who own an aircraft. Operators have one month to object to the sanction notices, according to the agency.

In the U.K., officials said there are no formal deadlines for the issuing of civil penalties in emissions cases.

The inclusion of aviation in the EU cap-and-trade program sparked opposition from countries including the U.S., India, China, Russia and Brazil, which said any curbs on discharges from airlines should be regulated by an international agreement. The EU subsequently agreed to freeze emissions trading obligations for flights into and out of Europe and keep them only on flights within the bloc in 2012. The program originally covered the entire length of flights originating or ending at EU airports.

In April, the EU prolonged the exemption and decided to spare carriers ranging from U.S. Airways to Air India Ltd. the need to pay for emissions from foreign flights for an extra four years, through 2016.
Carriers in the ETS are given free emission permits making up 85 percent of the industry cap and have to buy the remaining 15 percent at auctions.

5. **Russian Refiners to Produce Higher Quality Fuel Amid Push to Cut Transport Emissions**

Russia has struck agreements with oil refiners to enable production of higher-quality, cleaner automotive fuel, which federal and local officials see as a key to cutting urban air pollution. The increased domestic production of less-polluting Euro 4-grade and Euro 5-grade fuel will allow standards requiring the use of such fuel and phasing out of lower quality fuels to go into force at the beginning of next year, according to the head of the Federal Service for Environmental, Technological and Nuclear Supervision, or Rostekhnadzor.

The effective date of the standards has been repeatedly pushed back, with officials citing the lack of availability of the higher standard fuels.

The agency has completed agreements with 18 vertically integrated oil companies and independent refineries that requires them to modernize their equipment to produce Euro 4 and Euro 5 fuels by a certain deadline, Rostekhnadzor's Aleksey Alyoshin said in a video statement on June 10th. The agreements include the upgrading of 34 refineries and construction or reconstruction of nearly 170 facilities of various types.

The move comes as federal and local officials are pushing to reduce vehicle emissions, with a focus on urban areas where the majority of air pollution comes from motor vehicles.

Up to 90 percent of air pollution in Moscow is blamed on vehicle emissions, according to the city's mayor. Moscow is making some headway in reducing traffic emissions, recently recording the first ever drop in carbon monoxide emissions, the mayor announced June 5. However, air pollution in the capital continues to exceed health standards.

The city has implemented a range of policies to reduce vehicle emissions, including banning the sale of fuel of lower than Euro 4 quality inside city limits. The city also closed some of its roads to trucks using low quality fuel in a policy enacted last year. New policies are expected to bring down emissions further. Beginning September 1, 2015, any older truck with a motor of less than Euro 2 class will be banned from using the main highway surrounding the city.

The Russian government also approved this month a new transport plan through 2020 that aims at reducing congestion and expanding low emissions transport, including the construction of 130 kilometers of metro lines and hundreds of electric vehicle charging stations.

The Ministry of Natural Resources and Environment is working to create a scheme to label vehicles according to the amount of air pollutants and carbon dioxide they emit. The scheme would mirror an ecolabeling program used in some European countries, the minister said in an interview on June 5th. High emissions vehicles would face higher tax payments and possible bans from entering urban areas at certain times. A pilot project is planned for Moscow.

6. **Low-Sulfur Rules will Cost £300 Million per Year, UK Shippers Say**

The extra costs of complying with new emissions rules that take effect at the start of 2015 will come to £300 million ($510 million) per year, UK shipping industry players warned in a letter to
The Telegraph. The 19 signers, including UK Chamber of Shipping President Marcus Bowman and the heads of companies including Carnival UK, CMA-CGM, and Brittany Ferries, argue that new technology that could save them from switching to expensive low-sulfur fuel "is only just ready" and "could take two years to fit to all our ships."

The companies are seeking flexibility in the European Union (EU)'s enforcement of the rules during a transition period.

The signers warn that switching to low-sulfur fuel could cost as many as 2,000 British jobs and result in cargo switching to road routes, leading to more carbon dioxide (CO2) emissions.

"We urge the Government to take action to prevent these damaging consequences by insisting that the EU allow pragmatic transitional arrangements, and support measures designed to lessen the economic impact on customers and operators," the letter says.

UK transport minister Stephen Hammond said this week that he was disappointed that the industry says it cannot adapt to the new rules by next year, given that the UK Chamber of Shipping agreed to the timetable in 2008.

Ships are typically powered by heavy fuel oil or bunker oil, both of which produce harmful pollutants such as sulfur dioxide which can cause respiratory and heart problems. Such fuels contain 2.5 to 3 percent sulfur on average, which is up to 3,000 times the sulfur content of road fuel in Europe. Under EU rules from January 1, 2015, all ships operating in the North Sea, Baltic Sea and English Channel will have to use a fuel with a maximum sulfur content of 0.1 percent.

Ship owners can comply by changing fuels, such as to low-sulfur marine gasoil, which can cost four times as much as high-sulfur bunker fuel. Or they can use bunker fuel and fit a "scrubber", a technology that filters out pollutant gases before they are released into the atmosphere. Another option is to use liquefied natural gas (LNG), but ships would need expensive retrofitting, and there is not yet a reliable supply chain in place for LNG.

"Neither of these options (scrubbers and LNG) can easily be deployed by January 2015," the International Energy Agency said this week.

Many shipping firms have complained about the costs of meeting the regulation, saying it will damage competitiveness and lead to job losses. All ships worldwide, however, will be subject to a limit of 0.5 percent sulfur content in fuels by 2020 under rules by the International Maritime Organization, which are still subject to a feasibility review.

Maersk Line [APMOLM.UL], the world's biggest ship container group, said switching to low-sulfur fuel under the EU rules will cost it an extra $200 million a year. P&O Ferries' fuel bill will rise by 30 million pounds ($50 million) a year, which it said it would pass onto customers. "On longer routes fares will need to rise more than on shorter ones to cover the greater increase in fuel costs," P&O Ferries Chief Executive Helen Debbie wrote in a letter to staff, which was seen by Reuters.

There is also the risk that some firms will find it cheaper to pay fines for not complying with the limits than pay upfront capital costs to change fuels or fit technology. "The potential for not following the regulations is there, because you can save a lot of money. It is so significant that over time companies in compliance may not even be able to compete with companies who are not in compliance," said Mads Stensen, global adviser on sustainability at Maersk Line.
Britain-based ferry group Red Funnel has been using low-sulfur fuel for 18 years, however, and a spokeswoman said the company has maintained its competitiveness through efficiency improvements.

Apart from the costs, there is also a lack of clarity about how enforcement will work. Each EU member state is responsible for deciding its own methods of enforcement including penalties, according to the European Commission. Industry sources say many countries have yet to decide on the level of fines, how to monitor the sulfur content of fuel or how often to check ships.

A spokeswoman at Britain's transport ministry said the government was still in consultations on the new sulfur regime. "Repeat offenders could potentially be subject to penalties other than fines, including the detention of their vessels until such time as compliant fuel was supplied," she said.

Britain's shipping minister, Stephen Hammond, said the government was trying to secure EU finance to compensate ship owners and ports for the higher fuel costs.

European ship owners have called on member states and the European Commission to clarify the legality of using some emissions-reduction technologies to comply with lower sulfur emissions limits. The European Community Shipowners’ Association (ECSA) says there is a legal grey area around the use of scrubbers, which remove sulfur from exhaust fumes using water. The waste water is dumped in the sea, but such discharges are banned in some ports.

Member states and the Commission are discussing the issue in a working group, with a decision reportedly due soon.

T&E says ship owners have had a long time to prepare as member states agreed to the 1 January deadline at the International Maritime Organization (IMO) in 2008, while the EU directive implementing the decision was agreed in 2012. Member states were required to transpose the directive into national law by last week.

"It's not just a European or a UK law, it's an international law. The US and Canada will be enforcing it in their sulfur emissions control area on 1 January," noted Bill Hemmings of T&E.

Member states are allowed to subsidize companies to upgrade their ships or to buy new ones, but the Commission says only Finland has established such a state aid scheme. EU state aid rules mean grants can only be made until the new standards enter force in January.

7. French Ministry Proposes Cheaper Alternative to ‘Eco-Tax’ on Big Trucks

France’s minister of ecology, sustainable development and energy has presented what she described as a more affordable alternative to the controversial kilometer-based “eco-tax” on trucks that the government suspended in October 2013. Passed by Parliament in 2010, the national eco-tax was supposed to be assessed on French and foreign large trucks using French national and local roads, excluding toll roads run by concessions, and was aimed at reducing carbon dioxide emissions from transportation by pushing companies to use cleaner means, such as rail or river freight.
According to France Nature Environment (FNE), France’s biggest network of environmental associations, road transport accounted for 95.2 percent of French transport-related carbon dioxide emissions in 2010, compared with 0.4 percent for rail and 0.9 percent for river transport. FNE and other environmental groups have championed the eco-tax as a key polluter-payer mechanism.

However, business, truckers and other groups have argued the tax would hurt the French economy by raising transport costs. The eco-tax has never been implemented, and a parliamentary working group in May called for it to be modified. The new “user payer” proposal, to be implemented as part of the 2014 revised budget act, would apply to about 4,000 kilometers of roads, as opposed to 15,000 km for the eco-tax, the minister, Segolene Royal said in a June 25th statement following the government’s weekly council of ministers meeting. Whereas the eco-tax was to have an average rate of 12 euro cents (16.3 cents) per kilometer, the new toll will apply at an average 13 euro cents (17.6 cents) per km rate, based on pollution level and number of axles. However, Royal did not specify how “pollution level” will be calculated.

Although the new levy will, like the eco-tax, apply to trucks exceeding 3.5 metric tons, it will focus on trucks coming from outside France. For example, it includes exemptions for farmers’ vehicles and other local transport.

In all, the toll proposal will increase national and inter-regional transport costs about 2 percent, compared with 5.2 percent for the eco-tax, Royal said. “This new measure will make large intra-European transit contribute to financing [French] infrastructure without increasing costs on local distribution,” said the minister.

Assuming Parliament passes the replacement measure, it would begin operating partially October 1st and full-scale on January 1, 2015, she said.

Royal said much of the proceeds from the new proposal will, as was planned for the eco-tax, go to help fund alternative transport infrastructure investments and public transportation. However, the new measure will only bring in about 550 million euros ($748 million), compared with the 1.2 billion euros ($1.63 billion) expected from the eco-tax, she said. The government is considering supplementary measures to allow it to meet funding commitments for alternative transport projects already under way, Royal said.

Last year, the government decided to drop the plan and go back to the drawing board following protests from farmers and elected officials in the western region of Brittany. The protesters were worried about the tax’s impact on the agro-food sector. The then prime minister Jean-Marc Ayrault agreed that this sector “deserved special attention” given the economic difficulties it was experiencing. As a result, Brittany has been excluded from the new tax.

Road transport groups such as FNTR criticized the measure despite the concessions made by the government. In a statement, it said the decision to maintain the tax was going against current policies to improve the competitiveness of French companies.

8. Spain Approves Additional Subsidies for Low-Emission Vehicles under PIVE-6 Plan
The Spanish government has approved a new round of subsidies for vehicles with lower emissions under the Efficient Vehicle Incentives Program (PIVE-6), a move it says will help cut carbon dioxide emissions. “This program will achieve the substitution of 175,000 vehicles, which will mean a savings of 60 million liters of fuel annually,” said Vice President Soraya Sáenz de Santamaría following approval of renewed funding June 20 in Madrid.

According to Sáenz de Santamaría, the government's approval of 175 million euros ($238 million) in additional subsidies aims to avoid running out of funds and interrupting the momentum of what the government considers to be a successful program. Without Royal Decree-Law 7/2014, which approved new funding effective June 21, the program's funds would have run out on July 4, she said.

As with the PIVE-5 plan, vehicle owners who decommission a vehicle may apply for a government subsidy of 1,000 euros ($1,359) and matching retailer discount of at least that amount toward the purchase of a newer, more fuel-efficient vehicle. The offer is meant to remove from circulation cars of more than 10 years old and light commercial vehicles and trucks more than seven years old.

These subsidies will be incompatible with previous PIVE plans, though they will be compatible with other subsidies for electric vehicles.

While the plan is fundamentally the same as the older one, this time around participating dealerships will be required to provide consumers with information on fuel-efficient driving, and the consumer will be required to present a copy of a receipt for payment of the circulation tax for the vehicle to be scrapped.

The Spanish Association of Car and Truck Manufacturers (ANFAC), which represents a wide range of international automakers such as Toyota Motor Corp., Volkswagen AG and General Motors Corp., praised the government's continued economic stimulus for “the country's second most important industry,” a move it said would avoid the emission of 270 million metric tons of carbon dioxide under the new plan.


Greenhouse gas emissions from sectors outside the EU’s emissions trading scheme (ETS) in Poland are likely to increase by 10-20% by 2030, according to a report from the Warsaw Institute for Economic Studies (WISE). The prediction is in sharp contrast with the 12% reduction that a recent government-backed analysis said Poland would have to achieve to meet target proposed by the European Commission in its climate and energy package.

In January, the Commission proposed to cut emissions by 40% by 2030, which involves a 43% cut for industries taking part in the ETS and a 30% reduction in non-ETS sectors such as transport and agriculture, relative to 2005 levels.

The increase in emissions from Polish non-ETS sectors will largely depend on changes in domestic transport policy and EU-wide efforts to improve fuel consumption in cars, the authors of the WISE report stress. There is also some scope for reducing emissions from agriculture and the waste management sector, they add.

Under the EU’s effort sharing decision from 2009, Poland is allowed to increase its non-ETS emissions by 14% from 2005 levels.
Overall, Poland could reduce its emissions by about 25% by 2030, relative to 1990 levels, the WISE report estimates. The energy sector, which is the biggest emitter in the ETS sector should be able to achieve a 40-45% reduction.

The report was released ahead of discussions on the 2030 climate and energy package between EU leaders during a summit in Brussels.

10. Poor Air Quality Killing 500 Sheffield City Residents A Year

It is killing hundreds of people in Sheffield every year, with annual health costs of £160 million. But tackling the city's unsafe levels of deadly air pollution effectively means some tough calls for decision makers in Sheffield. The city was named earlier this year by the World Health Organization as being among nine urban areas in the UK which are breaching safe levels of air quality.

Coun Jack Scott, Sheffield Council cabinet member for environment, said the authority is doing all it can to tackle the problem – but added changes in people's behavior are needed to change the city's air quality problems.

It comes as the issue of air pollution plays a part in two major planning decisions. Campaigners against the potential new Ikea in Sheffield have warned its creation could add to the already 'atrocious' air quality in Tinsley, where it is planned the new site would be based. And those fighting against the building of a new motorway service station on 20 acres of ancient woodland at Smyth Wood near Chapeltown have listed the potential for the site to further damage air quality in South Yorkshire as one of their reasons for objection.

Neil Parry, from the East End Quality of Life Initiative, said air pollution has serious health consequences for people exposed to it. “It is not just about the deaths, it is the ill health that is caused,” he said. “This needs to be taken seriously and it is good the WHO is saying these things. It increases pressure to take some action.”

He said people need to be encouraged to use vehicles less and to change their behavior.

Coun Scott said funding has been secured for a public information campaign that will start this autumn and encourage people to use cars less in a bid to reduce air pollution levels.

The council published an Air Quality Action Plan last year setting out a range of initiatives to tackle the issue. It said poor air quality is causing an estimated 500 premature deaths a year in Sheffield, with annual health costs of around £160 million. The report added poor air quality results in increased admissions to hospitals.

The action plan includes proposals such as controlling industrial emissions, mitigating the impact of the M1 by pushing for a speed limit reduction along the road as it passes by Sheffield, and looking into the possibility of introducing a city center ‘Low Emission Zone’ similar to one operating in London.

The council’s air quality action plan suggested a feasibility study should be carried out into whether the policy would work in Sheffield.
Coun Scott said he believes the Government is ‘listening’ on reducing speed limits on the M1, with the council calling for vehicles to be limited to 50mph.

Coun Scott said buses in the city are among the ‘cleanest and most efficient in the country’. But he added more needs to be done about encouraging the use of more environmentally-friendly taxis and HGVs.

Sheffield Council’s director of public health has warned the potential new Ikea store could lead to more premature deaths in Sheffield through increased air pollution. Dr Jeremy Wight said the store will cause ‘negative health effects’ because of the impact on air quality through extra car journeys.

**11. Member States Urged To Show Ambition on Air Pollution Control**

The European Commission will see if the proposed national air emission caps for 2030 can be achieved in a more flexible way, Janez Potočnik told EU environment ministers. But the commissioner urged them to keep the wider EU picture and goals agreed under the seventh environmental action plan in mind, and not to force a “race to the bottom” by focusing on securing lower emission caps for themselves.

“Every weakening of one member state’s obligations causes a transboundary problem for the others,” he said. “I have heard from many of you what you don’t want. Very rarely you have added what you propose instead,” he remarked later in the meeting.

Fears about the costs of the proposal, which would extend the existing National Emissions Ceiling Directive (NECD), are also unjustified, said Mr. Potočnik. He reminded ministers that the wider air quality package put forward by the Commission in December should bring benefits 12 to 40 times its predicted costs, and said there could be further gains from selling clean technologies overseas.

The Commission admits some corrections need to be made to the NECD proposal and it will do this in time for the next meeting of member state diplomats.

Despite Mr. Potočnik’s comments, ministers continued to express their fears about the new caps. Bulgaria, Hungary and Romania said none should be set at all for now. The ammonia and methane goals, which will affect agriculture, are particular concerns. Some member states are also worried about transboundary pollution from other less tightly regulated regions and the impact of transiting cars and lorries.

Discussions on emissions limits for medium-sized combustion plants, the other key element of the air quality package, are more advanced. Many agreed that standardized rules are needed in this area but there was widespread support for more differentiation in the rules to make them less burdensome for smaller installations. Some countries, including France, said plants with thermal inputs below 5MW should be dropped from the proposals but Belgium and Sweden opposed this. Belgium stressed they were a source of pollution and removing them risks creating a loophole.

Ireland and the Czech Republic went further, suggesting plants below 1MW that are not covered by the ecodesign directive should also be included in the proposals.

A number of member states said they would like to see an additional monitoring requirement or standard introduced for carbon monoxide emissions.
12. Member States Split Over CO2 from Transport

EU environment ministers put forward divergent views on emission reductions in the transport sector during discussions on the proposed post-2020 climate and energy policy package at a recent meeting in Luxembourg.

Sweden and Finland said there was major potential to cut emissions from transport, while Spain said it was the sector with the “greatest potential”. The Netherlands said the existing CO2 reduction target for cars should be continued and strengthened, while the “removal of the CO2 objective [set out in the] fuels directive is a move in the wrong direction that should be reversed”.

But car-dependent countries including Lithuania, Latvia, Malta and Bulgaria said it would be difficult or costly to do more on transport.

Slovenia said it had to cope with a high amount of traffic passing through it from other countries which it had limited means to tackle. This meant it needed “special treatment... when setting national non-ETS targets”.

The debate showed eastern states speaking with one voice on many issues related to sharing out the burden of CO2 cuts. Czech Republic, Romania, Slovakia and Latvia, as well as France, said the current system of setting targets for sectors outside the emissions trading system (ETS) based on GDP per capita should be kept.

Slovakia, Bulgaria and Latvia said countries that have made the greatest emission cuts since 1990 should be rewarded with additional free allowances within the ETS.

Lithuania said EU funds should be used for supporting energy-intensive sectors in lower income member states. And Bulgaria said a “targeted allocation of resources” was needed for member states with the lowest GDP.

Other countries want the current approach to burden sharing revised. Ireland, which faces fines for missing its 2020 target, is very concerned about the current criteria for effort sharing and would find “any proposal to use same criteria hugely problematic”.

Both Ireland and Italy emphasized the financial constraints arising from their fiscal reform programs. Member states’ level of debt could be taken into account in setting national targets, or a carbon intensity approach could be taken, Italy suggested.

Hungary called for more flexibility in the non-ETS sectors, saying the limit on trading CO2 quotas should be scrapped and it should be possible to carry savings forward.

Poland called for the European Commission to provide more analysis of the planned CO2 target's economic impact on member states before the October meeting of heads of state governments where a decision may be made.

Both the Netherlands and UK called for more action to promote carbon capture and storage. The UK said it was important to help coal-dependent countries make the transition to lower emissions, adding this problem has been neglected so far.

13. New Study Quantifies the Effects of Climate Change in Europe
If no further action is taken and global temperature increases by 3.5°C, climate damages in the EU could amount to at least €190 billion, a net welfare loss of 1.8% of its current GDP. Several weather-related extremes could roughly double their average frequency. As a consequence, heat-related deaths could reach about 200,000.

The cost of river flood damages could exceed €10 billion and 8000 km2 of forest could burn in southern Europe. The number of people affected by droughts could increase by a factor of seven and coastal damage, due to sea-level rise, could more than triple. These economic assessments are based on scenarios where the climate expected by the end of the century (2080s) occurs in the current population and economic landscape.

These are just some of the findings of a new report by the JRC, which has analyzed the impacts of climate change in 9 different sectors: agriculture, river floods, coasts, tourism, energy, droughts, forest fires, transport infrastructure and human health. The report also includes a pilot study on habitat suitability of forest tree species.

14. Ultra Low Emission Vehicle Takeover "Will Require Incentives"

Conventionally-fuelled vehicles will be completely replaced by ultra low emission vehicles such as electric cars and fuel cell or natural gas-powered trucks by the middle of the century, according to new reports. The reports provide a roadmap for decarbonizing the UK's road transport sector, outlining how a range of alternative fuel technologies will have to be part of the solution if the sector is to deliver its necessary share of required national emissions reductions.

The reports were produced by consultancy Element Energy and were commissioned by the industry and the Government-backed Low Carbon Vehicle Project. They wanted to find out how the UK can meet its legally-binding target to source 10% of transport fuel from renewable sources by 2020, and how the use of alternative fuels will evolve after this. They come after MPs said they wanted to investigate how the Government can encourage a switch to alternative fuels.

The first report, Options and Recommendations to meet the RED transport target, concludes that Government incentives will be necessary to encourage the uptake of advanced biofuels or electric vehicles. The second, A fuel roadmap for the UK, details how carbon emission-free urban logistics will need to be in place by 2030 before the phasing out of conventionally-fuelled cars in cities before 2050.

15. Professor Roy Harrison: Lower Emissions Ceilings Are Not Enough

Air quality remains a very major public health issue, with the World Health Organization (WHO) recently estimating that one in eight global deaths is linked to air pollution.

Pollution by fine particles alone is associated with almost half a million premature deaths each year across the EU 27 and smog alerts in Paris and London earlier in the year highlighted the fact that poor air quality is not a thing of the past.

In December 2013, the European Commission published its plans for the development of EU air quality policy over the next couple of decades. These refer to a number of measures, some already in the pipeline, including better control of NOx from light-duty vehicles, new emissions limits for medium-sized combustion plants and abatement of ammonia emissions from agriculture.
The main proposals, however, relate to a tightening of the National Emissions Ceilings Directive (NECD), which sets national limits on emissions of a range of pollutants.

One immediate problem with this is that the percentage reductions required by 2020 and 2030 are calculated against a 2005 baseline, ignoring the considerable reductions already made.

The NECD is in any case a very blunt tool for improving air quality. The inventories used to track national emissions omit some important sources, for example dust resuspension from road vehicles.

They also contain a number of source categories that are notoriously difficult to quantify, such as wood burning, which appears to have been increasing recently in response to fuel poverty.

Perhaps the greatest weakness of the NECD approach is that it makes no distinction between emissions from high chimneys and those from ground-level sources.

One tonne of pollutant emitted from a ground-level source, such as domestic wood burning, has a far more detrimental impact on air quality than the same mass of pollutant emitted from a tall chimney. The NECD takes no account of this.

When it was revising the air quality package, the commission asked WHO to review the evidence on health impacts. The resulting Review of Evidence on Health Aspects of Air Pollution (REVIHAAP) recommended WHO ambient air quality guidelines were tightened for a number of pollutants.

The EU’s current air quality limit values, which provide mandatory standards for ambient air and are not being changed, are based on existing WHO guidelines, although some are markedly less stringent.

The conclusion of the REVIHAAP process is that a number of WHO guidelines, and by implication the EU limit values, need to be strengthened. The commission has wholly ignored WHO’s advice despite having commissioned it.

One of the NECD’s other weaknesses of the NECD is that it only deals with pollutants directly emitted to the atmosphere, known as primary pollutants.

A number of the pollutants that are most important from a public health perspective are either wholly (for example ozone) or substantially (fine particulates and NO2) formed within the atmosphere from chemical reactions involving primary pollutants.

Unfortunately, concentrations of these secondary pollutants do not respond proportionately to changes in primary pollutant emissions. Consequently the emissions reductions required by the NECD proposals may do little to control them. At worst, they may even be counter-productive.

An example of the latter is ozone which, due to its complex atmospheric chemistry, can increase in cities when urban NOx emissions from traffic are cut.

There is a significant risk that tighter controls on NOx emissions from ground-level sources will benefit urban nitrogen dioxide and rural ozone concentrations, but increase ozone levels in cities where most human exposure takes place.
For particulate matter, the dominant components are secondary nitrates and sulphates, which are notably insensitive to reductions in NOx and SO2 emissions.

The bottom line is that the measures proposed by the Commission will probably achieve rather little in relation to the pollutants that do most harm to health.

EU policymakers should consider strengthening the air quality limit values as well. This would guarantee a measurable improvement in pollutant levels that can be enforced through infraction proceedings in the areas where they cause most harm.

Combining this with the revisions to the NECD would do far more to improve public health than the current proposals.

16. EU Ministers Back Aerodynamic Truck Rule, Want Delay However

A proposal that trucks in the European Union be made more aerodynamic was endorsed by EU transport ministers on June 5th. The directive proposed by the European Commission would improve trucks’ fuel economy, reducing carbon dioxide emissions.

The ministers, however, disagreed on some points with the version passed by the European Parliament, in particular the proposal that the directive take effect immediately. The Parliament approved the proposal in April. The disagreement means that the adoption of the measure will be delayed because the EU Council, which represents the EU’s 28 member states, will have to negotiate with the European Parliament on the final form of the legislation.

The European Commission, the EU's executive arm, proposed in April 2013 a directive that would amend a 1996 law (Directive 96/53/EC) that sets out authorized dimensions and weights for heavy-goods vehicles. The amending directive would allow manufacturers to derogate from current standards—for example, to exceed maximum vehicle length to install rear flaps or to deviate from standard cab dimensions—to reduce wind resistance. According to some estimates, such changes could improve fuel economy by up to 10 percent.

The main point of disagreement between the EU Council and the European Parliament was when the requirement for more aerodynamic truck cabs should come into force.

Under the Parliament vote, vehicle makers would be able to start redesigning truck cabs as soon as the amending directive comes into force. However, the EU Council said that provisions should take effect eight years after the finalization of the directive.

William Todts, senior policy officer for green advocacy group Transport & Environment, said in a statement June 5 that the later introduction of more aerodynamic truck cabs would penalize manufacturers that want to introduce new models on the EU market and would benefit slower-moving companies.

"Extending today's ban on better cabs is a truly shameful decision because it puts the interests of a few manufacturers above those of everybody else," Todts said. “The Parliament must insist that better lorry cabs are allowed straight away.”

The European Automobile Manufacturers’ Association, which represents members, including truck makers DAF, Iveco and Scania, said in a statement June 5 that the time to introduce more
aerodynamic truck cabs “must reflect the complexity and expense of this exercise, bearing in mind that trucks are very complex to design and are also produced in small volumes.”

No date has been set for negotiations between the EU Council and European Parliament to finalize the amending directive. The European Parliament is reforming following European elections in late May.

NORTH AMERICA

17. States Set Target for Zero-Emission Vehicle Sales

Honda has leased out about two dozen of its Clarity hydrogen vehicles. Pictured is a Honda FCX Clarity at a refueling station.

California and seven other states have unveiled a plan to put 3.3 million electric and fuel cell vehicles on the road by 2025 — a goal that seems out of reach, based on current market trends.

The states have set a target that 15% of their new-car sales will be zero-emission vehicles a decade from now. Such vehicles include electricity-only cars and hydrogen-powered fuel cell vehicles. Partial-zero-emission vehicles such as plug-in hybrids, which run both on gasoline and electricity, also can count toward part of the goal. But zero-emission sales make up only a tiny fraction of the 15 million to 16 million vehicles sold annually in the U.S.

The so-called multi-state ZEV action plan was developed as part of a larger agreement to speed the introduction of zero-emission vehicles to fight greenhouse gas pollution. The plan lays out a number of steps to speed consumer acceptance of the vehicles, such as giving such vehicles access to carpool lanes in multiple states and charging lower tolls on roads and bridges for such cars.

"Today, we’re putting a foot on the pedal to get more clean cars on the road," said California Gov. Jerry Brown. "This is real action to reduce greenhouse gas emissions."

The other states that have signed the agreement are Connecticut, Maryland, Massachusetts, New York, Oregon, Rhode Island and Vermont. Together they constitute about a quarter of the nation’s new-car sales, according to the California Air Resources Board.

There are about two dozen electric or plug-in hybrid models on the market, but almost no fuel cell cars. Honda has leased out about two dozen of its Clarity hydrogen vehicles. Hyundai has just begun to sell its Tucson fuel cell crossover, and the first delivery is scheduled for next month. Honda plans to introduce a new-generation fuel cell vehicle to the market next year, and Toyota will also start selling a fuel cell vehicle in 2015.
Meanwhile, electric car sales have fallen short of expectations, said Adam Jonas, an analyst with Morgan Stanley Research. "Just a few years ago, forecasts for global EV penetration were as high as 5% or 10% by 2020," Jonas wrote in a recent report to investors. "From today's perspective, we think penetration in the 1% range would be respectable." One reason is that automakers lose money selling the cars. Jonas said Fiat Chrysler Automobiles takes a $14,000 hit on every sale of the electric version of its Fiat 500.

Most automakers have scaled back their electric car sales targets because of tepid consumer acceptance, he said. Consumers have balked because most of the electricity-only cars can travel just about 80 miles before running out of juice and can take hours to recharge.

Tesla, with its electric Model S sport sedan, is the exception. It has a longer range and offers a level of driving excitement that has captured a small but passionate market segment, he said. But at prices that can top $100,000, the car does not serve a mainstream audience.

Jonas predicted that the states in the ZEV agreement "won't come close" to meeting their target of having zero-emission vehicles constitute 15% of sales in just 11 years.

But the action plan developed by environmental officials from the eight states said that sales of zero-emission vehicles are starting to gain traction. The plan noted that as of April there were nearly 200,000 of the vehicles operating nationwide. Sales have doubled over the last year alone, with more than half of those sales occurring in the states that have signed on to the ZEV agreement, the states said.

To speed sales, the states agreed to several joint actions:

- Hoping to lead by example, the state governments plan to make zero-emission cars account for 25% of state fleet purchases.

- They also pledged to continue rebates for consumers, such as California's $2,500 incentive to purchase an electric or fuel cell vehicle. But they want to make the rebates instant at the time of purchase. The current system requires the buyer to put up the money and then file paperwork with a state agency to claim the incentive.

- Officials plan to make other incentives standard across all eight states in the agreement, such as permits that allow solo drivers to use the vehicles in carpool lanes. The states also will lobby the federal government to maintain its $7,500 income tax credit for the purchase of a zero-emission vehicle.

The joint plan is a guide to collaborate development of the infrastructure, policies, codes, standards and consumer market for clean-fuel cars and reduce greenhouse gas and smog-causing emissions.

“This plan is a triple win for participating states because it brings energy, environmental and economic benefits,” Connecticut Gov. Dannel P. Malloy said in a news release. “Under the blueprint provided in this plan, we will continue with our efforts to provide a convenient network of charging stations for electric vehicles, add EVs and fuel cell vehicles to the state’s fleet, and build out the hydrogen infrastructure needed for fuel cell vehicles expected to be available for the 2015 model year.”
The governors of the eight states began this latest collaboration with the signing of a Memorandum of Understanding in October. Since the MOU signing, state regulators, the auto industry and infrastructure developers and other stakeholders have shared information and best practices to help move this effort forward.

The plan lays out steps to build the market, including promoting the availability of zero-emission vehicles; encouraging their use in private fleets; promoting planning and investment for infrastructure; and increasing their numbers in government vehicle fleets. It also would set consistent codes, standards and tracking in the states, remove barriers to charging station installation, establish uniform signage and track and report progress toward the 3.3-million vehicle goal. The plan would promote workplace charging, provide consumer incentives for purchase, remove barriers to the retail sale of electricity as a vehicle fuel and promote access and compatibility for charging networks.

The plan also includes steps individual states may take, as well as examples of successful existing state programs, to improve the experience of drivers and owners.

18. EPA Sets Ambitious Targets for Curbing Existing Power Plants' GHGs

EPA's just-released greenhouse gas (GHG) standards for existing power plants will seek to cut emissions 30 percent from 2005 levels, by 2030, setting a baseline measure that many in the utility sector favor because they have already significantly curbed their emissions, though the plan sets an ambitious new emissions reduction target.

The existing source performance standards (ESPS), crafted under section 111(d) of the Clean Air Act, will also provide the sector with significant flexibility to achieve the target, allowing states to consider a range of "beyond-the-fence" measures to curb emissions throughout the power system.

After the rule is finalized in June 2015, states would have one year to craft compliance plans, with the option "to use a two-step process for submitting final plans if more time is needed." Individual states could request one-year extensions, and multi-state plans could have an additional two years.

States would be expected to make "meaningful progress" toward reductions by 2020, with a requirement to meet the target by 2030.

States are required to reduce their emissions' rates, or the overall tons of carbon dioxide (CO2) divided by the amount of electricity produced. EPA will also allow states to convert the rate-based standard to a mass-based standard, which would allow states to set up a cap-and-trade program or join an existing one.

Under the requirement in section 111(d), EPA must identify the "best system of emission reduction" (BSER) that has also been adequately demonstrated. For the ESPS, the agency identified four "building blocks" that when combined are considered BSER – making plants more efficient, using more low-carbon power sources, using more zero-carbon power sources and increasing energy efficiency.

"These building blocks recognize the interconnected nature of the power sector – looking broadly to find cost-effective and proven solutions," EPA says in a fact sheet released alongside the rule.
EPA proposed two options in the rule. Its preferred option would reduce GHG emissions by 26 percent to 27 percent by 2020, relative to 2005 levels, with a reduction of 30 percent by 2030. The second option would see a 23 percent reduction by 2020, with a 24 percent cut by 2025.

Estimated costs for the preferred option are between $7.3 billion and $8.8 billion by 2030, with costs ranging between $4.5 billion and $5.5 billion by 2025 in the second option. Benefits include a measure of the value of reducing carbon emissions known as the "social cost of carbon." It also includes substantial "co-benefits" of reducing conventional pollutants such as fine particulate matter. The agency estimates the benefits for its preferred option range from $55 billion to $93 billion by 2030.

19. Key Details of E.P.A. Carbon Emissions Proposal

A rule proposed by the Environmental Protection Agency would cut carbon pollution from power plants 30 percent from 2005 levels by 2030. Important aspects include:

- The E.P.A. expects that under the regulation, 30 percent of electricity in the United States will still come from coal by 2030, down from about 40 percent today.

- The E.P.A. estimates that the rule will cost the economy $7.3 billion to $8.8 billion annually, but will lead to benefits of $55 billion to $93 billion, primarily by preventing premature deaths and mitigating respiratory diseases.

- Critics complain that the rule will drive up electricity costs, but the agency forecasts that the rule will increase energy efficiency across the power sector, leading to lower electricity bills when the program is fully implemented in 2030.

- The rule will not, on its own, lower greenhouse gas pollution enough to prevent catastrophic effects of climate change. But, in combination with other regulations, it would allow the United States to meet its commitment to the United Nations to cut carbon pollution 17 percent by 2020 and press other major polluting countries, particularly China and India, to follow suit.

- The draft proposal is just the beginning of the process to cut emissions. The agency will now take public comment and spend the next year completing the proposal before releasing the final rule in June 2015. States will then be given another year to submit compliance plans, or apply for an extension.

- The rule is not an executive order. Under the Clean Air Act, the E.P.A. is required to regulate any substance defined as a pollutant, which the law defined as substances that endanger human life and health. A 2007 Supreme Court decision led to an E.P.A. determination that carbon dioxide is a pollutant, thus requiring that the agency regulate it or be in violation of the law.

20. Obama Accused of Using Reports for ‘Cover’ in Pursuing Power Plant Rule

On May 29th, the top Republican on the House Science Committee accused President Barack Obama of using recent UN and U.S. climate change reports to “spread fear and alarm and provide cover” for his administration's plan to set limits for power plant carbon dioxide emissions. Chairman Lamar Smith (R-Texas), speaking at a committee hearing that highlighted Republican
skepticism of the reports' dire warnings of rising greenhouse gas emissions and global temperatures, said the two reports have given the Obama administration "an excuse" to move ahead with its carbon limits for existing power plants.

The White House plans to unveil the proposed Environmental Protection Agency regulations (see story above) —which reportedly will call for as much as a 25 percent cut in power plant carbon emissions—on the heels of the release of the IPCC report in April and a U.S. National Climate Assessment released in May.

In June 2013, Obama directed the EPA to move forward with separate rules to cut carbon dioxide from existing and future power plants, which are to become final before the end of his second term. The EPA formally proposed carbon pollution limits for future power plants in January; the public comment period closed May 9.

Republicans on the House Science, Space, and Technology Committee said they remain skeptical that the Earth is warming as quickly as those reports suggest, and said even if temperatures are increasing, the administration's actions to cut emissions will have little impact. But the ranking Democrat on the committee, Rep. Eddie Bernice Johnson (D-Texas), and other Democrats complained that Republicans were focusing on concerns raised about the IPCC process and whether it welcomes dissent, without first having heard from IPCC representatives on the overall findings in the report.

“Climate change is real, its impacts are real, and the need to act is real," Johnson said.

The Texas Democrat said that while the focus of the committee hearing was “legitimate ”—the hearing was titled “Examining the UN Intergovernmental Panel on Climate Change Process”—it appeared Republicans’ "real objective is to try to undercut the IPCC and to cast doubt on the validity of climate change research." The most recent IPCC report, a summary for policy makers released on April 13th, said nations will have to move swiftly to low-emissions energy sources to limit the global rise in temperatures to 2 degrees Celsius (3.6 degrees Fahrenheit) compared to preindustrial levels.

But several of the scientists testifying at the May 29 committee hearing said the IPCC's process, which largely draws from existing climate models and studies, shuts out dissent and in some cases offers up more conclusive findings than can be supported by available research. For example, Richard Tol, a professor of economics at the University of Sussex in the United Kingdom who has contributed to IPCC efforts since 1994, said he refused to “sign on" to the April IPCC summary for policy makers report because of concerns that it drew from “alarmist" conclusions linking climate change to reduced crop yields in the agricultural sector.

Tol said the IPCC's March IPCC Working Group II report, a detailed review of adaptation issues and climate impacts released weeks before the summary report, projected increasing temperatures would result in reduced crop yields in the coming decades. But that finding, he said, assumed farmers "will not adjust their practices in the face of changed circumstances" and ignored perhaps the key factor in pushing up crop yields—technological change. The agricultural sector has used technological improvements to increase crop yields “since time immemorial,” Tol said.

U.S. Environmental Protection Agency Administrator Gina McCarthy said on May 2nd that the upcoming proposed Clean Air Act rule that would limit carbon dioxide emissions from existing power plants would help the nation “regain its international stature.” The agency will be able to engage the international community in making similar reductions in greenhouse gas emissions, McCarthy said at an annual National Wildlife Federation meeting in Baltimore.

The proposed rule, she said, will reflect states’ concerns that energy supplies remain robust and affordable while ratcheting down emissions most harmful to people and wildlife.

The EPA is required to propose emissions guidelines for existing power plants by June 1 as part of President Barack Obama's climate action plan. One prong of the plan calls on the U.S. to be an international leader on climate change ahead of an international climate deal that is planned to be finalized in Paris in 2015.

The agency consulted with hundreds of environmental and industry groups as it developed the proposed rule for existing power plants, and the agency sent it to the White House Office of Management and Budget for interagency review on March 31st.

In January, the EPA proposed related new source performance standards for carbon dioxide emissions from new fossil fuel-fired power plants.

22. U.S. Industry Gears Up To Fight Obama's Climate Rules

A U.S. plan to curb carbon emissions from power plants is likely to come under attack this summer by industry opponents in a bid to stir voter anger ahead of elections in November, when voters in states such as Kentucky and West Virginia could decide whether Democrats keep control of the Senate.

The Environmental Protection Agency will soon propose new rules to crack down on power plant emissions as part of President Barack Obama's efforts to combat climate change. The U.S. Chamber of Commerce recently released a report that predicted the regulations would cost consumers $289 billion more for electricity through 2030 and crimp the economy by $50 billion a year.

The EPA called the report "nothing more than irresponsible speculation" and said it was based on unfounded assumptions about future requirements for natural gas plants. "The chamber is using the same tired play from the same special interest playbook that is engineered to continue polluting and stall progress," EPA spokesman Tom Reynolds said in a statement.

White House spokesman Matt Lehrich said there is a "moral obligation" for the new climate change rule. "Every time America has taken common sense steps to protect air quality and the health of our children, polluters have made doomsday predictions - and every time they've been wrong," Lehrich said.

Industry lobbyists plan to say the new rules will probably raise household electricity costs, prompt power brown-outs during heat waves and cold snaps and destroy jobs at coal mines and manufacturing plants. "We fully expect that whatever comes out will be overly stringent, and will be something that is not good for American consumers or businesses," said Laura Sheehan, spokeswoman for the American Coalition for Clean Coal Electricity.
In March, Sheehan's group, which represents coal mining companies as well as owners of coal-fired plants like American Electric Power and Southern Co, released a report warning that the EPA plan may kill more than 2.85 million jobs.

The National Mining Association, which represents large coal mining companies including Peabody Coal Co, Arch Coal Inc, Alpha Natural Resources and Cloud Peak Energy Inc has spent $1 million on advertising in five states depicting shocked consumers opening expensive electricity bills.

Environmental groups plan to fight back with their own projections. The Natural Resources Defense Council is expected to release a report concluding the EPA rule would create "hundreds of thousands of jobs" and save consumers "tens of billions of dollars" on electricity. "The chamber's so-called study is the latest in a long series of 'sky-is-falling' claims that cleaning up harmful air pollution will cost jobs," said David Hawkins, director of NRDC's climate programs.

Because the new U.S. rules would take years to implement, perception matters more than facts, particularly ahead of November elections, said Andrew Holland, a former Republican legislative aide who is now an energy analyst at the American Security Project, a nonpartisan think tank. The industry's arguments have "the virtue of not being testable" before the midterm elections, he said, noting previous EPA rules have ended up being cheaper than industry feared.

"It turns out that engineers are better at this than the lawyers expect them to be," said Holland.

**23. U.S. May Adjust 2014 Corn Ethanol Target after Outcry**

The EPA shocked biofuel supporters in November with a draft rule that slashed federal requirements for biofuel use in gasoline and diesel. The agency argued that U.S. energy markets could not absorb the levels of renewable fuels that would be required by a 2007 law. Since then, though, rising projections for gasoline consumption give the agency leeway to raise its corn ethanol target from November's proposal of about 13 billion gallons to about 13.6 billion, according to a biofuel industry source.

The more gasoline consumed, the more ethanol that can be absorbed before hitting the "blend wall," the point at which the law would require more ethanol to be used than the 10 percent blend found at most U.S. gas stations.

The rumored adjustment would still leave the corn ethanol target for 2014 far below the 14.4 billion gallons called for by law, and will likely enrage oil companies who lobbied hard for cuts to the targets. The industry source told the press that administration officials have told stakeholders that "no one is going to be happy" regarding the final rule.

The Renewable Fuel Standard requires increasing amounts of various types of biofuels to be blended into U.S. gasoline and diesel supplies each year through 2022.

Citing the looming blend wall, the EPA issued a proposal last year to cut the overall biofuel use target from 18.15 billion gallons to 15.21 billion gallons, the first overall cut in the program's history.

Refiners said the reductions were necessary to prevent crippling compliance costs for their industry and possible fuel shortages.
Biodiesel producers said the administration has hinted that it plans to leave the biodiesel target at the proposed 1.28 billion gallons, while slightly raising the overall target for advanced biofuels from 2.2 billion gallons.


California's greenhouse gas emissions rose about 2 percent in 2012 compared to the previous year as more natural gas was burned to compensate for the closure of a nuclear plant and a drop in hydro-electricity due to a drought, the state's air regulator said. Higher utility sector emissions were offset somewhat by a modest decline in output from the transportation sector, which remains the state's largest single source of heat-trapping greenhouse gas emissions.

Emissions from manufacturers stayed relatively flat despite a 13 percent increase from the cement sector as the state's eight plants ramped up production.

State air officials said that despite the small overall increase, long-term trends show California is cutting emissions even as the economy recovers from a lengthy recession.

Transportation-related greenhouse gas emissions have fallen 12 percent over the past seven years due in part to a larger number of fuel-efficient vehicles on California roads, regulators said. The Toyota Prius, a hybrid that gets about 50 miles to the gallon, was the best-selling car in California in 2012.

Californian's per capita greenhouse gas emissions have dropped 12 percent over the past decade, regulators said.

In 2006 the state passed a law, AB 32 that called for a cut in emissions back to 1990 levels by 2020, a goal that officials have said the state is on course to achieve. Since the law was passed, California has implemented a variety of environmental programs, including a carbon cap-and-trade system, a low carbon fuel standard, a renewable electricity mandate and incentives for low-emission vehicles.

Other states are watching closely to see how successful California is in reducing emissions. California, meanwhile, is hoping other U.S. states and Canadian provinces will join its pioneering carbon market to help boost liquidity and maximize the environmental benefit.

"The latest inventory clearly demonstrates that under AB 32 California is getting more economic development every year for each ton of greenhouse gases emitted overall," said Mary Nichols, chair of the California Air Resources Board.

25. Diesel Trains May Soon Use Natural Gas Instead

Thanks to the shale revolution and new technology, locomotives could burn a lot cleaner and cheaper.
When it was first introduced some 170 years ago, the locomotive ran on a domestic fuel source. Workers on the iron horse shoveled coal into a boiler, which propelled the engine and sent steam and smoke billowing into the sky. In the 20th century, diesel fuel displaced coal. On shorter routes, overhead electrical wires began to provide the juice.

Now, another source of domestically-mined energy is being slowly introduced to the mix: natural gas. Thanks to the shale revolution, the U.S. has abundant supplies of natural gas. And because it can’t be exported easily, its price has fallen sharply—especially in relation to oil. As a result, American electricity generators have latched on to cleaner-burning gas. Natural gas in 2012 accounted for 30 percent of electricity generation in the U.S., compared with 20 percent in 2005.

Natural gas has been slower to catch on as a transportation fuel. But that may be slowly changing. Indeed, the U.S. Energy Information Administration projects that “liquefied natural gas (LNG) will play an increasing role in powering freight locomotives in coming years.”

Why? In a word, price. As the Wall Street Journal noted, “a gallon of diesel fuel cost an average of $3.97 last year, according to federal statistics. The equivalent amount of energy in natural gas cost 48 cents at industrial prices.” According to the EIA, America’s seven major U.S. freight railroads spent $11 billion in 2012 for more than 3.6 billion gallons of diesel fuel in 2012. For these railroads, fuel accounts for nearly one quarter of operating expenses. The potential cost savings is difficult to ignore.

Major manufacturers like General Electric and Caterpillar are building prototypes of locomotives that can run on natural gas and several railroads have committed to testing them in real-world conditions. BNSF, the Burlington Northern Santa Fe, a unit of Warren Buffett’s Berkshire Hathaway conglomerate, this spring said it would conduct a pilot project with LNG-fueled locomotives in the U.S.

North of the border, Canada National (CN) has put “two mainline diesel-electric locomotives fuelled principally by natural gas in revenue service in northern Alberta.” CN retrofitted the diesel engines so they could run on a blend of 90 percent natural gas and 10 percent diesel, a move that, the company said could cut carbon dioxide emissions by 30 percent. In April, Westport Innovations delivered four tenders—cars that can carry 10,000 gallons of LNG—to CN. Westport is also working with machinery giant Caterpillar on new locomotives.

General Electric and CSX are teaming up to test GE’s Next Fuel Natural Gas Retrofit kit, a set of equipment installed into regular locomotives that can use either diesel or a blend of 80 percent natural gas and 20 percent diesel. GE claims that retrofitting can “reduce locomotive fuel costs
The efforts are proceeding slowly and tentatively because the price differential of the fuel is only one factor to consider. Retrofitting locomotives and adding LNG tenders is an expensive proposition. The EIA projects that fuel savings could “more than offset the approximately $1 million incremental cost associated with an LNG locomotive and its tender.”

Locomotives are long-term commitments—one can last as long as 30 years. So railroad operators have to be sure that the price of natural gas will remain low. Railroad operators have to get regulatory waivers to place these new locomotives into service. And the transition will require railroads to make investments beyond new engines and LNG tenders. They will have to build LNG fueling stations at rail yards, for example.

This uncertainty explains why the forecast, while optimistic, is highly variable. In its report, EIA suggested a wide range of scenarios for the adoption of LNG as train fuel. By 2040, it said, LNG could account for as little as 16 percent and as much 95 percent of railroads’ total energy consumption.

“The fuel economics look very favorable,” said Nicholas Chase, an economist at EIA. “But translating the cost advantage into actual use requires a lot of steps.”

26. EPA Science Advisers Call for Tighter Ozone Rules

An independent science panel called on EPA to tighten its standard for ground-level ozone — possibly to a level lower than one the White House rejected three years ago. In a letter to EPA Administrator Gina McCarthy, the Clean Air Scientific Advisory Committee recommended lowering EPA’s existing standards from 75 parts per billion to between 70 and 60 ppb. And the letter also suggests the standard should be set at the lower end of that range.

“In reaching its scientific judgment regarding a recommended range of levels for a revised ozone primary standard, the CASAC focused on the scientific evidence that identifies the type and extent of adverse effects on public health. The CASAC acknowledges that the choice of a level within the range recommended based on scientific evidence is a policy judgment under the statutory mandate of the Clean Air Act. The CASAC advises that, based on the scientific evidence, a level of 70 ppb provides little margin of safety for the protection of public health, particularly for sensitive subpopulations. In this regard, our advice differs from that offered by EPA staff in the Second Draft PA. At 70 ppb, there is substantial scientific evidence of adverse effects as detailed in the charge question responses, including decrease in lung function, increase in respiratory symptoms, and increase in airway inflammation. Although a level of 70 ppb is more protective of public health than the current standard, it may not meet the statutory requirement to protect public health with an adequate margin of safety. In this regard, the CASAC deliberated at length regarding advice on other levels that might be considered to be protective of public health with an adequate margin of safety. For example, the recommended lower bound of 60 ppb would certainly offer more public health protection than levels of 70 ppb or 65 ppb and would provide an adequate margin of safety. Thus, our policy advice is to set the level of the standard lower than 70 ppb within a range down to 60 ppb, taking into account your judgment regarding the desired margin of safety to protect public health, and taking into account that lower levels will provide incrementally greater margins of safety.”
Environmental and public health groups applauded the recommendation and encouraged EPA to set a standard of 60 ppb.

“The CASAC has told EPA multiple times before that the current standard of 75 ppb failed to protect public health,” Janice Nolen, assistant vice president for national policy at the American Lung Association, said in a statement. “The Lung Association hopes that this time the EPA will follow the recommendations from CASAC, unlike in the previous formal review that ended in 2006 and the reconsideration of the standard that ended in 2011.”

In 2010, the EPA recommended tightening the existing George W. Bush-era 75 ppb standard to between 60 and 70 ppb, and then-Administrator Lisa Jackson said she’d suggested cutting the standard to 70 ppb. But the White House, under pressure from Republicans and industry groups, abandoned the plan in 2011 and instructed EPA to wait until at least 2013 to revise the rule.

CASAC is an independent group of scientists, researchers and academics tasked with reviewing existing research and making recommendations to the EPA about its national ambient air quality standards.

27. EIA: Fuel Economy Standards to Cut Gasoline Use Through 2040

More-stringent vehicle fuel economy standards will contribute to a decline in gasoline consumption through 2040, the US Energy Information Administration projected in the reference case in its Annual Energy Outlook 2014. A primary cause of the decrease will be standards that, based on National Highway Transportation Safety Administration (NHTSA) estimates, will require new light-duty vehicles to average 49 mpg in vehicle model year 2025, compared with their current compliance estimate of about 33 mpg in model year 2012.

The reference case also projects an increase in vehicle miles traveled (VMT) that, all else equal, would increase fuel consumption. However, higher fuel efficiency standards would more than offset this increase to result in an overall decline in gasoline consumption.

In contrast to the projected decline in gasoline use, a large increase in heavy-duty VMT will lead to an increase in consumption of diesel fuel, even as heavy-duty vehicle fuel economy increases in response to EPA fuel efficiency and greenhouse gas emission standards. New refinery projects are expected to focus on shifting production from gasoline to distillate fuels to meet growing domestic and global demand for diesel.

In addition to meeting US demand, refineries will continue to export finished products internationally throughout the projection. The US became a net exporter of finished products in 2011, and net product exports will expand in the reference case through 2040.

EIA notes that its projections for gasoline and diesel use in the reference case reflect current laws and policies, including fuel efficiency standards that have already been issued as final rules; and that further efficiency standards and changes in travel behavior are essential uncertainties that could result in future fuel use being different from the reference case projections.

28. Study Questions Whether U.S. Carbon Plan Will Reach Climate Goals

Washington has announced plans to cut emissions from power plants by 30 percent below 2005 levels by 2030, as the centerpiece of a U.S. policy to fight climate change. But Niklas Hoehne, of Ecofys - joint compiler of the Climate Action Tracker report with research group Climate Analytics
and the Pik Potsdam Institute - said the plan would not ensure that the United States meets an existing national goal, set in 2009, of a cut of 17 percent below 2005 levels by 2020.

The world is on track to exceed an agreed ceiling for average temperature rises of 2 degrees Celsius (1.4 Fahrenheit) above pre-industrial times, seen as a threshold for worsening droughts, heatwaves and rising seas, scientists say. "Every little step has to be welcomed ... but this is not enough to get on a 2C pathway," Climate Analytics' Bill Hare told a news conference.

"All governments will have to significantly increase their action on climate change - both before 2020 and after", to stay below 2 degrees, according to the report, released on the sidelines of a June 4-15 U.N. meeting in Bonn, Germany on ways to limit global warming. The Climate Action Tracker suggested that overall U.S. emissions would be only about 10 percent below 2005 levels by 2030, roughly equal with existing levels, unless tougher action is taken in sectors from transport to agriculture.

And worldwide, it said that greenhouse gas emissions would have to fall to zero sometime between 2060 to 2080 - more ambitious than almost any nations long-term plans - to give a strong chance of limiting warming to below 2 degrees Celsius. On current trends, it said that temperatures were set to rise by about 3.7 degrees Celsius and have already risen by about 0.8 degrees since the Industrial Revolution.

29. The Economic Risks of Climate Change in the United States

The American economy could face significant and widespread disruptions from climate change unless U.S. businesses and policymakers take immediate action to reduce climate risk, according to a new report. The report, “Risky Business: The Economic Risks of Climate Change in the United States,” summarizes findings of an independent assessment of the impact of climate change at the county, state, and regional level, and shows that communities, industries, and properties across the U.S. face profound risks from climate change. The findings also show that the most severe risks can still be avoided through early investments in resilience, and through immediate action to reduce the pollution that causes global warming.

The Risky Business report shows that two of the primary impacts of climate change—extreme heat and sea level rise—will disproportionately affect certain regions of the U.S., and pose highly variable risks across the nation. In the U.S. Gulf Coast, Northeast, and Southeast, for example, sea level rise and increased damage from storm surge are likely to lead to an additional $2 to $3.5 billion in property losses each year by 2030, with escalating costs in future decades. In interior states in the Midwest and Southwest, extreme heat will threaten human health, reduce labor productivity and strain electricity grids.

Conversely, in northern latitudes such as North Dakota and Montana, winter temperatures will likely rise, reducing frost events and cold-related deaths, and lengthening the growing season for some crops.

The report is a product of The Risky Business Project, a joint, non-partisan initiative of former Treasury Secretary Henry M. Paulson, Jr., Mayor of New York City from 2002-2013 Michael R. Bloomberg, and Thomas P. Steyer, former Senior Managing Member of Farallon Capital Management. They were joined by members of a high-level “Risk Committee” who helped scope the research and reviewed the research findings.

Risk Committee members include:
The Risky Business Project represents a first-of-its-kind effort to combine the best available projections for changes in local climate conditions across the United States with empirically-derived estimates of the fiscal impact of those changes on key sectors of the U.S. economy. The Risky Business Project presents a new approach to understanding the possible costs of unmitigated climate change, providing businesses, investors, households and policymakers with critical information about the nature of the climate risks they face. The project's independent research team analyzed low-probability, high-impact climate events, as well as those most likely to occur. Consideration of such “tail risks” is critical for investors and businesses accustomed to buying insurance against potentially catastrophic losses.

In analyzing different regions of the country, the Risky Business report found that the most likely impacts of climate change are distributed unevenly across the country, reflecting broad geographic diversity. The report also analyzed four different scenarios for levels of greenhouse gas emissions, and found that lower emissions scenarios carry considerably less risk; detailed impact results focused on the current pathway, commonly referred to as “business as usual.”

Examples of likely impacts include:

- Large-scale losses of coastal property and infrastructure (click here to review full results online).
- If we continue on our current path, by 2050 between $66 and $106 billion worth of existing coastal property will likely be below sea level nationwide, growing to $238 to $507 billion by 2100.
- There is a 1-in-20 chance that by the end of this century more than $701 billion worth of existing coastal property will be below sea level, and that average annual losses from hurricanes and other coastal storms along the Eastern Seaboard and Gulf of Mexico will grow by more than $42 billion due just to sea-level rise alone. Potential changes in hurricane activity could raise this amount to $108 billion.
- Property losses from sea-level rise will disproportionately affect the Southeast and Atlantic coasts, where rise is expected to be higher and the losses far greater than other coastal areas.
• Extreme heat across the nation—especially in the Southwest, Southeast, and Upper Midwest—that threatens labor productivity, human health, and energy systems (click here to review full results online).

• By the middle of this century, the average American will likely experience 27 to 50 days each year with temperatures reaching more than 95°F—up to more than three times the average number of 95°F days we’ve seen over the past 30 years. By the end of this century, this number will likely reach 45 to 100 additional days reaching 95°F each year on average.

• As with sea-level rise, these national averages mask regional extremes, especially in the Southwest, Southeast, and upper Midwest, which will likely see several months of successive 95°F days each year.

• Labor productivity of outdoor workers, such as those working in construction, utility maintenance, landscaping, and agriculture, could be reduced by as much as 3 percent, particularly in the Southeast.

• Over the longer-term, during portions of the year, extreme heat could surpass the threshold at which the human body can no longer maintain a normal core temperature without air conditioning. During these periods, anyone whose job requires them to work outdoors, as well as anyone lacking access to air conditioning, will face severe health risks and potential death.

• Demand for electricity for air conditioning will surge in those parts of the country facing the most extreme temperature increases, straining regional generation and transmission capacity and driving up costs for consumers.

• Shifting agricultural patterns and crop yields, with likely gains for Northern farmers offset by losses in the Midwest and South (click here to review full results online).

• Absent agricultural adaptation, if we continue on our current path, national commodity crop production (corn, soy, wheat and cotton) could decline by 14 percent by mid-century and up to 42 percent by late century as extreme heat spreads across the middle of the country.

• At the same time, warmer temperatures and carbon fertilization may improve agricultural productivity and crop yields in the upper Great Plains and other northern states.

• Food systems are resilient at a national and global level, and agricultural producers have proven themselves extremely able to adapt to changing climate conditions. These shifts, however, still carry risks for the individual farming communities most vulnerable to projected climatic changes.

The Risky Business Project found that early action to reduce greenhouse gas pollution can substantially reduce future risks. Impacts that are likely to occur between now and 2030 are largely the result of past emissions, and thus less avoidable.

The report lands three weeks after President Barack Obama ordered U.S. regulators to take their strongest steps ever to reduce greenhouse gas emissions, including requiring power plants to cut carbon dioxide emissions to 30 percent below 2005 levels by 2030.

The report does not make policy prescriptions, concluding only that "it is time for all American business leaders and investors to get in the game and rise to the challenge of addressing climate change."

30. Top Court Mostly Upholds Obama Bid to Curb Carbon Emissions

The U.S. Supreme Court largely upheld the Obama administration's authority to curb greenhouse gases from major emitters like power plants and refineries in a ruling that nonetheless exempted
some smaller sources from the regulation. On a 7-2 vote, the court rejected an industry-backed argument that most emitting facilities should not be regulated for greenhouse gases under one particular air pollution program of the U.S. Environmental Protection Agency (EPA).

But industry could claim a partial win because the court ruled on a 5-4 vote that some facilities the government had wanted to regulate will be exempted. Some landfills, pulp and paper facilities, electronics manufacturing plants, chemical production plants and beverage producers are among the small industrial sources likely to be exempted, an EPA spokesman said.

The ruling brought an end to what started out as a broad legal challenge to the Obama administration's first suite of greenhouse gas regulations issued in 2009 and 2010. The administration won on every count except in the mixed ruling announced on Monday.

The case focused only on the "prevention of serious deterioration" or PSD program, which requires any new or modified major polluting facility to obtain a permit before any new construction is done if it emits "any air pollutant." The EPA said in a statement: "The Supreme Court's decision is a win for our efforts to reduce carbon pollution because it allows EPA, states and other permitting authorities to continue to require carbon pollution limits in permits for the largest pollution sources."

The justices were split in multiple ways. The four liberals voted with Scalia on one point but would have ruled for EPA on all counts. Conservative justices Samuel Alito and Clarence Thomas would have ruled against the government across the board.

The parties agreed that as a result of the ruling roughly 83 percent of greenhouse gas emissions that could potentially be regulated under the EPA's interpretation of the law would still be covered, compared with the 86 percent of emissions that the EPA had hoped to regulate.

Under the program, operators have to show they use the best technology available to reduce emissions of covered pollutants. More than 300 facilities have applied for permits.

The small-bore nature of the case was in stark contrast to the broader legal challenges initially made by industry groups and states. When the administration's first four climate change rules were issued, armies of lawyers were lined up to fight them. Some even questioned the landmark Massachusetts v EPA ruling from 2007, in which the Supreme Court said greenhouse gases were pollutants that could be regulated under the federal Clean Air Act. But the U.S. Court of Appeals for the District of Columbia Circuit upheld the rules in a unanimous June 2012 decision.

The challengers sought Supreme Court review and, in October 2013, the justices agreed to hear the narrow case that was decided on Monday. The court opted against hearing any of the broader legal challenges, leaving intact the EPA's finding that greenhouse gases should be regulated under the Clean Air Act and the agency's first regulations for cars and light trucks.

The Supreme Court decision is not expected to affect the administration's ability to set air pollution standards for greenhouse gases under a separate provision of the Clean Air Act. On June 2, the White House announced proposed rules calling for 30 percent reduction in greenhouse gas emissions from existing power plants, including coal-fired facilities.

31. New NASA Images Highlight US Air Quality Improvement
Anyone living in a major U.S. city for the past decade may have noticed a change in the air. The change is apparent in new NASA satellite images unveiled this week that demonstrate the reduction of air pollution across the country.

Nitrogen dioxide pollution, averaged yearly from 2005-2011, has decreased across the United States. Credit: NASA Goddard's Scientific Visualization Studio/T. Schindler

After ten years in orbit, the Ozone Monitoring Instrument (OMI) on NASA's Aura satellite has been in orbit sufficiently long to show that people in major U.S. cities are breathing less nitrogen dioxide – a yellow-brown gas that can cause respiratory problems.

Nitrogen dioxide is one of the six common pollutants regulated by the U.S. Environmental Protection Agency (EPA) to protect human health. Alone it can impact the respiratory system, but it also contributes to the formation of other pollutants including ground-level ozone and particulates, which also carry adverse health effects. The gas is produced primarily during the combustion of gasoline in vehicle engines and coal in power plants. It's also a good proxy for the presence of air pollution in general.

Air pollution has decreased even though population and the number of cars on the roads have increased. The shift is the result of regulations, technology improvements and economic changes, scientists say.
In fact, about 142 million people still lived in areas in the United States with unhealthy levels of air pollution, according to the EPA. Also, high levels of air pollution remain an issue in many other parts of the world, according to the global view from satellites.

Satellite data show that New York City has seen a 32 percent decrease in nitrogen dioxide between the 2005-2007 (left) and 2009-2011 (right) periods. The city tops the charts in terms of U.S. population, which usually means more air pollution. Even here, however, the air is on the mend. Credit: NASA Goddard's Scientific Visualization Studio/T. Schindler

"While our air quality has certainly improved over the last few decades, there is still work to do – ozone and particulate matter are still problems," said Bryan Duncan, an atmospheric scientist at NASA's Goddard Space Flight Center in Greenbelt, Maryland.

Decision makers and regulatory agencies like EPA have long relied on data from ground sites to inform air quality science and forecasts. NASA, while not directly involved with regulation or making forecasts, provides a consistent, global, space-based view – not possible from any other source – of when and where air pollution occurs. For example, NASA observations of air quality helped inform a Supreme Court ruling on April 29, 2014, that upheld an EPA regulation that seeks to lower cross-state air pollution.

Satellite data show that Denver has seen a 22 percent decrease in nitrogen dioxide between the 2005-2007 (left) and 2009-2011 (right) periods. NASA's Discover-AQ, a multi-year airborne mission, is flying this summer in Denver to learn more about the region's wide range
of air pollutants. Credit: NASA Goddard's Scientific Visualization Studio/T. Schindler

Another ongoing effort by NASA to study air quality is Discover-AQ, a multi-year airborne mission flying this summer in Denver to learn more about how the wide range of air pollutants viewed from satellites relates to what's happening close to the ground where people live and breathe. The mission flew previously in 2011 over Baltimore, Maryland and Washington, D.C.; in 2013 over the San Joaquin Valley, California; and in 2013 over Houston, Texas.

“You can't control what you don't measure,” said Russ Dickerson of the University of Maryland, College Park, and member of the NASA Air Quality Applied Sciences Team – created in 2011 by the NASA Applied Sciences Program to serve the needs of U.S. air quality management through the use of Earth Science satellite data, suborbital, and models. "NASA measurements of air quality have value to the people with the authority to control emissions and develop policy."

Satellite data show that Atlanta has seen a 42 percent decrease in nitrogen dioxide between the 2005-2007 (left) and 2009-2011 (right) periods. Technology improvements, such as the implementation of emission control devices on power plants, mean that residents here are now breathing cleaner air. Credit: NASA Goddard's Scientific Visualization Studio/T. Schindler

The new NASA images also take a close up look at the Ohio River Valley, Northeast Corridor, and some populous U.S. cities. They show how nitrogen dioxide concentrations during spring and summer months, averaged from 2005-2007, compare to the average from 2009-2011.

Measurements of nitrogen dioxide from OMI depict the concentration of the gas throughout a column of air in the troposphere, Earth's lowest atmospheric layer. The images are color-coded: Blue and green denote lower concentrations and orange and red denote higher concentrations, ranging from 1x1015 to 5x1015 molecules per square centimeter, respectively.

Images were composed by NASA's Scientific Visualization Studio based on data and input provided by atmospheric scientists Yasuko Yoshida, Lok Lamsal, and Bryan Duncan, all of NASA's Goddard Space Flight Center in Greenbelt, Maryland.

32. Mexican Officials Say Revamp in Energy Policy Seeks to Gain Independence

One of the key aims of Mexico's energy policy overhaul is to return the country to one that is self-sufficient in oil and gas, allowing it to tap into its rich resources instead of importing energy from
other countries at higher rates, a senior Pena Nieto administration official said. “We are, of course, looking for an increase in oil production and in electricity production,” Maria de Lourdes Melgar Palacio, undersecretary for hydrocarbons in the Ministry of Energy and lead author of the overhaul legislation, said June 17. “However, we are also trying to develop more energy independence.”

As production in its oil and gas fields has fallen dramatically in the last 10 years, Mexico has become increasingly dependent on energy imports, now relying on other countries for three-fourths of its petrochemicals, half of its gasoline and a third of its natural gas. Lawmakers intend to reverse this trend through opening its energy sector to international investment, wagering that the potential opportunities will lead to a boom in production.

They also hope that it will lead to cheaper energy prices for Mexico, which is expected to, in turn, stimulate manufacturing by making it less costly.

The government estimates that the revamp will lead to the creation of 500,000 Mexican jobs by 2017—jobs that will further help kick-start the economy, Melgar said, speaking at a panel discussion on the potential risks and benefits of the changes in energy policy.

Other panelists were more skeptical about whether the legislation in its current form would bring all these expected benefits. Miriam Grunstein, one of Mexico's leading energy law consultants, expressed concern that the laws seem designed to ensure continued government involvement in the oil and gas sector but in practice will do little to encourage better business opportunities.

“These institutions should be developed to help facilitate businesses,” Grunstein said. “There should not only be a path for strengthening the relevant institutions, but also for ensuring that this strengthening leads to more opportunities for businesses to benefit from the reform.”

She also questioned the rapid pace at which lawmakers seem to be reviewing the implementing legislation, noting that the subject matters covered are notoriously complex. “I am surprised that laws that are this complicated have already moved so smoothly through the Senate Commissions, given that the implications are not small—they are gigantic,” Grunstein said, noting that the laws mandating changes to the power sector would be especially challenging to comprehend in full detail.

Grunstein also expressed reservations about the separate development of laws governing international investment in oil and gas exploration and the laws that dictate the way these investments will be taxed. “It may prove difficult to synthesize the two laws at a later date,” Grunstein said.

Claudia Sheinbaum, a professor at the National Autonomous University of Mexico, expressed broader concerns that the laws would encourage the production of more oil and gas, even as the country is trying to curb climate change by reducing its emissions levels. She also echoed criticisms raised by Mexico’s left-leaning party, the Democratic Revolutionary Party, that there hasn’t been sufficient public dialogue about the changes, especially regarding whether the reforms will lead to an eventual privatization of the energy industry.

Monserrat Ramiro, director of the energy project for the Mexico Institute for Competitiveness, echoed Melgar’s thoughts on the importance of lower energy costs as a result of the reforms. “Whether the income Mexico receives from the energy reform is higher or lower, what is clear is that Mexicans need to be paying less for energy,” Ramiro said.
33. New Battery Tech Extends Electric Vehicle Travel

Alcoa and clean technology company Phinergy have debuted a zero-emissions electric demo car powered by a revolutionary aluminum-air battery at the Circuit Gilles-Villeneuve in Montreal. Alcoa and Phinergy are collaborating on new materials, processes and components to commercialize the aluminum-air battery, which can extend the distance an electric car travels by approximately 1,600 kilometers (1,000 miles).

“Automakers want technologies that enable zero-emission electric cars to travel distances that compete with gasoline-powered cars. The aluminum-air battery has the potential to meet that challenge using fully recyclable material with no CO2 emissions,” said Martin Briere, President of Alcoa Canada.

The aluminum-air battery uses air and water to unlock the energy stored in aluminum. According to Phinergy, just one of the 50 aluminum plates in the battery can power a car for approximately 20 miles, and when used to supplement a lithium-ion battery, can extend vehicle range by approximately 1,600 kilometers (1,000 miles). The technology allows an energy density that surpasses conventional battery technologies and creates electric vehicles with travel distances, purchase prices and life-cycle costs that are comparable to fossil-fuel cars.

34. Have Hybrid Cars Hit Their Peak?

It was a truism for years: Gasoline prices shoot up in summer and sales of fuel-sipping hybrid vehicles follow. But American consumers appear to have become inured to the annual summer fuel price spikes to $3.50 a gallon -- or to $4.50 in California -- and sales of the Toyota Prius and other hybrids may be flattening.

An analysis of data from the Automotive News Data Center and IHS/Polk suggests that hybrid sales have reached a peak of market share and volume. "It's a financial situation. The hybrid price premium is not offset by the gas savings, and consumers are making a rational decision," said IHS Automotive analyst Tom Libby. "The more gas prices stay static, the more consumers adjust and move back toward what they are more comfortable with."

Toyota Division General Manager Bill Fay still sees "a wider consumer acceptance of hybrid technology," based on Toyota's record 350,000 hybrid sales in 2013. But sales of Prius nameplate vehicles were down 1 percent last year, even though four vehicles now carry Prius badges.

"Although gas prices are not as high as they've been in the past, they are not low," Fay said. "In this higher-yet-stable gas environment, truck sales are up, which is evidence that consumers have shown increasing desensitization to higher prices."

Sales of alternative-fuel vehicles surged to 594,485 last year from 274,749 in 2010, more than doubling in four years, according to the Automotive News Data Center. But those gains came amid an overall market that has also grown sharply. Alternative-fuel vehicles include hybrids, plug-in hybrids and battery electric and natural gas vehicles.

An IHS/Polk study showed that, while the number of hybrid nameplates on the market has increased to 47 vehicles, from 24 in 2009, segment market share compared with overall industry sales hasn't kept pace. In fact, hybrid share declined from 2009 to 2010 and has again from 2013 to 2014.
Hybrid sales have ranged from 1.5 to 4 percent of the market, depending on the month, but the trend line since 2010 has barely grown, from 2.5 percent then, to just above 3.5 percent now, according to IHS/Polk. Hybrid market share decreased during summers of 2010, 2011 and 2012 from the springs that preceded them. And only once have hybrids exceeded 4 percent market share.

AutoPacific analyst Dave Sullivan said the early reasons for buying a hybrid -- green cachet and carpool-lane access, among them -- are irrelevant now. As a result, he said, "hybrids are not all that compelling at the moment," though he added that if gasoline suddenly shot up to $6 a gallon, consideration would increase sharply.

"People have realigned their budgets to four-dollar gas and they are making it work," Sullivan said. "We're not seeing so much, 'rah-rah, Mother Earth.' The Prius V has not come close to meeting sales expectations and the regular Prius is aging. Consumers are moving on."

AAA predicts the national average price of gasoline this summer likely will vary from $3.55 to $3.70 per gallon. But that won't be a big jump, historically speaking. Gasoline prices averaged $3.60 in June 2013, $3.50 in June 2012 and $3.68 in June 2011. The most expensive summer driving period was in 2008 when prices averaged $3.95 a gallon for regular unleaded gasoline.

"Expect a feeling of Deja vu with gasoline costing about the same as last summer," AAA spokesman Avery Ash said.

While the Prius had its best May sales in two years, that likely has less to do with a gasoline price surge than delayed purchases from a harsh winter, as well as some of Toyota's highest-ever incentives on the Prius: At $2,334 per unit, they were up 72 percent from last May, according to TrueCar research.

Erich Merkle, Ford Motor Co.'s chief U.S. sales analyst, notes that standard internal combustion engines -- such as Ford's EcoBoost, Honda's Earth Dreams and Mazda's Skyactiv engine technologies -- are delivering improved fuel economy without expensive hybrid systems. That makes the price premium for hybrids harder to justify. It also means that the next generation of hybrids will have to perform that much better to make their fuel economy gains impressive enough to stoke new interest, IHS's Libby said.

Another cloud over hybrids: Increasing public awareness that their real-world fuel economy numbers often aren't as good as the EPA estimates on the window sticker. Consumer Reports testing in 2013 showed that more than half of hybrids missed the EPA cycle result in real-world testing by more than 10 percent, compared with just 10 percent of conventional cars.

If there is one place where hybrids are still hot, it's with urban taxi fleets. "The taxi driver's business case makes zero sense unless they're driving a hybrid," said AutoPacific's Sullivan. "In city stop-and-go, a hybrid makes a big difference."

**ASIA-PACIFIC**

35. Recent Developments in China

a. Government Officials to Be Held More Accountable for Air Pollution
China has announced it will grade and possibly penalize local and regional officials based on how well they fight air pollution. In a May 27 statement, the State Council said it would grade officials on their efforts to reduce key emissions, such as small (PM2.5) and large particulate matter (PM10), in addition to sulfur dioxide and nitrogen oxide.

Provincial governments are expected to implement policies for assessing whether the national Air Pollution Action Plan is being followed at the local level by using a 100 point scoring system and four grades: excellent, good, average and poor. By 2017, annual rankings will play a part in career advancement of senior officials.

Top officials in provinces with poor grades will face investigation by the Ministry of Environmental Protection (MEP) as well as two Communist Party of China units, the Central Commission of Discipline and Inspection and the Organization Department, and possibly questioning from top officials.

Provinces with higher grades will receive more funding from the central government, while those with poor grades will receive less, the policy states.

The Ministry of Finance is expected to allocate around 10 billion Yuan ($1.59 billion) in 2014 in three key air pollution control areas for improving air quality, with about 8 billion Yuan ($1.28 billion) already allocated, mostly in the Beijing-Tianjin-Hebei region, according to a May 16 statement.

Shandong province released a report on first quarter air quality on March 10 that included information about how it is already starting to pilot the financial policies. It said 17 cities had been awarded more than 7 million Yuan ($1.11 million) due to excellent or good air quality performance in those areas.

The assessments could particularly impact officials in three key air pollution control regions: the Beijing-Tianjin-Hebei region, the Yangtze River Delta area around Shanghai, and the Pearl River Delta area in south China's Guangdong province. In those areas, stricter targets on controlling emissions, particularly PM2.5, are being put into place. Provinces outside those three zones will be graded based on reductions of PM10 and two other key air pollutants, sulfur dioxide and nitrogen oxide.

The plan was announced just a day after Shanghai municipality issued warnings for children, elderly or those with sensitive health conditions to stay indoors as poor air quality hit the area.

China released its Air Pollution Action Plan in September and has been rolling out a series of policies to implement the plan since. Several areas such as the provinces of Guangdong and Yunnan already started piloting official evaluation policies late last year.

On May 16, the MEP said the installation of air quality monitoring stations is progressing, with 381 monitoring points expected to be operating in 129 cities by the end of the year. Currently, 171 monitoring stations are reporting air quality data, with the others expected to be operating by late November.

The MEP released the latest criteria for daily air quality measurements on May 9, with a public comment period running to June 13.
Provincial governments also have been required to release their own air pollution action plans, with Shaanxi province being the most recent, issuing a 2014 policy on May 24 that focuses on reducing the number of coal-fired boilers, closing outdated coal-fired power units, controlling dust, expanding wetlands and removing older vehicles from the roads.

The Beijing Development and Reform Commission will reduce coal-fired power units, boilers, industrial coal and smaller distributed coal use by the end of the year. A May 22 report on the State Council website estimates that 2.6 million metric tons of coal use can be reduced in the municipality through these measures.

On May 6, the city of Guangzhou in south China’s Guangdong province also announced a summary of its policies running through the end of 2016, which primarily focus on reducing PM2.5 concentrations by 20 percent by the end of the period based on 2012 levels, as well as imposing dust emissions charges for construction sites, though the full text of the plan has not been released.

Zhu Xiaodian, governor of Guangdong province, said it would achieve zero growth in coal-fired energy use this year and attempt for negative growth in 2015, according to a notice released by the MEP on May 4.

While all provinces must control sulfur dioxide, nitrogen oxide and to a varying degree PM10 and PM2.5, Hunan province announced May 4 that it would also include lead emissions in its key pollution control criteria, due to problems with heavy metal emissions from battery production in the province.

The MEP issued a statement to local governments on May 1 asking them to prepare self-evaluations of their progress on implementing air pollution action plan policies, with appraisals expected to be submitted by the end of the first half of the year.

Guizhou province in southwestern China officially started a pilot emissions trading system (ETS) for the four key pollutants on May 15, hoping to involve coal-fired power plants, cement companies, iron and steel works and other heavy polluters in the system, the MEP said. An evaluation of the pilot ETS will be conducted at the end of the year to determine if it can be expanded to other provinces.

The Ministry of Finance said in March that it was interested in supporting the expansion of ETS platforms for key emissions, and it hopes more systems will be launched in other provinces and cities in the next two to three years.

**b. Heavy Industry, Vehicles, Coal, 2015 Greenhouse Gas Targets**

On May 27th, China announced a plan to conserve energy and cut greenhouse gas emissions through the end of next year by targeting heavy industry, automobile emissions and coal consumption in major metropolitan areas around Beijing, Shanghai and the Pearl River Delta in southern China. In a statement, National Development and Reform Commission Chairman Xu Shaoxi declared a “sense of urgency” to meet the goals, which include cutting energy intensity per unit of gross domestic product by 3.9 percent each of the next two years and reducing carbon dioxide intensity per unit of GDP by over 4 percent this year and 3.5 percent in 2015.

The announcement of relatively short-term goals to run through the end of 2015 could feed into China’s attempt to reach national goals under the 12th Five-Year Plan (2011-2015). Announced
in 2011, those goals were to reduce energy intensity by 16 percent and carbon intensity by 17 percent—both compared to 2010 levels—by the end of 2015.

In the first three years of the current five-year planning period, China reduced energy intensity by 9.03 percent compared to 2010 levels, Xu said.

Xu said China would “curb” excessive industrial growth in part by shutting some outdated production facilities and older coal-fired boiler systems and by curtailing some industries, including iron, steel, electrolytic aluminum, cement and plate glass.

China hopes to remove from the roads 6 million older vehicles that do not meet current and forthcoming emissions standards in their localities.

By the end of 2015, it expects cleaner China V gasoline and diesel to be available in the three key air pollution control regions around Beijing, Shanghai and the Pearl River Delta. The new fuels would have a maximum sulfur content of 10 parts per million.

c. Beijing Could Force Some Industry Out of Town

Beijing municipal environmental protection authorities are vowing to push heavy polluting companies out of the city in an effort to deal with severe air pollution. The officials announced a 300,000 Yuan ($48,000) fine issued to Beijing Bawei Co. for failing to control volatile organic compound emissions at its outdoor painting contracts. It was the largest penalty handed out by the municipal government under new regulations, according to a May 13 report from China Environment News, a news agency under the Ministry of Environmental Protection.

“Companies that fail to meet environmental regulations and standards will have no space to operate in Beijing,” Wang Chunlin, head of the Pollution Prevention and Treatment Department of the Beijing Environmental Protection Bureau, said at a May 14th news conference, according to a transcript from the bureau's website.

The municipality will release a catalog of industries banned from adding production capacity and another with guidelines on industries that need to upgrade their facilities or relocate out of Beijing this year. Industries affected include oil refining, cement, coke refining, ceramics, concrete mixing, nonferrous metals and facilities with coal-burning boilers.

Beijing is considering raising fees for the discharge of volatile organic compounds and will enact updated VOC emissions standards by the end of the year, as well as launch on-site inspections of facilities with VOC emissions in June and August. It also will begin special inspections of vehicle emissions check centers in September and October.

New emissions standards also will be released for vehicle manufacturing, packaging and printing, furniture manufacturing, industrial painting, catering, chemical and oil refining, coal-fired boilers and organic chemical processing.

The largest source of small particulate matter (PM-2.5) pollution in Beijing is motor vehicles, at 31.1 percent, followed by coal-fired power (22.4 percent), industrial sources (18.1 percent) and construction sites (14.3 percent), according to Beijing Environmental Protection Bureau data.
Last month, Chen Tian, a top Beijing Environmental Protection Bureau official, said that between 64 percent and 72 percent of the PM-2.5 pollution in Beijing came from within the municipality, with the rest from surrounding provinces.

Both Beijing and the south China city of Guangzhou are contemplating new fees for construction sites to pay for controlling dust pollution, China Environment News reported on April 28th.

Chinese provinces and local governments are attempting to tackle air pollution and overcapacity in heavy industries including steel, iron, cement, coal mining and glass. The provincial governments of Hubei and Fujian and the Xinjiang-Uighur autonomous region all announced plans in recent weeks.

On April 30, the provincial government of Guangdong also announced plans to close down outdated coal-fired power facilities.

And on May 12, the National Development and Reform Commission said it would increase the electricity price for the cement industry by 0.4 Yuan per kilowatt hour ($0.06) and let localities push rates even higher at their discretion.

d. Plan for Addressing Post-2020 Climate Change Expected Next Year

China will release an action plan in 2015 for how it will address climate change in the years after 2020, according to Xie Zhenhua, vice director of the National Development and Reform Commission (NDRC), quoted in a report on the NDRC’s Climate Change Department website on May 6.

The plan is expected to be released in the first half of 2015, according to Xie, who addressed reporters at a high-level meeting on climate change in Abu Dhabi on May 5, and will set new targets to address and adapt to climate change under the United Nations Framework Convention on Climate Change (UNFCC).

Xie said that China is making preparations for a “greater contribution” to the UNFCC process. But he did not elaborate, beyond saying that there would be “new targets” for China’s commitment.

e. Millions of Cars to be Scrapped in Anti-Pollution Push; Falling Behind Targets

China plans to take more than five million ageing vehicles off the roads this year in a bid to improve air quality, with 330,000 cars set to be decommissioned in Beijing alone, the government said in a new policy document.

In a wide-ranging action plan to cut emissions over the next two years, China's cabinet, the State Council, said the country had already fallen behind in its pollution targets over the 2011-2013 period and was now having to step up its efforts.

As many as 5.33 million "yellow label" vehicles that fail to meet Chinese fuel standards will be "eliminated" this year, the document said. As well as the 330,000 cars in Beijing, 660,000 will be withdrawn from the surrounding province of Hebei, home to seven of China’s smoggiest cities in 2013.
Beijing plans to limit the total number of cars on the road to 5.6 million this year, with the number allowed to rise to 6 million by 2017. Last year it cut the number of new license plates by 37 percent to 150,000 a year and is also paying for another 200,000 ageing vehicles to be upgraded.

The State Council document did not say how the plan would be implemented, but Beijing’s municipal government has previously offered subsidies of between 2,500-14,500 Yuan ($400-2,300) to drivers who voluntarily hand in their ageing vehicles to be scrapped.

Beijing currently forbids vehicles that do not meet required standards from entering the city, but officials have admitted that China currently lacks the monitoring and policing capability to ensure all cars make the grade, and drivers have also found ways to avoid detection.

"Many vehicles have problems and many didn't even meet the standards when they came out of the factory, and fining them on the streets isn't the way to solve this problem," said Li Kunsheng, an official responsible for transport emissions at the Beijing municipal environmental bureau.

The policy document also set new targets for the closure of coal-fired heating systems as well as the installation of equipment to reduce sulfur dioxide and nitrogen oxide emissions at power stations, steel mills and cement plants.

It said China was aiming to cut carbon emissions per unit of economic growth by more than 4 percent this year and more than 3.5 percent in 2015 as it tries to meet a binding 17-percent target set in its 2011-2015 five-year plan.

China also seeks to reduce energy consumption per unit of growth by 3.9 percent this year and next in order to meet a 16 percent target for the 2011-2015 period.

In a report on human rights, China said it’s spending on energy saving and environmental protection in 2013 rose 14.2 percent year-on-year to 338 billion Yuan ($54 billion). "Focusing on solving the major environmental problems that seriously endanger people’s health, (China) investigated and punished harshly illegal pollution and environmental crimes, so as to safeguard people’s right to a healthy and clean environment," it said. ($1 = 6.23 Yuan)

f. New Law Helps but Beijing’s Needs More Resources in War on Pollution

Environmental inspectors in Beijing are scrambling to keep pace with a rising number of cases as the city tries to impose tough new standards on thousands of polluting firms, highlighting the growing logistical problems facing China's war on smog. The Chinese capital has been at the frontline of a "war against pollution" declared by Premier Li Keqiang in March, and 652 industrial facilities were punished for breaching environmental regulations there in the first four months of 2014.

Beijing's efforts are part of a promise made by the central government to reverse the damage done by decades of untrammeled growth and beef up powers to shut down and punish polluting firms. But the city's 500-strong squad of environmental enforcers have struggled to cope with the sheer volume of complaints.

"We have a total of 500 inspectors throughout the city, and it is certainly far, far from enough to ensure proper oversight," said Li Xiang, an inspector with the municipal environmental protection bureau. Li was speaking at the team's headquarters in the northwestern outskirts of the city, where a fleet of inspection vans was being prepared for a new operation.
"Actually there are just too many cases," he added, noting that the city environmental bureau is now handling around 5,000-6,000 complaints a month.

"One after another they come to our department and it becomes impossible -- we can only adopt a guiding role and do our best to set up standard working procedures for the most important cases."

Making matters worse, some firms are slow to cooperate, with bosses refusing to sign documents, blocking vehicles from entering the premises and on occasion resorting to verbal abuse.

The problem is not just in Beijing, where harmful particle concentrations known as PM2.5 are 156 percent higher than the recommended national standard and over four times the daily level recommended by the World Health Organization. Hundreds of smaller, less prosperous cities across the country face even bigger challenges.

According to the Energy Foundation, China had a total of 2,935 officials involved in environmental protection by the end of 2011, compared with 17,106 in the United States. It also estimated that China's environmental budget in 2012 amounted to just $0.40 per member of the population, compared with $25 in the United States.

Researchers have said that while China's environmental legislation has improved in recent years, authorities have struggled to keep pace with the growth of the economy. That expansion has brought thousands of polluting factories into existence without the equivalent increase in the state's regulatory powers.

"We have had this race between economic growth and environmental protection, and even though we have the policies, and even if they are effectively implemented, we are still quite overwhelmed by the rapid economic growth," said Qi Ye, director of the Brookings-Tsinghua Center for Public Policy.

Beijing has seen its population grow 66 percent and the total number of vehicles by nearly 200 percent between 1998 and 2012, putting huge pressure on regulators when it comes to implementing policies like fuel standards.

Li Kunsheng, director of the vehicle emissions center of the Beijing Environmental Protection Bureau, told the press that while Beijing only permits vehicles that conform to tough standards, the city has neither the technology nor the boots on the ground to enforce its rules. "We check local cars very strictly, but for those coming into the city from outside, we can only rely on transport police to stop and check them," he said. "Large numbers of vehicles have problems, and relying on this method doesn't really solve anything."

Last month, China passed long-awaited new amendments to its 1989 Environmental Protection Law, giving legal backing to the army of environmental inspectors and promising additional powers to monitor and punish violators. "The new environmental law does have something to say about expanding environmental enforcement powers, so we will certainly get bigger," said Yan Xiangyang, head of the Beijing environmental bureau's inspection office. "We will certainly get stronger, but I can't say how many more people we will get. That isn't our decision."

**g. China Opens First Environmental Court**
The court established in the southern province of Fujian has appointed 12 specialist consultants who will assist litigators on technical issues, Xinhua news agency reported.

Environmental scandals have plagued China in recent years as the country pursued a strategy of high growth and rapid industrialization. Faced with growing anger over pollution, Beijing has adopted a more environmentally-friendly strategy.

A new environmental law approved last month is expected to give the government power to impose tougher penalties on polluters when it enters into force on January 1 next year. Hitherto, many companies found it cheaper to pay fines rather than clean up production methods.

h. Tianjin to Restrict Vehicle Use to Curb Pollution Episodes

The government of the industrial city of Tianjin in northern China will limit the number of vehicles allowed on roads during heavy smog, state media has reported, in the latest attempt to fight pollution. On days of severe pollution, Tianjin will halve the number of vehicles allowed on roads by restricting license plate numbers, as well as halt construction and manufacturing activity, close schools for the day, and halt large-scale outdoor activities, the official Xinhua news agency said.

China has vowed to reverse the damage done to its environment by decades of untrammeled economic growth, and has identified the region of Beijing, Hebei and Tianjin as one of the key targets of a program to curb big industries like steel, thermal power and cement, all major sources of smog.

About one third of the pollution in Beijing, whose often choking smog has been dubbed the "airpocalypse", comes from outside the city, a pollution watchdog said last month.

Last month Tianjin banned new steel and cement plants, following similar statements from neighboring Hebei province and Beijing, and in line with a central government plan last year to restrict new manufacturing in key industrial centers.

i. In China, 64 Percent Say They Are Environmentalists - Report

The survey by Dutch research agency Motivaction said in China environmentalists had a greater sense of urgency about action needed to tackle the problem than Western counterparts, where the financial crisis has knocked environmental policy down the political agenda.

Motivaction, which interviewed more than 48,000 consumers in 20 countries through online surveys, found Chinese greens tended to be socially conservative, devoted to family and traditional Asian values, and pro-business groups which believed strongly in the role of technology to solve problems.

In contrast, it said, the United States and Europe have developed a "cosmopolitan environmentalism", a movement supported frequently by liberal, highly-educated and politically active groups.

The report said multinational companies needed to understand Chinese environmentalists and how to harness their potential.
China, blamed for nearly a third of global carbon emissions, is the world's biggest investor in green technology, which the report said could give it a competitive advantage in future, and was pressing ahead with investment in the sector.

Chinese Premier Li Keqiang promised to tackle pollution in March after an official Chinese report dubbed Beijing "barely suitable" for living due to hazardous smog. China pledged to spend $1.65 billion to combat air pollution and $330 billion on water shortages.

Governments aim to agree a new United Nations pact to combat climate change at a summit in late 2015. European environmentalists have often accused China of stalling efforts to agree a new global deal. However, when faced with public anger at home, the Chinese government has acted, including amending environmental protection laws last month to impose tougher penalties on polluters.

j. BMW to Deliver Electric Car in China in September

BMW will start delivering imported electric cars in China in September, with pre-orders indicating short supplies in a market that could become the world's biggest for green vehicles, BMW China President Kirsten Engel said recently. The German premium automaker will sell its all-electric powered BMW i3 sedan and plug-in hybrid i8 sports car in four Chinese cities initially, with a sales cap of 1,000 vehicles this year, Engel said. The i3 starts at 450,000 Yuan ($72,000), cheaper than some had expected.

"There are many more customers than supply," Engel told reporters in Shanghai, where BMW launched a project to build charging facilities with State Grid Corp of China and Expo Shanghai Group.

Engel declined to say how many pre-orders the company has received in China for the i3 since the model was unveiled at the Beijing auto show last month, but said more than 28,000 people have requested a test drive in a sign of public interest.

Munich-based BMW competes with rivals including Tesla Motors Inc, Volkswagen AG and Daimler AG in selling electric cars in China's slowly developing market for environmentally friendly vehicles.

China has set an ambitious target of putting 5 million electric or plug-in hybrid vehicles on the country's roads by 2020, part of Beijing's efforts to fight pollution and reduce reliance on oil imports.

"I personally would assume that in less than five years, China would be the largest market for electric mobility," Engel said.

Tesla launched its luxury Model S in China earlier this year, Daimler and Chinese carmaker BYD Co Ltd will start selling the Denza electric car this year and Volkswagen plans to sell more than 15 green vehicle models in China by 2018.

Initially launched in Europe toward the end of 2013, the BMW i3 is made in Germany out of carbon fiber and aluminum and has a range of around 160 kilometers. It was introduced in April in the United States, retailing for a suggested price of $41,350.
The i3, which will be sold in Shanghai, Beijing, southern Shenzhen and northeastern Shenyang, is cheaper than Tesla's Model S which starts at 648,000 Yuan in China.

Through its joint venture with Brilliance China Automotive Holdings Ltd, BMW has also launched an electric vehicle in China, the Zinoro, which for now is only available for rent.

k. China Lays Out Fuel Quality Deployment Timelines, Plans Vehicle Inspection Reforms

PetroChina said it will provide both diesel and regular gasoline at the China IV standard nationally by the end of 2014, and both fuels at the China V standard by the end of 2017. In an annual environmental protection report released June 6th, the New York Stock Exchange-listed arm of China National Petroleum Corp. said it has upgraded facilities in China to supply less-polluting China IV quality fuel, similar to Euro IV standards.

PetroChina also said it is actively working to produce China V quality fuel, an even higher standard already in place in areas such as the municipality of Beijing.

Beijing is considering implementation of a China VI fuel and vehicle emissions standards and has deployed researchers to the United States to study similar policies there, according to a report on the Ministry of Environmental Protection's Vehicle Emissions Control department web page appearing May 21.

One of Beijing's major problems however is how to better control emissions from vehicles outside of the municipality, where about 31.5 percent of all small particulate matter (PM-2.5) comes from vehicles, and 33 percent of that from vehicles registered outside the city.

China's Ministry of Public Security and Administration of Quality Supervision Inspection and Quarantine released a statement about strengthening vehicle emissions inspection on May 16, which includes reforms to the inspection system such as:

- speeding up the approval of inspection institutions,
- separating inspection duties from government bodies by relying on third-party inspectors,
- allowing vehicles to have their inspections outside of the area they are registered in, and
- holding inspection institutions more accountable for their inspections.

The China V fuel quality standard will be required for the three key air pollution control areas of Beijing-Tianjin-Hebei province, the area around Shanghai in the Yangtze River Delta, and in the Pearl River Delta area in Guangdong province by the end of 2015 and nationally by the end of 2017.

Shanghai municipality officially adopted the China V tailpipe emissions standards from April 30, 2014, and also stated that vehicles with China IV emissions standards will not be able to register in the municipality, a place that is already notoriously difficult to get a vehicle registered due to the price of registration.

Besides these policies, under the Clean Air Action Plan released by the State Council in September 2013, the three key air pollution control regions will have to phase out by the end of 2015 any "yellow-label" vehicles (vehicles not meeting the latest tailpipe emissions standards) registered prior to 2005, with a goal of phasing out all current yellow label vehicles nationwide by the end of 2017.
Shenzhen and the cities of Dongguan, Zhuhai and Foshan in the key air pollution control region of the Pearl River Delta have all recently begun implementing updated vehicle subsidy schemes to push owners to remove yellow label vehicles from the roads, and Guangdong province will be implementing an overall measure on this in the near future, Chen Xiancheng, a senior engineer from the Guangdong Environmental Protection Bureau, said in an online interview with the press on June 5th about the province's forthcoming air pollution control policies.

Similar schemes have also been recently released in Nanjing, Jiangsu province, which is in the Yangtze River Delta air pollution control region, where owners can get a maximum of 20,000 Yuan ($3,209) for retiring older yellow label vehicles, the city government announced at the end of May.

I. Official: China Wants to Enact National Emissions Trading System by 2020

China hopes to enact a national carbon emissions trading system by 2020 based on lessons learned from a half-dozen pilot trading platforms launched over the past year, a top National Development and Reform Commission official said June 10. “We believe we can target the establishment of a national carbon emissions trading system by 2020,” Su Wei, director of the Department of Climate Change at the NDRC, said at a conference in Shenzhen.

But Su, one of the country's top climate change negotiators, said the pilot programs must establish a more “active” and “vital” emissions trading system, and that the NDRC would work to bring more financial and investment institutions into the system. “Without an active futures market, it is difficult to make a carbon market thrive,” Su said.

Chongqing municipality, the last of China's seven initial ETS pilots, confirmed it would launch on June 19th, said Ding Di, vice director of the Chongqing Development and Reform Commission. Pilot ETS projects already have been established in Beijing, Tianjin, Shenzhen and Shanghai municipalities, and in the provinces of Guangdong and Hubei.

The programs have given China “valuable experience” and might help with meeting a goal of reducing carbon intensity per unit of gross domestic product by 16 to 17 percent by the end of 2015, said Xie Zhenhua, vice director of the NDRC.

Challenges to the new ETS pilot projects have included “cultivating awareness of the responsibilities” of companies involved in the system, and an inactive secondary market, said Zhou Quanhong, director of the Office of Emissions Trading under the Shenzhen Development and Reform Commission. In the Shenzhen ETS, companies must submit credits to cover their 2013 emissions through the exchange's registry by June 30. Authorities are expected to release the names of the companies and the compliance status by July 31.

Shenzhen could punish companies that do not purchase offsets for their emissions through restricting access to credit at local banks, reducing their quota allowance for the next compliance period, restricting government subsidies, and possibly imposing heavy fines, Zhou said. Shenzhen will soon publish a “very strict” draft regulation on the punishments, Zhou said.

Some companies still need encouragement to become actively involved in the ETS pilot programs, said Chen Hai'ou, head of the Shenzhen exchange. “One thing we face is that the priority of carbon trading is relatively low for enterprises,” Chen said. “The people that are responsible for this at a company are not often in direct communication with their leaders.”
Guo Wanda of the Development Research Institute in Shenzhen said, “Sometimes it worries us about whether [the companies] understand the system and whether they will use their allowances. ... If you have a platform and they are not interested or willing to trade on the platform, it can make for difficulties.”

A report released by the China South Low Carbon Academy in Shenzhen detailed the exchange data on the trading activity from the launch June 18, 2013 through April 30. It said 635 companies, 197 buildings, six institutional investors and 543 individuals opened accounts to trade on the platform. The report did not include data from the June 6 auction, and full data on the first year should be available after June 30, said Li Ting, director of the institution.

A total of 33 million tons were originally allocated to the companies, though this was later readjusted to 30 million tons of allocations, according to the report.

Other pilot ETS with June 30 compliance dates include Beijing, Shanghai and Tianjin. Guangdong’s compliance date is June 20. All of these pilot projects are scheduled to publish their compliance findings by July 31.

m. Finally, a Pollution Index Beijing Can Love

Transparency is a popular catchphrase these days in China, with ordinary people demanding more of it from their officials. In this regard, pollution is one area in which there has been some progress, even if the polluting activities themselves remain a chronic problem across the country.

On Monday, environmental advocates in China released the latest annual rankings of cities as measured by official environmental transparency. The project, called the Pollution Information Transparency Index, seeks to gauge how open officials are about levels of pollution at the sources of the problem. It is drawn up by the Institute of Public and Environmental Affairs, a group based in Beijing led by Ma Jun, and the Natural Resources Defense Council, based in New York.

The rankings were the fifth consecutive annual list the two groups have released. They said they evaluated 120 cities with data from 2013 and early 2014. Cities in relatively wealthy eastern provinces rated well, while those in poorer inland and northeastern provinces fared poorly. Some of the cities in the bottom 10, such as Linfen and Datong, both in Shanxi Province, are in heavy coal mining areas and are known for their horrid levels of air pollution. Beijing jumped to number two from number six in 2012. The eastern port city of Ningbo, known for its export manufacturing industry, ranked first both years.

The groups said in a statement on Monday that the data showed “that environmental protection supervision and management information in those key cities still needs improvement, while on the other hand, breakthroughs have been achieved in disclosure of real-time pollution source data and of full environmental impact assessment reports.”

There are two prominent weaknesses in the disclosure of environmental information that officials must address, the groups said. One is that public participation in environmental impact assessments is lacking now because there is no good mechanism for it. The second is that disclosure of industrial emissions data is “very limited.”

The groups praised provinces and regions that had established online platforms for the release of real-time monitoring information. Mr. Ma said, “Once records of excess polluters can
immediately be made public, polluting enterprises will be under powerful supervision of the public, interference toward environmental protection from local governments will be effectively prevented and the complications of environmental protection law enforcement that have long plagued China may possibly be overcome."

Mr. Ma’s group said it had developed a smartphone app that allows users to check the current air quality in 190 cities and look at real-time data on major sources of atmospheric pollution. On one recent day, the data showed that as many as 370 large industrial companies were producing excessive emissions.

Data from the project has revealed "that environmental protection supervision and management information in those key cities still needs improvement, while on the other hand, breakthroughs have been achieved in disclosure of real-time pollution source data and of full environmental impact assessment reports," the groups said in a statement.

Around 15,000 factories are currently required to report their pollution levels in real time to the Environment Ministry, and some of the resulting data is required to be public. The app marks the first time air quality data has been available in one easy-to-access place.

The 10 top-ranked cities out of 120 for environmental transparency for 2013 and early 2014 are:

1. Ningbo (Zhejiang Province)
2. Beijing
3. Qingdao (Shandong Province)
4. Zhenjiang (Jiangsu Province)
5. Wenzhou (Zhejiang Province)
6. Hangzhou (Zhejiang Province)
7. Shanghai
8. Nanjing (Jiangsu Province)
9. Changzhou (Jiangsu Province)
10. Yangzhou (Jiangsu Province)

The 10 bottom-ranked cities are:

111. Kunming (Yunnan Province)
112. Linfen (Shanxi Province)
113. Harbin (Heilongjiang Province)
114. Jinzhou (Liaoning Province)
115. Deyang (Sichuan Province)
116. Shaoguan (Guangdong Province)
117. Jilin (Jilin Province)
118. Yuxi (Yunnan Province)
119. Yangquan (Shanxi Province)
120. Datong (Shanxi Province)

**n. EV, Plug-In Hybrid Sales Soar in China in First 5 Months**

Sales of electric vehicles and plug-in hybrids in China surged 98 percent in the first five months of the year from the same period last year to 3,770 units, the Ministry of Industry and Information Technology said. In the first five months, sales of passenger EVs jumped 177 percent year-on-
year to 1,851 units, while sales of passenger plug-in hybrids surged 567 percent to 1,014 units, according to the ministry, which regulates the domestic auto industry.

By contrast, deliveries of commercial EVs dropped 29 percent from a year earlier to 366 units, while sales of commercial plug-in hybrids dipped 4 percent to 539 units.

The central Chinese government offers incentives of as much as 57,000 Yuan ($9,120) for the buyer of an EV and as much as 33,250 Yuan for the buyer of a plug-in hybrid. Conventional hybrids do not qualify for government incentives in China.

Sales of commercial EVs such as electric buses are mainly subsidized by city governments in China, and the subsidies vary among cities.

**o. Global Auto Component Makers Gear Up For China's Tougher Emission Rules**

![A Woman wearing a mask stands beside her bicycle as vehicles stop at a traffic junction on a busy street amid thick haze in Beijing in this February 25, 2014 file photo.](image)

Global companies that specialize in making vehicle emissions cleaner are rushing to take advantage of Beijing's war on pollution, as Chinese automakers look to comply with tougher regulations in the world's biggest auto market.

Firms from Bill Gates-backed start-up EcoMotors Inc to Faurecia SA, a parts supplier controlled by French giant Peugeot SA, are jostling to help automakers meet new diesel emission rules taking effect in January, despite concerns the standards may not be strictly enforced.

"Generally speaking, we will benefit from higher emission standards in China as they will further spur our business growth," said Liu Xiaoxing, China vice president of Cummins Inc, a U.S. diesel engine maker that partners with Faurecia and counts China as its biggest and fastest-growing market.

Pollution has reached crisis levels in China after decades of growth-at-all-costs, contributing to hundreds of thousands of deaths a year and sowing the seeds of social unrest. Automobiles are chiefly responsible for China's foul air, according to the country's environment watchdog.

Among other measures to tackle the problem, from next year China will adopt a new set of diesel emissions regulations aimed at eliminating mainly trucks and lorries that produce high levels of harmful substances such as nitrogen oxides and particulate matter.
The country will also take six million high-emission cars off the road this year, and is drafting regulations aimed at slashing fuel consumption by passenger vehicles.

"Foreign component makers will benefit most from the stricter emissions standards over the long term, as they have more advanced technology than Chinese suppliers," said Li Jia, an analyst at consultancy IHS Automotive. Leading component suppliers that can help Chinese automakers cut emissions include Continental AG, Robert Bosch GmbH [ROBG.UL], Denso Corp, Tenneco Inc and Faurecia, Swiss private bank Bank J. Safra Sarasin Ltd said in a report on June 3.

The technologies they bring to the table include exhaust treatment systems, turbo chargers, direct injection mechanisms and powertrain controls.

Concentrations of fine atmospheric particles known as PM2.5 averaged 89.5 micrograms per cubic meter daily in the Chinese capital last year. That was 156 percent higher than national standards.

From January 1, 2015, China will implement the long-delayed national stage 4 emission standard (NS4) - the equivalent of Euro 4 standards - on diesel vehicles, meaning automakers will be allowed to sell only trucks and lorries that puff out lower levels of pollutants than they do currently.

China also aims to reduce average fuel consumption by passenger vehicles to 6.9 liters (1.8 gallons) per 100 kilometers (62 miles) in 2015, from 7.38 liters currently.

Mathias Miedreich, Asia president of Faurecia's emission control technologies unit FECT, whose clients include makers of both diesel and gasoline-fuelled vehicles, said annual sales stood to grow 40 percent faster than the broader auto industry's growth rate over the remainder of the decade. The company forecasts FECT's China revenue will double to 2 billion euros ($2.72 billion) by 2020. FECT recently invested several million euros in a plant in Beijing to expand capacity for NS4-compliant exhaust systems.

"China represents the highest growth market ... We believe our products will give us significant advantage," Miedreich said.

Other players are also boosting investment. EcoMotors struck a deal in March with a unit of state-owned China FAW Group Corp [SASACJ.UL], one of China's biggest producers of commercial vehicles, to jointly build a $200 million engine plant in China.

EcoMotors President Amit Soman said many Chinese automakers were looking to skip straight to the latest technology in fuel efficiency rather than "just do small changes in conventional engines".

German automotive supplier Eberspaecher Group is also getting in on the act, setting up a joint venture in December with Shaanxi Automobile Group Co Ltd to make exhaust systems for the China market.

Faurecia's Miedreich said the risk that the tougher emission standards would not be enforced, exposing companies that invest in the technology to potential losses, was worth taking. "The risk is, basically, we spend money and have no return," he said. "Our decision is and will be - we will take the risk."
p. Is China Ready To Scrap 13 Million Clunkers?

For decades, China's government allowed the environment to deteriorate as it promoted fast economic growth. But now, President Xi Jinping's leadership team seems willing to make amends. The team announced a plan last month to improve fuel economy and reduce emissions by scrapping aging light vehicles. The program, if strictly implemented, will be a boon for the Chinese auto industry.

More than 13 million "yellow label" vehicles -- cars and trucks that fail to meet emission standards -- were still in use at the end of 2013, government statistics show. China plans to scrap 6 million "yellow label" vehicles this year and target the rest of the population of older vehicles over the next three years.

The government appears to be serious. To ensure implementation, Beijing has set targets for each of China's 31 provinces, municipalities and autonomous regions. For example, north China's Hebei province -- plagued by choking air pollution from its many steel mills, cement factories and power stations -- is required to scrap 660,000 vehicles this year. And if local government officials fail to achieve their targets, Beijing will hold them accountable, according to the plan.

This is good news for China's domestic automakers, the country's main producers of light commercial vehicles. To fulfill their scrappage quotas, local governments will have to offer attractive cash-for-clunkers incentives. That will significantly boost sales at domestic automakers as China businesses replace their fleets.

It could be good news for global suppliers, too. As emission standards grow tougher, demand for fuel-efficient turbocharged engines and clean diesels will rise. And automakers with the best technology will prosper.

q. Why Tesla's Generous Patent Offer Fails To Woo China's EV Makers

Patents are meant to protect a company's technology and business know-how. But Elon Musk, CEO of Tesla Motors, boldly announced he would allow other automakers and suppliers to use the company's EV patents. In a blog posted on Tesla's Web site on June 12, Musk said the decision was made "for the advancement of electric vehicle technology."

Musk's altruism may have impressed EV makers elsewhere, but not in China. Two prevailing views about his offer have emerged in China, and both are negative.

One view -- which is common among Chinese auto executives -- is that Tesla doesn't have much technology to boast about since he relies heavily on suppliers for key components.

EV technology fits into three basic categories: batteries, electric motors and battery management. Tesla sources its batteries from Panasonic and its electric motors from Fukuta Electric and Machine Co., a company based in Taiwan. The only technology that Tesla created on its own is battery management, explains 21st Business Herald, a Guangzhou-based daily newspaper.

"We don't believe Tesla has many authentic patent rights," said Fang Yunzhou, vice general manager of Chery Automobile Co.'s new energy vehicle company. His remarks were broadcast last week by the Central People's Radio Station, China's national radio broadcasting company.
That view is shared by Wang Chuanfu, founder of BYD Co., China's largest EV maker. Earlier this year, Wang told Chinese media that Tesla's cars are merely toys of rich people. He added that BYD could, if it wished, roll out its own version of the Tesla Model S "in a few minutes."

There is a second view shared widely among China's auto professionals: Musk is not sincere about sharing Tesla's patents. They suspect that Musk's real intention is to impose his own technical standards on the global EV industry. By trapping other companies into using Tesla's patents, Musk's "ultimate goal is to create a set of technical standards that can be applied to other electric vehicle manufacturers," said Liu Yongdong, secretary general of the Electric Vehicle Charging Facility Standardization Technology Committee, in an interview with the 21st Business Herald. Liu's committee is affiliated with the Beijing-based China Electricity Council, an industry body.

Last week, the Securities Times, a Shenzhen-based financial daily, took Liu's thesis a step further. "Once other companies have started relying on Tesla's patented technology, it will be the time for Tesla to collect patent licensing fees," the newspaper predicted.

To be sure, Musk asserts that the patent offer would help Tesla's competitors. "We believe that Tesla, other companies making electric cars, and the world would all benefit from a common, rapidly-evolving technology platform," Musk said in his blog.

But given the negative reception so far, Musk will have a tough time winning over his Chinese rivals.

r. Air Pollution Complaints in China's Capital Doubles in 5 Months

Complaints regarding air pollution in Beijing have doubled in the first five months of 2014, according to the city environment authority. The Beijing Municipal Environmental Bureau said on June 13 that 12,599 formal complaints about smog were lodged by members of the public from January to May.

The number represents a 124 percent increase compared to the same period in 2013.

Smog was involved in approximately 72.6 percent of the total number of environment-related complaints submitted to the Beijing authorities from January to May, the environmental bureau said according to Reuters.

China's leaders have been eager to show that they are on the public's side in the fight against pollution, by setting up hotlines, rapid response teams, task forces, and urging people to participate in campaigns against violators. Authorities are required to ensure accountability and transparency and also promises to improve access to the court system for those who are harmed by pollution, according to the newly amended environmental law.

In a different notice, the Beijing environmental bureau said over 114 firms have been punished in June after its latest week-long campaign targeting environmental violations in the catering, car manufacturing and car repair divisions. The firms were ordered to pay a total of 2.45 million Yuan ($394,600) in fines, according to the notice.

s. China's Shandong Teapot Refiners Lag Behind the Fuel Upgrade
China's small independent refineries continue to produce lower grade fuels despite a government-mandated shift to tighter specification gasoil and gasoline as they continue to see demand for lower-spec grades and also lack the financial resources to upgrade their plants. Some of these refineries, commonly known as "teapot refineries" in the country, are still producing National Phase II gasoil, which caps sulfur content at 500 ppm, against the national mandate of Phase III gasoil, where sulfur is capped at 350 ppm.

Teapot refineries typically have less than 5 million mt/year (100,000 b/d) of processing capacity and limited secondary units.

The gasoline they produce mostly complies with Phase III standards where the maximum sulfur content is capped at 150 ppm even though the country moved to Phase IV -- which limits sulfur at 50 ppm -- in early 2014. Starting next year, the central government will fully implement Phase IV specification standard for gasoil, while Phase V standards for both fuels are scheduled to be introduced before 2018.

According to data from Beijing-based information provider JYD Commodities Hub, just over half of the 36 teapot refineries it tracks in Shandong province -- where most of the teapot refineries are located -- have the capability to produce Phase IV gasoline and Phase III gasoil. Refineries that have not progressed to producing higher quality fuels are restricted mainly because they do not have hydrogenation units, which are expensive to build.

"Some small-scale refineries have not put up new hydrogenation units yet ... perhaps because these units are quite expensive to build, and [the teapot] refineries usually lack the financial resources," said a source with the 4.8 million mt/year Huifeng Petrochemical. Huifeng is now able to produce Phase IV gasoline and Phase III gasoil after adding some hydrogenation units over the past years.

China's state refiners, led by Sinopec or China Petroleum & Chemical Corp., and PetroChina, have been aggressively upgrading their refineries since 2012 to produce fuels compliant with Phase IV standards. Some of those state-owned refineries have also started producing Phase V compliant gasoline, which caps sulfur at 10 ppm.

As teapot refineries do not have oil product export licenses, their only outlet is the domestic market, where despite a nation-wide move to tighter spec fuels, these refineries have found pockets of demand for their lower quality output. "The new standards introduced by the government since late last year does not mean the end for Phase III gasoline and Phase II gasoil, as long as there is demand for it," said a source with the 5 million mt/year Lijin Petrochemical refinery.

Gasoline is the main fuel for passenger vehicles, while gasoil is used in heavy trucks, and the industrial and agricultural sectors. Demand for 500 ppm sulfur gasoil now mostly comes from the construction and mining sectors, particularly in the rural parts of the country, refinery sources said.

Teapot refiner Tianhong New Energy, which has a refining capacity of 1.5 million mt/year, says it sells its 500 ppm sulfur gasoline and off-spec gasoil -- that does not even meet Phase II gasoil specifications -- to industrial users and the fishing sector. "Those buyers are sensitive to price and tend to use cheaper fuel if possible," said a refinery source. The wholesale price of Phase II gasoil is typically about Yuan 100/mt ($16/mt) lower than 350 ppm sulfur gasoil in Shandong market.

China last year said that it would raise the price of cleaner transport fuels to incentivize refineries to upgrade as it tried to control pollution in the country. The National Development and Reform
Commission in September 2013 said it would raise the price of Phase IV gasoline and gasoil by Yuan 290/mt and Yuan 370/mt respectively, up from Phase III fuels. Meanwhile, prices of Phase V gasoline and gasoil will be even higher.

"There is a lot of demand for Phase II gasoil," a source with the 3.5 million mt/year Jingbo Petrochemical said.

For refineries, it does not hurt their profit if they sell Phase II gasoil rather than Phase III, as the profit margin for both are almost the same even though the latter needs further treatment, refinery sources said. The price of Phase III gasoil is about Yuan 100/mt higher than Phase II, but the production cost of Phase III is also about Yuan 60-80/mt higher, sources said.

Demand for Phase III gasoil is not as strong as for Phase II as buyers tend to use low grade fuels that cost less, they said.

In addition, demand for the lower-spec fuels is rising from another source -- teapot refineries that are only building hydrogenation units. Dongying Huasheng, a company in Shandong that does not have a crude distillation unit, plans to commission a 300,000 mt/year gasoil hydrogenation unit in the coming weeks that will enable it to produce Phase III gasoil. "We will need to purchase off-spec gasoil that is produced out of CDUs as feedstock for our new unit. We aim to produce around 15,000 mt to 20,000 mt of Phase III gasoil every month," a company source said.

China Arrests 186 for Environmental Pollution In 2013

China arrested 186 people on charges of environmental pollution in 2013 in a total of 109 cases, environment minister Zhou Shengxian has announced. He did not reveal how many were convicted.

Environmental authorities shut down more than 3,500 companies and workshops in a nationwide campaign last year, uncovering 6,499 cases involving environmental problems, he said.

A total of 706 cases related to environmental rule violations were transferred to police last year, more than the total of the previous 10 years combined, according to Zhou.

This year's campaign will focus on inspections to prevent and control air pollution as well as treatment of water pollution caused by high-polluting industries, such as heavy metals and pharmaceuticals, Zhou said.

The ministry has suspended environmental approvals for new construction projects with chemical oxygen demand and ammonia nitrogen emissions in four cities -- Jixi, Lianyungang, Yueyang and Yulin -- and suspended approvals for new construction projects with sulfur dioxide and nitrogen oxide emissions in Shantou City, as the five failed the annual evaluation on pollutant emission reduction for 2013, according to Zhou.

Last year, the country's two oil giants, the China National Petroleum Corporation (CNPC) and the China Petroleum and Chemical Corporation (Sinopec), were also banned from environmental approvals for new refining projects due to their failure in the evaluation.

Another 19 companies were fined for weak desulfurization.
u. China Officials Jailed for River Pollution

Two former environment officials in south China's Guangxi Zhuang Autonomous Region were jailed recently for dereliction of duty in a river pollution case that happened last year. Mo Sijian, former director with the Pinggui branch of Hezhou City Bureau of Environmental Protection (HCBEP), and Tang Chuancheng, former head of HCBEP's environmental monitoring team, were sentenced to two years and eighteen months in prison respectively, the Babu District people's court announced in a statement.

The court found that Mo accepted lavish meals and was entertained by owners of Huiwei, an ore processor that polluted the Hejiang River, before ordering Tang to help the company obtain a pollutant discharge permit to which it was not entitled.

The statement said that both Mo and Tang neglected their duties as government officials, resulting in major environmental pollution and causing huge damage to public and private property.

The pollution of the river was discovered in July 2013 when dead fish were spotted. Investigations found that the pollutants were thallium and cadmium, both toxic to humans.

v. Chinese Official Plays Down Emission Cut Expectations

Any near-term regulation of China's greenhouse gas emissions would likely allow for future emissions growth, a senior government official said recently, discounting any suggestion of imminent carbon cuts by the biggest-emitting nation. Sun Cuihua, deputy director of the climate change office at the National Development and Reform Commission, said it would be a simplification to suggest China would impose an absolute cap on greenhouse gas emissions from 2016.

No decision had yet been taken on a cap and the timing of such a measure was under discussion, she said. Several options were being considered and China would choose policies in accordance with its conditions and stage of development. "Our understanding of the word 'cap' is different from developed countries," Sun told a conference.

An emission cap, whether imposed economy-wide or only on enterprises covered by a national carbon market, could be adjusted incrementally to allow for China's status as a developing country with growing energy consumption, she said. "Ours will probably be an incremental cap and we are currently researching all kinds of options," she said.

Sun's comments are likely to cool hopes in international climate negotiations that China could significantly change the base lines by announcing sooner-than-anticipated CO2 cuts.

She spoke after He Jiankun, a climate change adviser to the government, said last week China would cap its emissions when the next five-year plan enters into force in 2016. Even though He said emissions would continue to grow until 2030, some foreign observers understood that to mean that emissions would start to decrease soon. Experts say an emissions cap would likely be set at a level that would not impede growth, but that it would ensure emissions would not rise beyond a specific level, even with strong growth.

Xie Zhenhua, China's top climate official, said last week the country would seek to cap its emissions "as soon as possible" but that experts disagreed on when greenhouse gases would
peak. Emissions have nearly quadrupled since 1990 as the coal-fuelled economy has grown by
double-digits almost every year. China accounts for more than a quarter of total emissions.

Big emitting developed nations such as Australia, Canada, Japan and the United States are
reluctant to commit to binding emission reduction targets in a global treaty unless major emerging
economies, such as China and India, also take steps. China pledged in 2009 to reduce its
emissions per unit of GDP to 40-45 percent below 2005 levels by 2020, but has failed to commit
to setting an overall limit on emissions.

Driven by a desire to reduce dependence on fossil fuel imports and modernize its export-oriented
economy, China has launched a series of initiatives to curb the rise in emissions. The centerpiece
of policy has been a plan to launch a national carbon market later this decade.

China has in the past year banned construction of collieries in key regions, ordered the closure of
thousands of inefficient factories and introduced stricter fuel standards for vehicles.

36. Japan, South Korea to Help China Tackle Fine Particulate Matter Pollution

Japan and South Korea have agreed to help China combat its growing problem of fine particulate
matter air pollution. A joint communique released on April 30th by the Japanese Ministry of the
Environment said the agreement was struck at the 16th Tripartite Environment Ministers Meeting
held April 28-29 in Daegu, South Korea.

The countries identified several priority areas for enhanced cooperation, in particular China's
growing issue with pollution of particulates 2.5 micrometers in diameter or smaller (PM-2.5), an
official in the Japanese ministry's Office of International Cooperation said May 1.

Areas specifically identified for cooperation among the countries include working on problems
dealing with air pollution, biodiversity, chemical management and environmental emergency
response, and the response to climate change. They also include water conservation and marine
environment issues, environmental education and efforts to reduce consumption and boost
recycling.

The statement did not single out China but emphasized that the countries shared concerns about
the risks posed by air pollution to human health and the environment, and underscored specifically
the need to reduce fine particulate matter, ozone and volatile organic compounds.

All are problems seriously affecting China and rapidly rippling over to the Korean peninsula and
to Japan, the statement said.

37. Japanese Automakers, Government Team Up To Increase Engine Efficiency

The Japanese government and eight of the country's automakers announced a joint program to
create more fuel-efficient and cleaner conventional engines. The Research Association of
Automotive Internal Combustion Engines (AICE), announced on May 19th, marks the first such
effort since the 1980s, when under pressure from the U.S., Japan suspended its decades-old
tradition of close government-industry alliance.

AICE will work to develop conventional next-generation gasoline and diesel engines with
improved power and fuel efficiency, and reduced emissions of carbon dioxide, sulfur dioxide,
hydrocarbons and particulate matter, it said.

The Japan Automobile Research Institute, an industry body that coordinates Japanese automotive technology policies with the government and academia, also is involved. The Agency of Industrial Science and Technology, a research and development unit of the Ministry of Economy, Trade and Industry, is preparing to join as well, according to a ministry official.

AICE will compete with other countries that develop next-generation automobile power trains as industry-government joint projects, such as the European Union's downsized engine technology, and a project in South Korea.

AICE wants to develop combustion technology that reduces carbon dioxide emissions 30 percent by 2020 compared with 2010, a Ministry of Economy, Trade and Industry official said. The Japanese auto industry estimates that in 2020, gasoline and diesel engines will still power 80 percent of motor vehicles worldwide.

Over the past two decades, the Japanese auto industry has achieved improved vehicle fuel economy and reduced emissions with gasoline-electric hybrid technology, positioning it as an interim solution before the global auto industry moves to fuel cell vehicles that run on hydrogen.

The fuel economy gap between Japanese hybrid vehicles and European downsized engines has been narrowing fast since Toyota launched its Prius hybrid in 1997, reflecting the EU's rapid technological advancements.

AICE will be led by Kenji Ohtsu, a Honda Motor managing director, and its initial project budget is 1 billion yen ($10 million).

38. India Rejects WHO Report Saying New Delhi Has Worst Air Pollution

India has rejected the findings of a World Health Organization (WHO) study that ranks New Delhi as the world's worst city for air pollution, with government scientists saying the U.N. agency had overestimated levels in the capital. A just released WHO study of 1,600 cities found air pollution had worsened since a smaller survey in 2011, putting city-dwellers at a higher risk of cancer, stroke and heart disease. (See story below)

The study found New Delhi to have the dirtiest air, with an annual average of 153 micrograms of small particulates, known as PM2.5, per cubic meter. "Delhi is not the dirtiest ... certainly it is not that dangerous as projected," said A.B. Akolkar, a member secretary of the Central Pollution Control Board of India.

One health advocacy group welcomed the WHO study, however, saying it should spur the Indian government to tighten up fuel emission standards. Growing traffic on city streets is a major cause of air pollution. India's Centre for Science and Environment (CSE) said the government should respond by setting an ambitious agenda to reduce toxic risks in Asia's third-largest economy. "This database confirms our worst fears about how hazardous air pollution is in our region," Sunita Narain, director general at the CSE, said in a statement that called for uniform fuel emission standards to be implemented across India in 2015.
Thirteen of the dirtiest 20 cities were in India, the WHO said, with New Delhi, Patna, Gwalior and Raipur taking the top four spots.

Beijing, notorious for the smog that has prompted some Anglophone residents to dub it "Greyjing", was in 77th place with a PM2.5 reading of 56, little over one third of Delhi's pollution level.

However, Gufran Beig, chief project scientist at the Indian Institute of Tropical Meteorology, said New Delhi's air quality was better than Beijing's, at least during the summer and the monsoon season. Pollution levels in winter are relatively higher in New Delhi because of extreme weather events, Beig added.

"The value which has been given in this (WHO) report is overestimating (pollution levels) for Delhi ... the reality is that the yearly average is around 110 (microgram)," said Beig.

After the WHO study was released, Beig said he analyzed air pollution levels in Beijing using data available on the U.S. Embassy's website. He found the Chinese city's average to be around 100, nearly double the WHO's estimates.

Air pollution\(^1\) killed about 7 million people in 2012, making it the world's single biggest environmental health risk, the WHO, a United Nations agency, said last month.

**39. Monthly Diesel Price Hikes Likely To Continue In India: Oil Ministry**

The monthly diesel price hikes of 40-50 paise a liter are likely to continue as the new government is keen to cut the subsidy bill, a top Oil Ministry official has said. The previous United Progressive Alliance government had decided in January 2013 to increase diesel prices in small monthly doses until the difference between the retail price and the cost of production is bridged.

State-owned Indian Oil Corp, Bharat Petroleum Corp and Hindustan Petroleum Corp currently lose ₹4.41 on every liter of the fuel sold. The loss, which is made good through government subsidy, has been on a declining trend since March, when it stood at ₹8.37 a liter.

The oil firms, which skipped the monthly hike in April, raised diesel prices by ₹1.09 a liter soon after the Lok Sabha elections ended on May 12.

Besides, losses on diesel have been coming down as the rupee strengthened against the dollar. Prospects of the BJP-led National Democratic Alliance forming the government with a full majority helped the rupee to appreciate as foreign inflows increased on improved market sentiment.

If the rupee gains to 56 to a dollar, all the losses will be wiped out and the fuel will be “automatically deregulated” (free from government control), the official said. The rupee was quoted at 58.86 against the dollar in early morning trade.

Since the Cabinet move last year, diesel prices had risen by a cumulative ₹8.33 a liter in 14 instalments before the May 12 hike.

Oil marketing companies, effective from April 16, now incur a combined daily under-recovery (revenue loss) of ₹318 crore on the sale of diesel, PDS kerosene and domestic LPG. This is lower than the ₹342 crore daily under-recovery during the previous fortnight.

\(^1\) Including both indoor and outdoor pollution.
**40. E.V. Deployment Could Cut India’s Emissions by 4 Million Tons By 2020**

By deploying electric cars on their roads, India can avoid importing 120 million barrels of oil and avoid 4 million tons of carbon dioxide by 2020. A new report by the Clean Energy Ministerial’s Electric Vehicles Initiative looked at the impact electric vehicle deployment would have on India’s oil consumption and carbon dioxide emissions.

The report, Assessing and Accelerating Vehicle Deployment in India, was carried out by the United States Department of Energy’s Lawrence Berkeley National Laboratory. The report is helping inform the Government of India’s National Mission on Electric Mobility on its goal of 5 million hybrid and electric vehicles on India’s roads by 2020.

“Electric vehicles are one of the most promising technology pathways to reducing greenhouse gas emissions and oil consumption around the world,” said lead researcher Anand Gopal. “As vehicle ownership in India is set to rise substantially, this new study underscores the important opportunity that exists to diversity India’s transportation fuel mix and reduce carbon dioxide emissions.”

According to the report, if the E.V. deployment goal for 2020 is met, India can avoid 120 million barrels of oil imported and 4 million tons of carbon dioxide emissions. If the E.V. adoption rates continue beyond 2020, India could end up saving 4.8 million barrels of oil and cutting 270 million tons of carbon dioxide emissions by 2030.

The researchers also found that E.V.s could be produced for the India market at lower costs. This is due to the lower range of requirements for urban car users. In India, an E.V. with a 100-kilometer range is sufficient for 99 percent of trips.

When factoring in fuel cost savings, 100 km-E.V.s could become cheaper than conventional vehicles on a life cycle cost basis prior to 2030.

The report noted that consumer acceptance of E.V.s in India would depend largely on deployment of infrastructure needed to recharge E.V. batteries.

The researchers explored the optimal siting of public E.V. charging stations in the Indian capital of New Delhi. Using an agent-based simulation, the researchers found that high levels of service can be provided for 10,000 E.V.s at a reasonable infrastructure cost of $760,000.

The study focused mostly on the use of “slow” chargers but found that these could be sufficient to meet drivers’ needs if located in the densely populated and frequented areas of the city.

**41. Hong Kong to Monitor Roadside Emissions**

Remote sensing equipment will be used to check excessive emissions from gasoline-powered and liquefied petroleum gas-powered vehicles in Hong Kong starting on September 1st, the region’s Environmental Protection Department said June 17th. Cars with excessive emissions will have 12 working days to undergo dynamometer-based testing. Vehicles failing the test will have their registrations revoked, according to the announcement. Similar testing requirements for diesel vehicles have been in effect since 1988, the department said. Last year, the department announced subsidies to help some car owners replace catalytic converters to reduce emissions, and around 80 percent of eligible owners took advantage of the program.
42. Japan Moves to Promote Fuel Cell Autos in Step That Could Foster Commercial Use

Japan is taking steps to expedite the development and export of hydrogen-powered fuel cell motor vehicles, hoping to promote the commercial viability of such vehicles as early as 2015. On May 30th, the Ministry of Economy, Trade and Industry amended container labeling and inspection regulations under the High Pressure Gas Safety Act to make Japanese regulations compatible with global regulations, as a means of promoting commercial use of hydrogen-powered fuel cell vehicles beginning in 2015, according to a METI news release.

The regulations are based on the 1998 United Nations Economic Commission for Europe (UNECE) agreement on international technical rules on devices and components that can be installed for motor vehicles sold worldwide. The agreement was adopted in June 2013 by the UNECE Working Party 29 (WP.29) as a global safety standard on high pressure gases and containers, according to the METI announcement.

Toyota Motor Corp. and Honda Motor Co. are gearing to commercially launch their hydrogen-based fuel cell vehicles in Japan, the U.S. and Europe in 2015, the automakers have said.

43. WHO Guidelines Violated In Indian Cities, Air Pollution

Fuel quality and vehicular emission norms should be made more stringent and adhered to if the government is serious about curbing growing vehicular emissions and poor air quality.

‘Reducing Vehicular Emissions and Improving Fuel Efficiency’ workshop was organized by The Energy and Resources Institute (TERI) in collaboration with International Council on Clean Transportation (ICCT), held discussions on emission control and improving transport sector efficiency. Shakti Sustainable Energy Foundation supported the event.

R K Pachauri, Director General, TERI referred to unconstrained growth of motor vehicles in recent years as a major source of pollution, which adversely affects air quality and emission levels. He emphasized that India needs to address these issues with a sense of urgency. Involvement of scientists and experts from other countries helped develop a roadmap for India to limit the negative impacts of Indian vehicular transportation.
"The unconstrained growth of motor vehicles in recent years has become a major source of pollution, which not only affects air quality adversely wherever vehicles ply, but also adds to emissions of greenhouse gases at the global level," said Pachauri.

He said the government has not focused much on adopting new technologies to improve fuel efficiency and is also yet to make stringent norms to curb vehicular pollution. "The government needs to emphasize on the research work and analysis on such issues so that the impact of the poor fuel quality and the pollution emitted by it can be known," Pachauri said.

"There is a need for India to adopt advanced technology for motor vehicles so that the dependency on oil can be reduced," Pachauri told IANS.

Transport sector at present accounts for 17 percent of the total energy after the industry sector.

Pachauri said the exponential growth in vehicles in India is leading to an increase in pollutants which have an adverse impact on human health, especially on the vulnerable who are most exposed to vehicular pollution. It also perpetuates our dependence on oil imports, raising concerns about our energy security.

"We cannot become a modern automobile nation merely by producing a variety of modern vehicles. We need to ensure that our vehicles conform to the prescribed emission standards and are fuel efficient," he said.

S Sundar, Distinguished Fellow, TERI spoke of India’s rapid motorizing. Exponential growth in vehicles here has led to increase in criteria pollutants like PM 2.5 and NOX. Apart from playing truant on human health of those who are most exposed to vehicular pollution, India’s dependency on oil imports has increased raising concerns about energy security.

India can’t be termed a modern automobile nation merely on the basis of production increases. The current situation necessitates urgent adherence to prescribed emission standards through fuel efficient vehicles. India should move towards Euro 6 norms once 10 PPM Ultra Low Sulfur Fuel is available.

Currently, penetration of BS IV fuels in India is at 24% and BS IV grade high speed diesel (HSD) is 16%, despite having been introduced in major cities here back in 2010-11. In reference to diesel low penetration, BS III vehicles being registered in the periphery of designated BS IV cities acts as a deterrent. BS IV vehicles (especially heavy duty vehicles) are more expensive and BS III fuel is cheaper.

Auto Fuel Vision Committee’s roadmap suggests that retail price of BS III fuel should be made equal to BS IV fuel. Quality differential in price between both fuel grades should be 75 paise. The excess collected by re-pricing BS III fuel would be 75 paise per liter, and the amount collected should be accrued as cess to OIDB.

Money collected as “high sulfur cess” will rapidly decline as the BS IV 3-phase rollout is completed in early 2017. If price differential is made effective from July 2014, total collections before BS IV full rollout will stand at Rs 10,000 crore. The best situation however would be rolling out BSIV at one go within a year. However, limitations thwart such an attempt as even if refineries work to full capacity, it would take much longer to completely switch to BS IV output.
Keeping in mind the pace at which things are implemented in India, changeover to BS IV will take a couple of years, and that to BS V may extend to 2025 and beyond. Changeover to BS V remains on course to be rolled out in India between April 2019-2020 as long as funding is provided.

Focus on severely polluted urban air quality remains a priority as more than 80% of Indian cities where air quality monitoring was carried out reported particulate matter concentrations higher than the prescribed standard. World Health Organization (WHO) guidelines are grossly violated in many Indian cities.

Michael Walsh, ICCT Founding Chairman pointed to widespread adverse impacts on public health with upward of 600,000 people dying pre-maturely each year in India resulting from of exposure to outdoor air pollution. It is imperative that India makes headway in cleaning up vehicles and fuels.

Energy efficiency in the transport sector needs constant monitoring. Though fuel efficiency standards for cars have been notified recently, implementation is another story. Heavy duty vehicles (HDV) sector play a majority role in overall fuel consumption, and regulation through introduction of fuel efficiency standards is suggested.

44. BS IV Petrol and Diesel Planned In Entire State of Karnataka by April 2016

It could well be the end of the road for motorists in cities where only BS IV fuels are dispensed with, who go to neighboring towns to tank up on cheaper, but relatively less eco-friendly BS III petrol and diesel as an expert committee has recommended elimination of such differential pricing.

In Karnataka, petrol and diesel conforming to BS IV emission norms — primarily with less sulfur — are available only in Bangalore at present. The State capital is among the first set of 13 cities across the country where BS IV fuels have been made available since April 2010. If the recommendation of the committee on the next auto fuel policy is implemented, it could see motorists in the rest of the State also end up paying the same price as those in Bangalore.

Subsequently, BS IV fuels were extended to 26 cities, and an additional 24 locations are likely to get them by March 2015.

Considering that the committee has stuck to an earlier proposed BS IV rollout deadline of April 1, 2016, for the rest of the State, the period for which they pay a higher price despite continuing to be supplied with the existing product depends from when the recommendation is implemented.

“The retail price of BS III fuel should be the same as that of BS IV fuel. This will eliminate the incentive to use BS III fuel when BS IV fuel is also available,” says the expert committee on the Auto Fuel Vision and Policy 2025, headed by Planning Commission member Saumitra Chaudhuri. The report of the committee was recently placed in the public domain by the Union Ministry of Petroleum and Natural Gas.

While suggesting such a measure, the committee has called for pegging the price differential at 75 paise a liter for both petrol and diesel. A meeting on BS IV fuels in Delhi this March discussed the impact of the price difference. “The end-users lift BS III product from surrounding markets and use it in BS IV cities defeating the purpose,” according to a presentation made at the meeting.
The Saumitra Chaudhuri report says going by the experience “it was felt that the best course of action will be to bring entire geographies in stages to the BS IV standard”.

**45. Euro 5 Diesel to Be Sold In Selected Locations in Johor**

Euro 5-grade diesel will be available in Malaysia in the coming few weeks but only be in selected parts of the southern region, namely the state of Johor. The announcement of the move was made by think-tank Malaysian Automotive Institute (MAI) during an informal discussion session with the press. It said the move to introduce the fuel is due to necessity, primarily for commercial purposes, specifically for lorries that have to make the daily trip in and out of Singapore.

The republic had earlier announced that effective Jan 1, 2014, all in-use diesel powered vehicles entering the country would be required to meet its new permissible levels of smoke opacity. It later gave a six-month grace period before fully implementing the new rule, but as of July 1, there’s no looking back.

The adjustment, made by Singapore’s National Environment Agency (NEA), lowered the permissible level of black smoke emitted from a vehicle from a previous 50 HSU (Hartridge Smoke Units) to 40 HSU, and with quality of diesel fuel directly affecting smoke emissions from vehicles, all diesel-powered vehicles inbound to the island, be they private or commercial, are likely to fail.

Malaysia’s Euro 2M-grade diesel fuel standard allows for a sulfur content of 500 parts per million. Conversely, Euro 5 diesel has only 10 ppm of sulfur content – it has been in use in Singapore since 2010, thus making it possible for Singaporean vehicles to easily meet the 40 HSU standard.

Aside from the possibility of offending diesel vehicles being barred from entering Singapore, the perpetrators will also be slapped with hefty fines, with previous reports indicating that it would be S$150 (RM394) for first time offenders, rising to S$200 (RM525) and S$300 (RM787) for each subsequent violation.

Though owners of older, smoky private diesel vehicles (namely pickups) won’t be able to dodge the law, the new ruling will directly affect ageing lorries and buses that ply the route. Every day, up to 3,000 commercial vehicles go in and out of the island; Malaysia’s trade with its neighbor is worth RM4 billion a year, and land transportation remains integral to it.

Currently, Malaysian diesel engines on commercial vehicles are mostly of Euro 1 or 2 standard, MAI’s CEO Madani Sahari said, and while some operators have tried to import Euro 4-compliant engines, this has not been viable in terms of longevity and maintenance, as long-term usage of Euro 2M diesel ends up wreaking havoc on the fuel pump and injectors in these units.
Going the diesel particulate filter route – which burns-off the excess soot in the form of gas from the engine – is an option to bring smoke emission levels down to permissible levels, Madani explained, but added that the cost of installation is costly, at around RM65,000 per unit, and the filter will only be effective for about a year before it needs to be changed.

So, to keep the wheels turning while obeying the law, the government has allowed the commercial availability of a diesel-grade that will meet the rules, in this case Euro 5. Following discussions with MITI and MAI, BHPetrol has agreed to provide the supply of Euro 5 diesel, and the imported fuel will be available at 15 to 20 of its stations out of its nearly 50 stations in the state of Johor.

Tests carried out on utilizing Euro 5 diesel on existing Euro 1 and Euro 2 diesel engines on commercial vehicles have shown that permissible levels meeting Singapore’s HSU standards can be achieved, with a 10% to 50% reduction (as seen in the chart below), so that’s the immediate route chosen. Older lorries that are unable to meet the requirements will have to go the particulate filter route for compliance.

Non-commercial vehicles can purchase the fuel too, even though it’s meant for the latter. Which means that if you own a diesel vehicle and live nearby, you’ll be able to pump Euro 5 diesel into your ride. And all it will cost is an extra 10 sen per liter on top of what it goes for now (which is RM2.00 per liter for Euro 2M diesel), according to Madani.

That’s right, Euro 5 diesel at RM2.10 per liter. While importing it is a costlier option to begin with, the government is subsidizing the Euro 5-standard fuel to existing levels of subsidization, with the extra 10 sen being borne by the consumer.

Before anyone suggests why the entire country can’t go that route now, or for that matter, the Klang Valley for a start, Madani said that since BHPetrol imports all its fuel stocks, there’s no stopping its stations from the Klang Valley from having Euro 5 diesel at their pumps. He added that there was no regulated supply in the move to introduce Euro 5 diesel, and that any company could do it – only BHPetrol made this initial move.

Such a move would be welcome news for many, of course, especially owners of grey import diesels. Recently, it was reported that Mercedes-Benz Malaysia had said that any failures in Mercedes-Benz cars brought in through unofficial channels would not be accepted under warranty by Daimler AG, as these grey imports are unprepared for local fuel quality.

Incidentally, BHPetrol’s fuel stocks (for petrol) were already at a Euro 3-minimum level some two years back. At its Infiniti Advanced 2x petrol launch in October 2012, the company revealed that the sulfur content in its stocks brought in from Singapore were consistently lower than 500 ppm, with its median average in 2011 being 117 ppm, and in 2012 (up to September) at 131 ppm.

Then, those numbers were lower than the Euro 3 standard of 150 ppm, placing it between that and Euro 4’s 50 ppm. The company added that some batches of its imported petrol stock had sulfur content registering as low as 12 ppm, close to Euro 5 standard.

An aside on the other oil and gas companies, especially the two primary players in the country; Petronas is still a ways away from delivering its first Euro 4-grade fuel – its Pengerang Integrated Petroleum Complex is set to deliver Euro 4 diesel and petrol to Malaysians, but that won’t come online until sometime in 2017. Shell, meanwhile, hasn’t revealed its transition plans as yet.
In any case, Euro 4 (or Euro 4M) fuel is integral in the new Energy Efficient Vehicles (EEV) incentives policy outlined in NAP 2014, and the last news about that was that studies were being done on it before a timeframe for deployment was announced. It’s certainly taking its time – Euro 4 was, back in 2011, scheduled to be introduced this year.

46. Bam Aquino Seeks Probe into Cheating Emission Testing Centers

Senator Paolo Benigno “Bam” Aquino IV is seeking an investigation into reports that some emission testing centers were allegedly engaged in illegal activities such as non-appearance scheme or ghost testing of motor vehicles in exchange for additional fees.

Aquino said he filed a resolution seeking to look into the efficiency of emission testing centers in the issuance of emission compliance certificates (ECCs) as one of the basic requirements of the Land Transportation Office (LTO) before a vehicle is processed for renewal registration.

“There had been reports that the private and public emission testing centers in LTO are remiss in their duties in properly implementing the law through the issuance of false emission compliance certificates (ECCs),” he said in a statement. Illegal activities by some testing centers, the senator said, defeat the purpose of Republic Act 9749 or the Philippine Clean Air Act, which was passed in 1999 to maintain the quality of air and protect human life from the dangers of air pollution.

Under the Clean Air Act, a National Motor Vehicle Inspection and Maintenance Program has been established to promote the efficient and safe operation of motor vehicles and ensure the reduction of emissions from motor vehicles. As part of the program, Aquino said, vehicles are required to undergo inspection and maintenance program as a requisite for renewal of registration and mandatory inspection to determine compliance with the in-use emission standards.

“The national government should be able to provide a quick systematic solution to the proliferation of these false ECCs in order to promote overall motor vehicle safety and prescribe an intensive convergence program towards the full implementation of the Philippine Clean Air Act of 1999,” he said.

Aquino said continuing increase in motor vehicles, lack of mass public transit system, and worsening traffic conditions further contribute to increasing air pollution. With the increasing air pollution, Aquino said, the Philippines is now ranked 114th in the recent Environmental Performance Index (EPI) report released by Yale University in terms of environmental performance of a state’s policies.

In terms of air quality, the Philippines ranked 85th and 110th in health impacts.

Aquino also pointed out the latest data from the Department of Health (DOH), which showed that 60 percent of lung cancer cases and other respiratory related diseases in the Philippines are because of air pollution.

47. Australia Vehicle Emissions Standard Would Save Money, Curb Carbon

Australia should have a mandatory carbon dioxide emissions standards for new cars, the CCA says. The introduction of mandatory emissions standards for light vehicles would save Australian motorists thousands of dollars in fuel costs and cut a year’s worth of carbon pollution by 2030, a report by the Climate Change Authority has found.
Light vehicles, less than 3.5 tons in weight, are one of Australia’s greatest sources of greenhouse gas emissions, accounting for about one-tenth of the nation’s total.

The absence of compulsory standards is already costing Australian motorists. Even the most efficient new models sold in Australia burn 20 per cent more fuel on average than the equivalent make in Britain, according to the independent authority.

While fuel economy has improved under voluntary targets for light vehicles in place from 1978 to 2010, "it is not clear whether these improvements were greater than business-as-usual trends", the report said.

Australia is one of just six countries in the OECD without mandatory standards, lagging nations such as the US, Japan and China, which have imposed such measures for more than a decade.

Current new light vehicles average 192 grams of carbon-dioxide per kilometer. The authority recommends a starting target in 2018 of 168 grams of CO2/km, dropping to 105 grams of CO2/km by 2025. Such a goal would bring Australia in line with US targets but would still trail the European Union’s 2025 target of 73 grams of CO2/km.

The authority estimates the average cost of a new car would be about $1000 higher in the early years of the mandatory standards, reaching $1500 by 2025. Motorists, though, could expect to save about $7000 per vehicle by 2025 even after accounting for the higher up-front vehicle cost.

Carbon emissions would also be cut by 58 million tons between 2018 and 2030, roughly equal to the current annual emissions by all light vehicles, the report said.

The cost per tonne of emissions avoided would be in fact be a saving – at $580 – making light-vehicle efficiency among the cheapest emissions-cutting opportunities in Australia, the authority said.

The Climate Change Authority, an independent body established by the Gillard government to provide advice on Australia’s greenhouse gas reduction goals, has been earmarked for the junk yard by the Abbott government.

Billionaire politician Clive Palmer, though, threw the authority a lifeline, stating at a dramatic media conference on Wednesday with US climate campaigner and former US vice-president Al Gore that his Palmer United Party senators would vote to keep the body.

The report comes as the Greens prepare to introduce a bill in the next session of the federal Parliament to impose tougher fuel efficiency restrictions on Australian cars. The proposal would bring Australia into line with EU vehicle standards aimed at achieving 95 grams of carbon dioxide per kilometer for passenger vehicles by 2023.

"Not only will tougher standards help motorists, but it will send a strong signal to our automotive trading partners like Japan who have the highest fuel-efficiency standards in the world that we will be an enduring market for high-quality and efficient automotive products," Greens leader Christine Milne said.

"We will join the three-quarters of all cars sold in the global market that have a strong fuel standard.”
The Federal Chamber of Automotive Industries, which in the past has been an advocate of voluntary standards, declined to comment on the specifics until it had seen the authority's report. A spokeswoman for the chamber, though, said the car industry "has continually delivered improvements" in CO2 emissions for new vehicles. The latest emissions figures by the National Transport Commission released last month showed new vehicles had shown a 2.4 per cent year-on-year reduction over the last decade. "This is significantly greater than the reductions seen in most other sectors of the economy," she said.

SOUTH AMERICA

48. Chile Launches Four-Year Plan to Fight Air Pollution in Smoke-Contaminated Cities

The Chilean government has launched a national strategy for tackling air pollution in the country's most polluted cities over the next four years, declaring six new saturated zones, implementing decontamination plans at more than a dozen sites and extending a system of environmental alerts.

Responding to excessive levels of particulate material (PM-10) and breathable fine particulate material (PM-2.5), new saturated zones will be declared in the greater Santiago area, Curico-Teno, the metropolitan area of Concepción (covering Lota, Coronel, San Pedro de la Paz, Chiguayante, Hualqui, Concepción, Talcahuano, Hualpén, Penco and Tome), Los Angeles, Valdivia and Coyhaique.

Santiago and Coyhaique have already been declared saturated zones for PM10. A saturated zone can be declared when levels of contamination have exceeded legal limits for the last three years, and the designation requires authorities to implement decontamination plans.

Launching the strategy on May 2nd, President Michelle Bachelet said decontamination plans will cover the cities of Andacollo, Chillán and Chillán Viejo, Coyhaique, Huasco, Greater Santiago, Greater Concepcion, Los Angeles, Padre Las Casas, Osorno, Talca and Maule, Temuco, Valdivia and Ventanas.

“They cover around 87 percent of the inhabitants of our country who are today exposed to high levels of pollution,” the president said.

The plans for Andacollo, Ventanas, Temuco, Padre Las Casas, Osorno, Talca and Maule, Chillán and Chillán Viejo will be implemented this year and next. A plan to tackle PM-10 in Coyhaique will be implemented in 2015, while a second plan for breathable particulate material will follow in 2017.

The plans for Huasco, Valdivia, Los Angeles, Santiago and Concepción will be implemented during 2016, while the plan for Curico-Teno will follow in 2017.

The government implemented environmental alert systems throughout southern Chile, between the regions of Maule and Aysen, which will allow regional committees to take emergency measures when air pollution reaches agreed levels. These could include the closure of industrial plants, a ban on the use of firewood in homes, inspections to control the use of damp firewood, and the suspension of physical education classes and open-air sports activities.
The environmental alert systems began May 2 and run through August 31st.

“It will allow us to implement more modern plans with concrete measures to react immediately to the health emergencies which environmental alerts can cause,” the president said.

Many towns and cities in southern Chile suffer from poor quality air because of the widespread use of firewood for domestic heating and cooking. The Ministry of Energy estimates that 40 percent of the energy consumed in Chile comes from firewood.

The president said that the Ministries of Energy and Housing will develop a sustainable heating strategy to encourage the use of cleaner fuels and better building standards to make homes more energy efficient, as well as systems to certify the quality of firewood and stoves.

AFRICA

49. African Car Sales Head Towards the 2 Million Mark

Annual vehicle sales in Africa will rise nearly 20 percent in the next two years to hit the 2 million mark as the continent's burgeoning middle class trades up from motorbikes and jalopies to new cars, the regional head of General Motors said.

The U.S. car giant sold 180,000 vehicles on the continent last year, giving it a 10 percent market share and putting it narrowly behind rival Toyota, which recorded African sales of 237,000. However, of GM's total sales, 100,000 went to North Africa and 70,000 to South Africa, leaving only 10,000 to the impoverished but fast-growing countries in between.

"That's where we see the huge opportunity for growth," GM Africa managing director Mario Spangenberg told the Reuters Africa Investment Summit in Johannesburg.

Although Africa offers enticing growth, sales volumes remain a drop in the ocean for GM, which sold 6 million vehicles last year outside its traditional U.S. market.

As well as benefiting from the expanding overall market in one of the world's fastest-growing regions, Spangenberg hopes to increase GM's market share with models such as the Isuzu pick-up, which has proved resilient to Africa's rugged conditions. "We want to defend our 10 percent and maybe grow it a little bit," he said.

Of Africa's 40-odd sub-Saharan frontier markets, Nigeria - the continent's most populous nation and its biggest oil producer - is the most attractive prospect, Spangenberg said.

He also dismissed concerns that the arrival of Indian manufacturers such as Tata Motors, with its experience of making and selling cars in relatively low-income markets, threatened GM's African expansion plans. "The international competition is going to get tougher no matter where you are," he said.

MIDDLE EAST

50. Iran Sees Reduction of Air Pollution in Tehran
Iran, which is experiencing some big problems relating to air pollution, is trying to resolve the problems through various ways.

As a result of government's measures to address the problems, air pollution in Iran's capital city Tehran has diminished recently.

Managing Director of the National Iranian Oil Refining and Distribution Company, Abbas Kazemi, said on June 24, the air pollution in Tehran, which reached to an alarming level in previous years, has been significantly reduced, IRNA news agency reported.

Kazemi noted that since beginning of distribution of high quality Euro-4 gasoline, the air quality of the capital Tehran has improved very much.

Iranian government has ordered the Oil Ministry to distribute gasoline meeting Euro-4 standard and high quality diesel oil in big cities. All the gas stations of Iranian capital, Tehran are currently distributing gasoline conforming to Euro-4 standard.

National Iranian Oil Refining and Distribution Company (NIORDC) distributes daily 44 million liters of gasoline and diesel oil conforming Euro-4 standard in the capital.

Besides, distribution of euro-4 gasoline has started in the northwestern city of Tabriz as part of Iran's plan to reduce air pollution in big cities.

Kazemi said Tehran, which is considered the most polluted city of the country, experienced 80 days of unpolluted, seven days of polluted and six days of clean air in the first quarter of the current Iranian year (started March 21, 2014). He noted that based on a report released by the Department of Environment (DOE), Tehran's air quality improved in the first 70 days of the current year compared to the corresponding period last year.

Environmental experts believe a large part of air pollution in Iran is due to emissions from vehicles using low quality gasoline produced in petrochemical complexes. Recently, Iranian President Hassan Rouhani blamed choking air pollution in Tehran on gasoline produced by petrochemical plants.

The former government produced gasoline in petrochemical complexes to thwart sanctions imposed on the country, which exacerbated environmental hazards.
Head of the Environmental Protection Organization Massoumeh Ebtekar said in last December that gasoline produced in Iran does not comply with international standards. Ebtekar accused the government of ex-president Mahmoud Ahmadinejad of failing to meet obligations on fuel standardization.

Iran's Petroleum Minister Bijan Namdar Zanganeh recently ordered petrochemical plants to stop producing gasoline.

In recent years, air pollution in Tehran and other areas including Khuzestan and Isfahan, reached a critical point. Thus, Iran's President Rouhani gave a special directive to address air pollution in Tehran. The air over Iran's capital is amongst the most polluted in the world, and experts say many Iranians suffer from serious health problems. According to official statistics, currently 12-13 million people reside in Tehran.

The problem of Tehran's air pollution has repeatedly forced the government to declare some days off in the capital due to the high degree of pollution.

Vehicles are the main reason for air pollution in Tehran. Only 40 percent of people in Tehran use public transport, while 60 percent use their personal cars.

Tehran is wedged between two mountains that trap the fumes of its bumper-to-bumper traffic.

Other major Iranian cities also struggle with air pollution on a seasonal basis. The fact that some big cities like Isfahan, Mashhad, Arak, Karaj, Qom, and Ahvaz are facing a somewhat similar situation backs up this view.

51. Diesel Still Subsidized 70 Percent in Qatar

Local petroleum products distributor, Woqod, yesterday washed its hands of the recent decision to hike diesel prices and put the blame for the increase on the government. The government provides subsidy on diesel so it ordered a hike in its prices, according to senior Woqod (Qatar Fuel) officials.

The subsidy provided by the state is to the extent of 70 percent. This is after the price hike. Before it, the subsidy was even higher: 80 percent. (This means that the market retail price of diesel per liter should actually be QR5, but it is QR1.50 for motorists and for local companies). Woqod officials told the Central Municipal Council (CMC) that the decision to raise the price of diesel (from QR1 per liter to QR1.50 from May 1) was made by the Ministry of Energy and Industry and Ministry of Finance.

“Our job is to merely implement such decisions and monitor the market,” a senior Woqod official told the CMC, which invited Woqod officials to discuss the impact of diesel price hike on general inflation.

The officials pointed out that due to the smuggling of the precious fuel (diesel), the government loses billions of riylas. And that is why Woqod has set up a committee. Its aim is to fight diesel smuggling. The committee is led by Woqod and on it are representatives from the interior ministry and the customs departments.

CMC members earlier lambasted Woqod and said the impact of the increase in diesel prices was massive on Qatari companies as well as on the farming and fishing communities. Qatari
companies had quoted rates for various contracts based on lower diesel prices, so now they are suffering huge losses, CMC members said, urging the government to further subsidize the fuel for these companies as well as for the farmers and fishermen.

**52. Diesel Subsidy Ends Over Deficit Fear; Implementation Awaits Impact Study**

The Kuwaiti government has decided in principle to end subsidies on diesel fuel but will deal with any negative impacts on consumers before implementing the decision, the cabinet said. Last month, the OPEC member’s government warned that spending outpaced revenues and this could lead to a budget deficit in 2017/2018 after years of surpluses. “The Council of Ministers has decided in principle to stop subsidies on diesel,” a statement said. But the Cabinet is waiting for a study by the higher planning council on ways to deal with possible negative effects on consumers.

Oil Minister Ali al-Omair told parliament three weeks ago that ending subsidies on diesel would save around $1 billion (735 million euros) a year out of total subsidies of around $18 billion. Diesel is currently sold at around $0.20 a liter. The step is one of several recommendations by a government committee formed last October to review subsidies on all services and commodities after costs have skyrocketed.

Finance Minister Anas al-Saleh told parliament the average annual growth in public spending was 20.4 percent during the past decade against a 16.2 percent for revenues. The ministry has urged major cuts in subsidies, saying it was impossible for the state to sustain growth in wages and continue them. Between 2005 and 2013 subsidies rose more than fourfold, from $4.1 billion to $18 billion, an annual growth rate of 23 percent, the ministry said. Oil income rose from $45.9 billion in 2005 to $106 billion last year. The minister has said that, if oil prices remain at around $100 a barrel, Kuwait will post an estimated budget deficit of 2.3 billion in the 2017/2018 fiscal year.

Last month, the International Monetary Fund warned Kuwait to contain a rapid rise in public wages and subsidies to safeguard the economy against oil price shocks. Kuwait is also revising subsidies on electricity, water and petrol, currently sold at well below cost. Kuwait has boasted a budget surplus in each of the past 14 fiscal years, helping to increase its sovereign wealth fund to over $500 billion, local media said.

**53. Israel’s Comptroller Slams Government for Inaction on Vehicle-Caused Air Pollution**

Israeli government efforts to reduce air pollution caused by motor vehicles are inefficient, underfunded, and may not be protecting the public's health, said Israel’s state comptroller.

Comptroller Joseph Shapira’s 2014 annual report, released on May 14th, examined the Environmental Protection Ministry’s efforts to cut vehicle-based air pollution between March and October 2013, as well as related actions of the Transportation and Interior ministries and several local authorities.

Shapira called on all the authorities “to act decisively to correct the deficiencies presented in the report,” but singled out the Environmental Protection Ministry for failing to use its regulatory authority to spur change.
According to the Clean Air Law passed in 2008, the government had until 2012 to approve a multiyear, comprehensive national air pollution prevention program. The ministry submitted a first proposal just before the January 1, 2012 deadline, but the government did not address it for some 20 months because of a funding fight with the Finance Ministry, the report noted.

Under pressure from courts and the comptroller, the government approved a plan in August 2013 budgeting 140 million shekels ($41 million) of a requested 690 million shekels ($200 million) for its implementation.

By the time of the comptroller's audit, the Environmental Protection Ministry had set few air quality values for pollutants, although it is required to do so by the Clean Air Law, the report said. It also criticized inadequate, and possibly misleading, methods used to measure nitrogen dioxide emissions.

The Environmental Protection Ministry also did not establish a national air monitoring system, a failure that left the ministry without the regulatory authority to establish unified monitoring, reporting and analysis standards, which will hinder any system's effectiveness, the comptroller said.

And the ministry failed to meet its legal obligation to conduct roadside testing and quality control procedures aimed at removing polluting vehicles from the road, he added.

“Due to partial implementation of the law, lasting damage was caused to public health and welfare, causing considerable financial damage to the economy,” the comptroller concluded, directing the environmental protection minister to establish a national air monitoring system and determine air quality values “without delay.”

The Environmental Protection Ministry said in response that it was studying the report and preparing to correct any deficiencies. However, it said in a May 19 statement, “the chances of overcoming the deficiencies described in the report largely depend on Finance Ministry decisions to cancel the massive cuts it made in ministry programs to reduce air pollution, decrease greenhouse gasses and conduct sampling.”

Israel had 2.76 million diesel and gasoline-powered vehicles on its roads in 2012, the report said.

Caribbean Region

54. Jamaica Gas Price Increased $1.56, Diesel up $2.20

Motorists will see higher fuel prices at the pumps tomorrow on June 26th with Petrojam’s increase in ex-refinery costs. 87- and 90-octane gasoline will be sold for $128.10 and $129.76 per liter, respectively, up by $1.56 each. Automotive diesel fuel will be sold for $129.17 per liter after an increase of $2.20, while ultra-low sulfur diesel is up by $2.78, and will be sold for $134.01 per liter.

Meanwhile, kerosene oil was increased in price by $2.84 and will be sold for $130.93 per liter.

Propane liquid petroleum will be sold for $53.38 per liter, up by $1.61 and butane liquid petroleum will be sold for $60.19 per liter after an increase of $1.71 cents.

Marketing companies and retailers will add their respective mark up.
Air pollution costs the world's biggest economies some $3.5 trillion a year in premature deaths and illnesses, and the costs will rise without more regulatory action to limit vehicle emissions, especially from diesel fuel, says the Organization for Economic Cooperation and Development.

In a report released May 21, OECD said more than 3.5 million people die each year from cancer, heart disease and respiratory problems linked to outdoor air pollution, with deaths costing the OECD's 34 member countries—which include the world's advanced economies—$1.7 trillion yearly.

Half of that cost is due to road transport, with diesel vehicles producing the most harmful emissions, it said.

Outside the OECD, China and India are greatly affected by traffic exhaust from a swelling fleet of cars and trucks in fast-expanding cities, the report said. China loses some $1.4 trillion yearly while India loses $0.5 trillion to air-pollution deaths, the Paris-based organization said.

Air pollution-related deaths rose 4 percent worldwide from 2005 to 2010, including 5 percent in China and 12 percent in India, said the 83-page report, which calls for strict vehicle emissions standards and a “rethink” of regulatory and tax policies that favor diesel-powered vehicles. It released the report at the International Transport Forum 2014, in Leipzig, Germany.

The report said the EU's strict Euro 5 vehicle standards regime sets an excellent example for reducing vehicle-related pollutants, and has contributed to falling pollution levels in OECD countries.

In the EU, the Euro VI standard for pollutant emissions from trucks and buses, which began on December 31, 2012, cut permitted exhaust emissions of nitrogen oxides by 80 percent and permitted emissions of particulate matter by 66 percent.

Tighter limits for private cars—the Euro 6 standard—are scheduled to begin on September 1, reducing nitrogen oxides limits by 55 percent compared with current standards. But OECD said a trend toward “dieselization” of both passenger and transport fleets threatens to offset gains in the EU.

As diesel engines long had lower carbon dioxide emissions and had better mileage than gasoline engines, diesel is in many countries taxed at lower levels than gasoline. In some EU countries the majority of cars are still diesel powered. China and India also have seen more diesel vehicles in recent years, the report said.

New gasoline-powered car models have closed the gap with diesel on CO2 emissions, while diesel engines continue to emit much higher levels of particulate matter.

The report cites findings that of exhaust emissions from all vehicles in London in 2009, 91 percent of particulate matter (PM) 2.5 and 95 percent of NO2 (nitrogen dioxide) were attributable to diesel vehicles.
“Depending on the pace of dieselization, there is a real risk that the downward trend in road traffic-generated air pollution discernible in most OECD countries could be arrested and reversed and that the still-upward trend evident in much of the rest of the world would be strengthened,” OECD said.

“There is no environmental justification for taxing diesel less than petrol,” said OECD Secretary-General Angel Gurría, presenting the report in Leipzig. “Air pollution is destroying our health and the planet. Phasing out tax incentives on diesel would be a step towards reducing the costs to both and in fighting climate change.”

The report also calls for tightening emission standards for road transport, expanding urban bicycle-sharing and electric car programs and extending road charge schemes to reduce congestion.

**Main findings**

- The number of deaths due to outdoor air pollution fell by about 4% in OECD countries between 2005 and 2010. But while 20 of the 34 OECD countries achieved progress, 14 did not.
- The number of deaths due to outdoor air pollution in China rose by about 5%, in India by about 12% over the same period.
- The cost of the health impact of air pollution in OECD countries (including deaths and illness) was about USD 1.7 trillion in 2010.
- Available evidence suggests that road transport accounts for about 50% of this cost in the OECD, or close to USD 1 trillion.
- In China, the cost of the health impact of air pollution was about USD 1.4 trillion in 2010, and about USD 0.5 trillion in India. There is insufficient evidence to estimate the share of road transport but it nonetheless represents a large burden.

**Main recommendations**

- **Remove any incentives** for the purchase of diesel cars over gasoline cars.
- **Maintain and tighten regulatory regimes**, in particular, vehicle standards regimes such as those currently in place in the European Union. Make test-cycle emissions more similar to the emissions the vehicles cause under normal use.
• **Invest** in more ambitious mitigation programs, including improved public transport.

• **Continue the research** on the economic value of morbidity impacts of air pollution and on the specific evidence linking it to road transport.

• **Mitigate** the impact of air pollution on vulnerable groups, such as the young and the old.

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**56. WHO: Urban Air Quality Falls Short of Safety Guidelines Worldwide**

Air quality in almost 90 percent of cities that monitor outdoor air pollution does not meet World Health Organization safety guidelines, according to a new survey of air quality in 1,600 cities. The situation places the public at risk of respiratory and other serious health issues such as heart disease, stroke and cancer, and it requires better air pollution mitigation policies and close monitoring around the world, WHO said in a May 7th announcement.

“Too many urban centers today are so enveloped in dirty air that their skylines are invisible,” said Flavia Bustreo, WHO assistant director-general for family, children and women’s health. “Not surprisingly, this air is dangerous to breathe.”

Mexico City, Karachi, and Delhi registered the highest levels of municipal air pollution last year.

Nationally, Afghanistan fared worst, followed by Iran, India, Senegal, Mongolia, Bangladesh and Egypt. Data from Africa was lacking, an accompanying report noted.

Globally, the report said, more than half of the world's monitored population breathed air polluted to at least 2.5 times WHO recommended levels.

Air pollution is increasing in most cities where current data can be compared with previous years. The worsening situation, the report said, comes from “reliance on fossil fuels such as coal-fired power plants, dependence on private transport motor vehicles, inefficient use of energy in buildings and the use of biomass for cooking and heating.”

The WHO report follows up on its finding that 7 million people under age 60 died from illnesses related to indoor and outdoor air pollution around the world in 2012, making it “one of the greatest risks” to global health.

This year has already seen extreme air pollution in Asia, and evidence of storms generated by pollution in the United States as well as Paris and London, which were both covered by clouds of thick smog this spring, the report said.

A growing number of cities and communities worldwide are acting to address the air quality needs of their residents, particularly those of children and the elderly, Bustreo said. He noted additional bans on the use of coal to heat buildings, increased use of renewable or “clean” fuels to produce electricity and improved efficiency of motor vehicle engines.
Other municipal measures include ensuring that houses are energy efficient, that urban development is compact and accessible by public transport, that street design is appealing and safe and that waste is well managed, the report said.

Such activities not only lead to cleaner air, but can also serve as a catalyst for local economic development and the promotion of healthy urban lifestyles, the report said, noting progress in some Latin American cities that now meet, or approach, WHO air quality guidelines.

“We cannot buy clean air in a bottle, but cities can adopt measures that will clean the air and save the lives of their people,” said Carlos Dora, coordinator of interventions for healthy environments in the WHO Department of Public Health, Environmental and Social Determinants of Health.

The WHO's air safety standards are based on the concentration of particulate matter in the air. It recommends that fine particles (PM-2.5) should average no more than 10 micrograms per cubic meter, and larger particles (PM-10) should average no more than 20 micrograms per cubic meter.

57. West Antarctic Glaciers in 'Irreversible' Thaw, Raising Seas: Study

West Antarctic glaciers in 'irreversible' thaw, raising seas: study Photo: NASA

The Thwaites Glacier in Antarctica is seen in this undated NASA image.

Vast glaciers in West Antarctica seem to be locked in an irreversible thaw linked to global warming that may push up sea levels for centuries, scientists have announced.

Six glaciers, eaten away from below by a warming of sea waters around the frozen continent, were flowing fast into the Amundsen Sea, according to the report based partly on satellite radar measurements from 1992 to 2011.

Evidence shows "a large sector of the West Antarctic ice sheet has gone into a state of irreversible retreat", said lead author Eric Rignot of the University of California, Irvine, and NASA's Jet Propulsion Laboratory in Pasadena, California.

The coastal ends of the glaciers rest on bedrock below sea level, holding back a vast weight of ice and making them vulnerable to melt, he said. He likened the process to uncorking a full bottle of wine while it was lying on its side.

This part of Antarctica would be a major contributor to sea level rise in coming decades and centuries since the glaciers hold enough ice to raise sea levels by 1.2 meters (4 feet). "It's passed the point of no return," he told a telephone news conference.
Ice-penetrating radars showed no mountain ranges entombed under the ice, for instance, that could halt the flow. The fastest retreat was 34-37 km (21-23 miles) over the period in the Smith/Kohler glacier.

Even so, cuts in greenhouse gas emissions, part of efforts to rein in global warming, could at least slow the slide of the Pine Island, Thwaites, Haynes, Pope, Smith and Kohler glaciers.

"We do think this is related to climate warming," Rignot said. The scientists believed that a build-up of man-made greenhouse gases in the atmosphere was affecting wind patterns around Antarctica, driving warmer waters towards the continent.

Almost 200 nations have agreed to work out a U.N. pact by the end of 2015 to combat global warming, which the U.N. Intergovernmental Panel on Climate Change (IPCC) says will cause more floods, droughts, heat waves and higher seas.

Monday's findings may also mean that scenarios by the IPCC for sea level rise are too low. The IPCC said last year that sea levels are likely to rise by between 26 and 82 cm (10 and 32 inches) by the late 21st century, after a 19 cm (7 inch) rise since 1900.

"The major ice sheets of this planet will have a larger and larger role in sea level rise in the decades ahead," said Sridhar Anandakrishnan, professor of geosciences at Pennsylvania State University, who was not involved in the study.

Last week, another study also suggested a part of the far bigger ice sheet in East Antarctica may also be more vulnerable than expected to thaw. The IPCC says it is at least 95 percent probable that warming is caused by human activities, led by the burning of fossil fuels. The study, to be published in the journal Geophysical Research Letters, adds to signs of climate change under way.

On May 6th, the Obama administration issued a study saying that warming "once considered an issue for a distant future has moved firmly into the present."

And the IPCC said in March there were signs of irreversible changes to tropical coral reefs and to the Arctic.

A separate study of the Thwaites glacier by the University of Washington in the journal Science also said it may have begun an unstoppable collapse that could last from 200 to 1,000 years. A disappearance of the Thwaites alone would raise world sea levels by 60 cm (1.96 feet) but the "glacier also acts as a linchpin on the rest of the ice sheet, which contains enough ice to cause another three to four meters of sea level rise", it said.

The findings contrast with a paradoxical expansion of the extent of ice floating on the sea around Antarctica in recent winters that the scientists said may be part of natural variations. "The changes in the glacier reflect much longer-term processes," Tom Wagner, a scientist with NASA's Science Mission Directorate in Washington, said in the telephone briefing.

58. Study: Less Than Half of LDVs in Use by 2035 Will Be Conventional

Driven by rising fuel costs and environmental concerns, the global light duty vehicle (LDV) market is changing rapidly through the adoption of vehicles with various levels of drivetrain electrification and vehicles that run entirely on alternative fuels. Today, the overwhelming majority of LDVs in

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use are conventional internal combustion engine (ICE) vehicles – but hybrid, electric, and alternative fuel vehicles will make up a much greater share of the market in the coming years. According to a new report from Navigant Research, by 2035, less than half of the LDVs in use worldwide will be conventional internal combustion vehicles.

Among the fastest-growing alternative drivetrain technologies is stop-start, which eliminates idling by switching off the engine while the car is not moving. Sales of LDVs with stop-start capability will reach 48.6 million annually by 2020, according to the report, representing nearly half of the overall LDV market.

While electric vehicles (EVs) remain a small fraction of the overall automotive market, and many early predictions for EV sales have proven exaggerated, sales of EVs and other alternative fuel vehicles are growing at a much faster rate than the overall market. Non-internal combustion engine vehicles have become an important part of the global automotive industry – and are forcing major automakers to rethink their approaches to unconventional vehicle categories in the coming years. At the same time, governments worldwide are keen to see increasing penetration of EVs due to the environmental, economic, and energy security benefits offered by these vehicles. Growth in these segments is also propelling the development of secondary markets for EV charging systems, advanced vehicle telematics, and other technologies.

Navigant Research’s key findings and forecasts about Smart Transportation markets include the following:

- By 2022 it is estimated that there will be more than 35 million EVs, including hybrid electric vehicles, on roads worldwide
- Worldwide sales of electric and alternative fuel vehicles are forecast to grow from 6.6 million in 2014 to nearly 12.4 million in 2022
- Worldwide sales of electric vehicle charging equipment are forecast to grow from around 442,000 units in 2013 to 4.3 million in 2022
- Sales of plug-in electric vehicles in the United States are forecast to total nearly 2.6 million from 2013 and 2022
- Nearly 350,000 light, medium, and heavy duty hybrid and electric trucks are forecast to be sold in the global commercial fleet market from 2013 through 2020
- Worldwide revenue from lithium ion batteries for EVs is forecast to grow from less than $6 billion in 2014 to $26.1 billion in 2023

Driven by rising fuel costs and environmental concerns, the global light duty vehicle (LDV) market is changing rapidly through the adoption of vehicles with various levels of drivetrain electrification and vehicles that run on alternative fuels entirely. Over 1.2 billion vehicles are on the world’s roads today, and more than 95% belong to the LDV segment. Of these vehicles, over 98% utilize a conventional internal combustion engine (ICE) powered by either gasoline or diesel.

While most governments have supported a comprehensive strategy to reduce oil dependency in the transportation sector, the depth of that support varies with each vehicle technology. Additionally, regional fuel costs and refueling infrastructure availability play a major role in consumer acceptance of alternative fuels regardless of government backing. As such, the adoption of light duty (LD) alternative fuel vehicles (AFVs) and fuel efficient technologies varies from region to region. Nonetheless, the increased adoption of drivetrain electrification and alternative fuels will have considerable impacts on the markets for LDVs, fuel infrastructure
development, and energy demand. Navigant Research forecasts that global annual LDV sales will grow from nearly 84.1 million vehicles in 2014 to 126.9 million in 2035.

59. Sales of Electric Motorcycles and Scooters Will Reach 6 Million Annually by 2023

The market for power two-wheel (PTW) vehicles, which includes electric motorcycles (e-motorcycles) and electric scooters (e-scooters), has grown slowly in recent years. Although sales volumes in the next couple of years are likely to remain low, due to continued high costs for components and low levels of demand, this market is poised for growth after 2015, as consumer markets continue to expand, new competitors enter the market, and suppliers increase capabilities. According to a new report from Navigant Research, worldwide sales of e-motorcycles will grow from 1.2 million vehicles annually in 2014 to 1.4 million in 2023, while sales of e-scooters will grow from 4.1 million to 4.6 million.

The market for e-motorcycles and e-scooters is led by China, where the majority of these vehicles are sold. According to the report, however, policies limiting urban traffic in China indicate reduced sales in that country. E-motorcycle manufacturers in North America and Europe will address the market challenges by improving product quality and expanding their distribution channels. Navigant Research forecasts that sales of e-motorcycles and e-scooters in these two regions will expand at a compound annual growth rate (CAGR) of more than 30 percent through 2023.

60. Global Warming Damages Corals Vital To Small Islands: UN

Global warming is causing trillions of dollars of damage to coral reefs, aggravating risks to tropical small island states threatened by rising sea levels, according to a U.N. report. The rise in sea levels off some islands in the Western Pacific was four times the global average, with gains of 1.2 cms (0.5 inch) a year from 1993 to 2012, due to shifts in winds and currents, said the United Nations' Environment Programme (UNEP).

The study, released to mark the U.N.'s World Environment Day on June 5th, said a warming of waters from the Indian Ocean to the Caribbean was damaging reefs by killing the tiny animals that form corals with their stony skeletons.

"These 52 nations, home to over 62 million people, emit less than one per cent of global greenhouse gases, yet they suffer disproportionately from the climate change that global emissions cause," said Achim Steiner, head of UNEP. "Some islands could become uninhabitable and others are faced with the potential loss of their entire territories," the study said.

The loss of corals is wiping trillions of dollars a year off services provided by nature, usually counted as free. Corals are nurseries for many types of fish, they help to protect coasts from storms and tsunamis and also attract tourists. "Our fishermen are reporting less and less catches in areas where there was once a thriving trade," Grenada's Environment Minister Roland Bhola said on the sidelines of U.N. talks on climate change in the western German city of Bonn. "We have been able to associate that with the issues of climate change ... the destruction of our coral reefs and other ecosystems like mangroves," he said.

A study last month estimated that each hectare (2.5 acres) of the world's coral reefs provided services worth $350,000 a year. That means that a loss of 34 million hectares of corals since the late 1990s is worth $11.9 trillion a year. "Corals ... are probably the most threatened ecosystems
on the planet," Robert Costanza, of the Australian National University and lead author of the study, told Reuters.

Some people in small island developing states are considering moving inland due to rises in sea level that are causing erosion and bringing more salt onto farmland, said Jacqueline McGlade, chief scientist of UNEP. "But many of them don't have places to retreat towards."

The U.N. panel of climate scientists said in March there were warning signs that warm water corals were already experiencing "irreversible" shifts. It also says it is at least 95 percent probable that human emissions of greenhouse gases are the main cause of a rise in average world temperatures.

The report said that small islands could shift to abundant solar and wind power to help cut fuel import bills, which are often between five and 20 percent of gross domestic product.

"We are doing what we can," said Marshall Islands Environment Minister Tony de Brum, pointing to plans to invest in solar energy. His nation also has the world's largest shark sanctuary as part of efforts to protect nature, he added.

**61. Air Quality to Suffer With Global Warming**

Study suggests effects of climate change will slow air circulation around the world.

Climate change is poised to worsen air quality in many parts of the globe, according to a study published in Nature Climate Change. By the end of the century, more than half of the world's population will be exposed to increasingly stagnant atmospheric conditions, with the tropics and subtropics bearing the brunt of the poor air quality.

A team led by Daniel Horton, a climate modeler at Stanford University in California, used 15 global climate models to track changes in the number and duration of atmospheric stagnation events, in which stationary air masses develop and allow soot, dust and ozone to build up in the lower atmosphere. "Much of the air-quality community focuses on pollutants," says Horton. "This study takes a step back and looks at the weather or climate component that can lead to the formation of hazardous air quality."

How worsening air quality due to stagnation would affect different regions has been poorly studied, and there are few estimates of human impact. The new study shows just how widespread the effects will be, says Jason West, an environmental scientist at the University of North Carolina at Chapel Hill.

Air stagnation arises from three meteorological ingredients: light winds, a stable lower atmosphere and a day with little
or no precipitation to wash away pollution.

In a high greenhouse gas emissions scenario, Horton and his colleagues calculate that 55% of the global population will experience more air stagnation by 2099. Large swathes of India, Mexico and the Amazon could see up to 40 more stagnant air days per year compared to the average annual tally from 1986 to 2005, representing increases of 40%, 19% and 28% respectively. The team did not find major changes in the globe’s high northern latitudes, Saharan Africa or most of Australia.

The researchers then factored in current population size to quantify human exposure to daily stagnation events and air pollution. The impacts are especially intense in India, Mexico and the western United States. By far, the largest uptick in overall human exposure will be in India, says Horton, due to the country’s enormous population, along with the increases in atmospheric stagnation.

Outdoor air pollutants are a major contributor to stroke, heart disease, lung cancer and respiratory diseases including asthma. Nations could mitigate the air pollution impact by limiting emissions of greenhouse gases, particulate matter and the precursors to ozone, including nitrogen oxide, nitrogen dioxide and volatile organic compounds, says Horton.

The latest study does not account for changes in population size or distribution, or for changes in the amount of pollution entering the atmosphere.

The models used in the new study, Horton said, lack the fine-scale resolution needed to describe impacts to specific metropolitan regions, where local features such as the mountains influence weather patterns.

The findings do, however, dovetail with preliminary results from a project that is examining climate change impacts on Los Angeles, a city known for poor air quality, according to Alex Hall, a climate scientist at the University of California, Los Angeles.

His group’s work shows air temperatures in the Los Angeles region increase more aloft than at the surface, which creates a "lid" on the air near the surface. "Emissions of pollutants into this pool of air would become more concentrated, reducing air quality," he said in an email.

"Some version of this story would occur throughout the world, especially in the tropics and subtropics" as predicted by Horton and his colleagues, he said.

62. Emissions-Free Vehicles Ready to Rattle the Auto Industry

The EV industry has a promising future ahead with “zero-tailpipe-emissions” cars. Here are six cars that produce zero emissions on the road and are ready to shake up the auto industry in the coming year.
6. Hyundai Tucson Fuel Cell

Hyundai took the concept of a gasoline-free vehicle and ran with it. In the Tucson Fuel Cell vehicle, Hyundai brings a small sport utility vehicle to the table in limited leases in California at the cost of $499 per month (36 months). This SUV has a potential range of 265 miles and a top speed of 100 mph.

Obviously, Hyundai cannot market this car in higher volumes until the hydrogen fueling infrastructure improves. There are only a few places in California that allow hydrogen car drivers to change tanks. Electric cars had to start somewhere, too, so automakers investing in fuel cells have time to make the economic and environmental factors work.

5. Volkswagen e-Golf

Volkswagen never produced an all-electric car before the e-Golf, so this entry from the world’s No. 2 automaker is especially noteworthy. Its top-end electric range of 115 miles would make it second best of any EV on U.S. roads. The electric VW can produce a maximum 200 pounds-feet of torque. Add in a projected price of $35,000 before federal rebates, and there will likely be a big audience for the e-Golf when it arrives in late 2014.
Volkswagen is also testing power of its service contracts and promised electric range with the e-Golf. Drivers who lose charge after a trip shorter than 100 miles will be eligible for free roadside assistance from VW to restore the car’s power at the nearest charging station.

4. Mercedes B-Class F-CELL

Mercedes Benz knows when to call in the star power. The automaker enlisted Jon Hamm to pitch its new supercar in April, and it has actress Diane Kruger appearing in press release photos for its fuel cell vehicle, the B-Class F-CELL. The automaker claims 190 miles of range and 134 horsepower for the F-CELL, which will be joined by the all-electric model in the B-Class.

Two pilot leasing programs are beginning in San Francisco and Los Angeles. Kruger, known for her work in Inglourious Basterds and The Bridge, apparently fuels up in Malibu.

3. Kia Soul

Kia has made noise in U.S. markets with the midsize Optima and new K900, but it is making a potentially disruptive move with the release of its Soul EV, expected in late 2014. The Soul EV claims an electric range of 92 miles, which would slot it in the top five in electric range among U.S. cars.
Production of the Soul EV began in mid-June 2014. What's notable besides the range is the car's ability to charge to 80 percent power in just 30 minutes, courtesy of a higher energy density in its battery, according to Clean Technica. Decent range and quick charging times give the Soul EV the ability to disrupt the industry at a low or even mid-range MSRP.

2. Mercedes B-Class Electric Drive

![Mercedes B-Class Electric Drive](image)

Why choose between lithium-ion battery cars and fuel cell cars when there is the option to make both? Mercedes Benz has taken the “everything but the kitchen sink” approach to gasoline-free cars. By the time anyone manages to pronounce the full name of this one, it will be clear this model is the plug-in electric vehicle of the bunch. It has an electric range of 85 miles and the power of 250 lb-ft of torque to give drivers that Mercedes feel.

The B-Class electric also has a competitive sticker price (and more trunk space) that will allow consumers to pass on the funky BMW i3 if they like. U.S. consumers can now start configuring a B-Class online, making it only a matter of time before it is whizzing by on local roads.

1. Tesla Model X

![Tesla Model X](image)

There is no questioning both the enduring appeal of utility vehicles and the wild popularity of Tesla electric vehicles. Put the two together, and it figures the Model X will have a titanic 2015 debut. Leave it to Tesla to create a crossover than can accelerate from 0-60 in under 5 seconds — and one with falcon wings for easy access to the car’s three rows of seating.
Tesla recently confirmed it will begin production of the Model X in 2015. The first several months of production are likely already reserved, so new reservations would be filled later next year. This upcoming release has tremendous potential to increase the power of Tesla and the electric vehicle industry as a whole.

63. UNEP Urges Countries to Reduce Short-Lived Climate Pollutants

On June 24th, the United Nations Environment Program called on countries to reduce short-lived climate pollutants to slow down global warming and to protect the environment and public health. Addressing delegates at the inaugural meeting of the UN Environment Assembly in Nairobi, UNEP's Executive Director Achim Steiner said fast action to reduce short-lived pollutants such as black carbon, methane, tropospheric ozone and other hydrofluorocarbons could have substantial benefits.

“By reducing most of the short-lived climate pollutants, by 2050 we could prevent close to 2.5 million premature deaths annually, cut global crop losses by about 30 million tons a year and curb climate change by half a degree Celsius,” Steiner said.

Quoting recent scientific studies conducted by UNEP and the World Meteorological Organization, Steiner stressed that short-lived climate pollutants are responsible for a substantial portion of near-term climate change that has significant detrimental health, agricultural and environmental impacts.

According to UNEP, delayed implementation of short-lived climate pollutants by 25 years could lead to significant and irreversible impacts on the global climate.

Jacqueline McGlade, the UNEP's chief scientist, said at the meeting that at the regional level, black carbon and tropospheric ozone in the lower atmosphere disturb normal air circulation and modify rainfall patterns. She said such atmospheric interferences usually increase occurrences of storms and tropical cyclones. “Black carbon also darkens the surface of snow and ice, effectively increasing the absorption of sunlight, a process that is exacerbating melting in the Arctic and other glaciated and snow-covered regions,” McGlade said.

However, urging delegates to undertake urgent mitigation measures, Steiner paid tribute to the governments of the U.S., Bangladesh, Canada, Ghana, Mexico and Sweden for leading in the global effort to reduce short-lived climate pollutants.

In a report, “Time to Act to Reduce Short-lived Climate Pollutants,” UNEP identified incomplete combustion from diesel engines, wild fires and open-burning of biomass as the primary sources of black carbon. The report also identified methane emissions as short-lived that is generated by human activities that include livestock raising and rice production, fossil fuel production and distribution, municipal waste and water management operations.

Taking into account that most of the short-lived climate pollutants are generated through direct human activities, UNEP recommended a wide range of cost-effective measures that could be applied to reduce those emissions. Some of the options included replacement of traditional wood-burning cook stoves with more modern cooking equipment.

64. UNEP Report Calls Climate Change Biggest Environmental Issue in World
Climate change is the “major, overriding environmental issue of our time,” according to the “Annual Report 2013” from the United Nations Environment Program, which also charted progress in fostering greater efficiency in the use of natural resources, improved environmental governance and better practices for handling chemicals and waste.

For the first time, the annual report focuses foremost on climate change, calling it a “global crisis that is already affecting our ability to support virtually every element of human wellbeing and sustainable development, from economic growth to food security.”

The report draws on UNEP initiatives around the world to gauge progress and derive conclusions. Released on June 20th, it is the centerpiece publication from UNEP, which is jointly based in Geneva and Nairobi.

Ban Ki-moon, the United Nations secretary general, focused on climate change in his introduction to the report, saying the information in the report highlighted that “less than two years remain for governments to agree on a new climate deal that will come into force in 2020,” a reference to the late-2015 climate summit in Paris, where the UN hopes a global climate agreement will be finalized in time for it to enter into force five years later.

The report had some good news, pointing to the number of countries integrating climate adaptation initiatives into development plans and countries implementing clean energy plans. But, as the report noted, current policies and practices clearly aren’t adequate to address the problems.