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# CAR LINES

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## EUROPE

### 1. 'Clean Mobility' Package Calls For 30% Car Emissions Cut by 2030

Average CO<sub>2</sub> output from new cars and vans should fall by 30% in the ten years from 2021 under a European Commission proposal to “accelerate the transition to low- and zero-emission vehicles”, but the EU executive stopped short of a mandatory production quota for low-emission vehicles and said there would still be an internal combustion engine in 80% of new cars sold in 2030.

The proposal sets a target of a 15% CO<sub>2</sub> emissions cut by 2025, based on the average emissions from a manufacturer's entire fleet of vehicles registered in a given year.

The baseline for both the interim and 2030 target is 2021, by which time current regulations stipulate average emissions should not exceed 95g CO<sub>2</sub> per kilometer for new cars, or 147g for vans.

In the shadow of the Dieseltgate emissions scandal and a widening gap between official tests and real-world CO<sub>2</sub> output, the EU executive also proposed stricter monitoring. A new Worldwide Harmonized Light Vehicles Test Procedure (WLTP) will apply from 2021, and manufacturers whose cars fail during in-service conformity checks will have to pay €95 per gram in excess of official emissions for every affected vehicle.

A further proposed measure is the collection, publication, and monitoring of real-world fuel consumption data via an obligation for manufacturers to fit a standardized monitoring device in all new vehicles.

Rather than a production quota to boost the production of electric and other clean vehicles, the proposal relies on an incentive mechanism. Car makers who exceed aspirational targets for the ratio of low-emission vehicles in annual production will be granted partial exemptions to the above emissions standards to their conventional vehicles.

“Manufacturers achieving a share of zero- and low-emission vehicles which is higher than the proposed benchmark level of 15% in 2025 and 30% in 2030, will be rewarded in the form of a less strict CO<sub>2</sub> target,” the Commission said. When queried on this provision, EU climate and energy commissioner Miguel Arias Cañete told reporters that the bonus would be subject to a 5% cap to “maintain environmental integrity” and that the ‘clean mobility’ package as a whole was consistent with the EU's commitments under the Paris Agreement.

Carmakers and environmentalists were both quick to criticize the Commission's proposals.

European Automobile Manufacturers' Association ACEA, representing major firms, said the 30% target was “overly challenging” and the pace of change demanded by the EU executive too swift. “Clearly, CO<sub>2</sub> targets can provide an impetus for innovation in the auto industry, but the current proposal is very aggressive when we consider the low and fragmented market penetration of alternatively-powered vehicles across Europe to date,” ACEA secretary general Erik Jonnaert said.

For Transport & Environment, the 30% target would only cover a third of the emissions cuts needed in the sector, and the package was an “early Christmas present” for the car industry.

The absence of a penalty for failing to meet zero-emission vehicle targets is an “own goal”, T&E clean vehicle specialist Greg Archer said. “It amounts to handing the global leadership on electric cars to China, which will be delighted to export their models to Europe,” he added.

Europe’s generators were disappointed at the lack of a mandatory quota that might have guaranteed a significant boost in electricity demand.

Head of trade association Eurelectric, Kristian Ruby, welcomed the proposal to monitor the gap between test and real-world emissions but said the proposals did not go far enough to tackle the rising emissions from road transport. “Whereas we welcome the introduction of an incentive scheme for low and zero emission vehicles, the level of ambition is too weak to trigger the necessary paradigm shift to electric mobility across Europe,” Ruby said.

The proposals are set to be amended during negotiations between the European Parliament and EU Council of ministers, and Cañete acknowledged that some were “more ambitious” on the pace of change in the transport sector. Green MEP Bas Eickhout was one. “The Commission’s CO2 reduction targets are simply not credible. Just to meet our own climate legislation, they need to be at very least doubled,” he said.

German MEP Peter Liese, of the center-right EPP group, rejected this idea. He acknowledged “the worldwide trend towards electric cars is unstoppable” but noted that the automotive industry remains heavily dependent on internal combustion engines. “I think that the demands by the greens and environmental organizations for a reduction of 40% or even 60% are nonsense and completely unjustified”, Liese said.

The ‘clean mobility’ package also included proposals to promote the purchase of low-emissions vehicles through public procurement tenders, a ‘battery initiative’ aimed at promoting domestic research and production, and an action plan to promote the deployment of alternative fuels infrastructure, notably charging points for electric vehicles.

The Commission plans to table similar proposals governing CO2 emissions from lorries in the first half of 2018.

A group of 7 European Union (EU) countries had collectively called upon the European Commission to create and set stricter limits on carbon dioxide emissions from vehicles ahead of the introduction of new standards by the European Union executive. The 7 countries in question — representing countries without significant auto manufacturing industries — called upon the Commission to introduce targets to reduce passenger car and van emissions by 40% by 2030.

Needless to say, the 7 countries in question — Austria, Ireland, Belgium, the Netherlands, Portugal, Luxembourg, and Slovenia — represent a considerably less formidable lobbying block than the one representing countries with large auto industries (e.g., Germany, France, and Italy).

“Without ambitious targets, the EU will struggle to meet its climate goals, they wrote in a letter to the Commission on October 25<sup>th</sup>. The transport and environment ministers of Luxembourg, Austria, Belgium, the Netherlands, Portugal, Ireland and Slovenia signed the letter.”

Since Volkswagen admitted to cheating on emission tests in the United States, large car manufacturing nations have also been under greater pressure to accept tougher EU regulation of

the industry. European carmakers say they support the introduction of cleaner vehicles but warned they depend on consumer demand.

“The Commission’s proposal is expected to set a benchmark for carmakers to introduce zero-emission vehicles into their fleets as part of a crediting system linked to the overall CO2 targets.” Those plans and the new CO2 standards for passenger cars and vans are intended to function as part of the European Union’s efforts to reduce greenhouse gas emissions by at least 40% (as compared to 1990 levels) by 2030.

## **2. Huge Gap in Official V. Real-World Car Emissions**

The gap between the real CO2 emissions from cars and those reported to regulators has more than doubled to 42% since the start of the decade, according to a report by the International Council on Clean Transportation. “Since 2010, hardly any real-world reductions in CO2 emission values have been achieved,” the environmental NGO said recently.

New EU type approval rules that came into force in September are expected to reduce the gap, but the Worldwide Harmonized Light Vehicles Test Procedure (WLTP) “has its own shortcomings”, the ICCT said. WLTP should be complemented by on-road testing of CO2 emissions – as required for NOx testing in the wake of the Dieselgate scandal – the ICCT said, echoing advice from European Commission scientists last year.

Transport & Environment said only 40% of emissions reductions mandated by the 2009 regulation on car CO2 output have been achieved in the real world, and called for action from the EU executive. “Specifically it must ensure emissions cuts are delivered on the road,” said Greg Archer, the pressure group’s director for clean vehicles.

“If Vice President Sefcovic and Commissioner Cañete are serious about lowering CO2 emissions from transport, they should propose a 45% cut in new car emissions (2020-30) and a mandatory target for zero-emissions vehicles,” Archer said.

This call was echoed by the consumer organization BEUC, which issued its own report on the availability of zero-emission vehicles (ZEVs) and argued that ambitious CO2 targets are needed to increase the numbers on Europe’s roads through the next decade.

In addition to a binding target for the market share of electric vehicles – a specific target the EU executive has already ruled out, leaving open the option of a ZEV quota – BEUC called for real-world CO2 testing and specified a 2025 target of 75g CO2 per kilometer by 2025 and 50g by 2030.

“Today’s research shows that there is simply not enough choice in the electric vehicle market... Electric vehicles are expected to be cheaper than conventional cars in the 2020s, which is why ambition is needed to speed up their rollout,” BEUC director Monique Goyens said.

Current EU rules call for the average emissions for all new cars of 95 grams of CO2 per kilometer or less by 2021. The EU executive’s official figures put average emissions of new cars last year at 118.1g/km.

## **3. Most Automakers Seen Missing 2021 EU Emissions Goals**

Only four of 11 of the world's top volume automakers will escape billions of dollars in fines for missing tightened European vehicle-emissions targets. This is the projection being made by PA Consulting Group in considering which manufacturers are on course to meet the European Union 2021 emissions mandates.

The analytics firm claims only Volvo, Toyota, Renault-Nissan and Jaguar Land Rover will meet the new targets while Ford, BMW, Volkswagen, Fiat Chrysler, Hyundai-Kia and PSA Group (including Opel/Vauxhall) will miss their targets, although Daimler is getting closer.

PA's annual forecast of automakers' performance against mandatory EU carbon-dioxide emissions targets suggests the failing automakers face a huge challenge to reduce CO<sub>2</sub> emissions to meet the EU's 2021 target. There have been numerous recent government announcements of plans to ban internal-combustion engines – as early as 2025 in Norway and the Netherlands, and by 2040 in the U.K. and France. A similar ban is on the agenda in Germany and China.

PA's 2017 ranking analysis indicates most automakers will face penalties of €95 (\$113) for every gram of CO<sub>2</sub> above the limit, multiplied by the number of cars they sell in 2020. At the current rate, VW would face the biggest fine of €1.7 billion (\$2 billion), followed by FCA with €1.2 billion (\$1.4 billion). The biggest fall from grace is PSA, which was on track to meet EU emissions targets but fell into the failing bracket following its takeover of Opel and Vauxhall.

At the other end of the scale, there have been some positive developments, with Volvo, Toyota, Renault-Nissan and JLR expected to meet the EU emissions targets.

There has been a huge change at the top of the table, with Volvo a new No.1, up from seventh last year. This is based on the Swedish automaker's strategy to sell only all-electric or partially electrified cars from 2019 onwards, resulting in a huge improvement in CO<sub>2</sub> performance ahead of 2021.

Volvo tops the lowest-emissions table, followed by Toyota and then Renault-Nissan. JLR is hitting its 2021 target despite having considerably higher emissions than the 10 other ranked automakers, both now and four years from now.

Norway has the lowest level of emissions and the highest use of plug-in hybrids and electric vehicles, which made up 29% of new-car sales in 2016 there, reflecting its policy of banning the ICE by 2025.

In comparison, meeting the U.K.'s ambitions to ban combustion engines by 2040 will be a challenge with the nation appearing toward the bottom end of the scale of European countries. Developing alternatives lags other countries and experts believe it is not currently well placed to drive this shift to electric options, given it produces 2.5 million combustion engines a year, 15% of the European total.

#### **4. Tougher Type Approval and Real Driving Rules Could Cause High Fines, Study Shows**

Automakers selling vehicles in the EU could face unexpected fines and more than half of car buyers could face higher registration and ownership taxes because of a stricter type approval process introduced by regulators. Since September 1 new cars have undergone laboratory tests

performed under the so-called Worldwide Harmonized Light Vehicles Test Procedure (WLTP) before being approved for sale. This replaced New European Driving Cycle (NEDC) tests.

Although WLTP data are used for homologation, a NEDC correlated value is used by EU lawmakers to determine CO2 emission targets for individual automakers, and also for registration and ownership taxes. An additional new test, known as the real driving emissions (RDE) test, measures pollutant emissions on the road for the first time instead of just in laboratories.

The consequences of tougher testing procedures could have significant effects on the European market, according to market researchers JATO Dynamics.

“Automakers had expected the new homologation process to increase CO2 emissions by around 3 percent, but the first findings for vehicles already homologated with the new procedure show much more significant increases compared with the same models tested with the previous procedure,” said Alessandro Paulucci, JATO’s head of service innovation for Europe.

A JATO white paper showed these key findings:

- Full-electric models will need to account for 15 percent of the EU new-car market for automakers to reach a target of a fleet average of 95 grams per km mandated by the EU in 2021, up from 0.9 percent last year.
- Automakers may miss the current 130g/km target in 2019, exposing them to 1 billion in industrywide fines because all vehicles on sale in the EU will have to go through the new type approval procedure by August 31, 2018 at the latest.
- Car buyers in 10 markets that have a CO2-based registration tax regime will face higher taxes on their vehicles. “An increase of 3g/km in average emissions will translate into roughly 600 million euros extra in registration taxes. This most likely will be transferred directly to car buyers,” Paulucci said. They are France, Spain, Denmark, the Netherlands, Austria, Croatia, Finland, Greece, Ireland and Portugal. These countries represent 52 percent of EU sales.
- Car-ownership costs will rise significantly for customers in 11 markets with a CO2-based ownership tax regime. These markets are Germany, the UK, France, Belgium, Denmark, Finland, Greece, Ireland, Portugal, Sweden, the Netherlands. The exact increases are hard to forecast, JATO said. These countries represent 63 percent of EU sales.

Automakers selling cars in Europe previously were confident that the expected 3 percent increase in homologated emissions under the NEDC correlated data could be easily absorbed because CO2 emissions had fallen by a 3.3 percent average annually from 2007 to 2015. But, said Paulucci, this situation has now changed because the combination of booming sales of less fuel efficient SUVs and falling sales of diesels halved the average fleet emission reduction in 2016.

Under RDE, each pollutant should not surpass a conformity factor 2.1 times the WLTP test. The conformity factor was raised under heavy lobbying of the auto industry, which argued that a straight transition from NEDC to RDE would have been too disruptive.

But RDE was introduced to make it harder for automakers to manipulate lab test results under either NEDC or WLPT. Under NEDC, some companies used tricks such as overinflating tires, adjusting or disconnecting brakes to reduce friction, and taping cracks between body panels and windows to reduce air resistance. Sometimes they even removed wing mirrors, according to Transport & Environment.

The same “gaming the system” could still happen under WLTP testing but the conformity factor on RDE reduces the room for maneuvering. Paulucci said this could be the main reason why the WLTP results are considerably higher when translated into NEDC correlated results.

The room for cheating the tests will progressively decrease because the conformity factor of RDE on WLTP will decrease from the current 2.1 to 1.5, something that JATO expects will further significantly increase CO2 values. This in turn will mean even higher potential fines for automakers and higher purchasing and ownership taxes for consumers.

## **5. Lawyers Challenge Secrecy Clause in EU Law'**

ClientEarth is calling on the EU Court of Justice to annul a confidentiality provision in a regulation on the type-approval of motor vehicles that came into force last month. It requires car manufacturers to explain to regulators how any calibration of such control systems will affect emissions in real-world and test situations.

The regulation marked a tightening of rules in response to the Dieselgate scandal. But lawmakers ultimately stopped short of setting up a pan-European agency to monitor the automotive sector.

ClientEarth notes that the new rules allow the data on control systems to remain a secret between manufacturers and the competent national authorities. The latter have in the past “systematically failed to investigate excessive emissions and to enforce EU emissions rules”, the lawyers argue.

“This information must be public, so individuals and NGOs can monitor whether car manufacturers are complying with vehicle emissions rules and if national authorities are keeping the industry on the straight and narrow,” said ClientEarth transparency lawyer Anaïs Berthier.

The case has wider implications, however. The ECJ will have to decide whether to allow the challenge in the wake of the UN's compliance committee finding the European Commission to be in breach of the 1998 Aarhus Convention on access to environmental information, participation and justice.

A successful challenge will make this the first case ever to be allowed before EU judges by an NGO, and would pave the way for more environmental challenges against the EU and its institutions, ClientEarth said.

## **6. Lancet Study: More Than 400,000 EU Deaths A Year From Pollution**

Nine million people a year are estimated to die worldwide because of pollution, and more than 400,000 in the EU alone, according to a new study in the Lancet. Air, water, soil and workplace pollution are estimated to be responsible for one in six of all deaths, the Lancet Commission on Pollution and Health found.

Most of these deaths came from non-communicable diseases such as heart disease, stroke, lung cancer and COPD.

As is the case in other industrialized regions, in the EU air pollution is the most harmful form of pollution with 280,000 deaths a year from poor air quality. Earlier this month the EEA said that the number of premature deaths in the EU attributed to exposure to NO2 pollution rose by 7,000 to 75,000 in 2015, with Italy, the UK, Germany, France and Spain suffering worst.



## **7. EEA: Air Pollution Blamed For 500,000 Early Deaths in Europe In 2014**

Polluted air killed half a million people in Europe prematurely in 2014. So says a report on air quality from the European Environment Agency in Copenhagen, Denmark. "Air pollution is the single largest environmental health risk in Europe," says the EEA.

By far the biggest killer was PM2.5. These claimed an estimated 428,000 premature deaths across the 41 European countries tracked in 2014. The main source, contributing 57 per cent of PM2.5 emissions in 2015, was domestic wood burning, especially in Eastern Europe.

Nitrogen dioxide, mostly from vehicle exhausts, cut short an estimated 78,000 lives across the same 41 countries. Ground-level ozone was the other major killer, claiming an estimated 14,400 lives prematurely.

"Heart disease and stroke are the most common reasons for premature death attributable to air pollution, and are responsible for 80 per cent of cases," the report says. Air pollution also contributes to other respiratory diseases and cancer, and has non-lethal impacts on diabetes, Alzheimer's disease, pregnancy and brain development in children.

The two worst hotspots for PM2.5 pollution were Poland and northern Italy, where dozens of cities exceeded the EU's annual mean limit of 25 micrograms of particles per cubic meter of air. "Poland and the Po valley have very bad pollution," says Alberto González Ortiz, the report's lead author.

The worst offender was the city of Krakow in Poland, where the PM2.5 value was 44 micrograms. Levels also reached 40 micrograms in Macedonia. More than a dozen Polish cities exceeded 30 micrograms, as did cities in northern Italy including Milan, Padua, Cremona, Brescia, Venice and Turin.

In all, 7 to 8 per cent of Europe's urban population was exposed to PM2.5 concentrations that exceeded the EU limit. But when the World Health Organization's stricter limit of 10 micrograms was used as a benchmark, between 82 and 85 per cent of urban Europeans were exposed.

The UK saw an estimated 37,600 premature deaths from PM2.5 exposure in 2014. The worst hotspot was 16 micrograms, along London's Marylebone Road, followed by 15 micrograms on a roadside in Haringey, north London.

But the UK also saw many premature deaths from exposure to nitrogen dioxide: about 14,000. This was compounded by widespread use of diesel fuel in vehicles. In one part of London, the annual limit for nitrogen dioxide was exceeded as early as 6 January this year. In September, London mayor Sadiq Khan triggered the capital's seventh emergency air quality alert since he introduced the system a year ago. Impacts from nitrogen dioxide were also high in Germany, France and Spain.

Overall, emissions are falling, but slowly, says Ortiz. He says the air would get cleaner faster if countries further limited their numbers of vehicles, burned cleaner fuels for heating and created more pedestrianized areas. Ortiz also recommends adapting infrastructure to suit cycling and promoting wider use of public transport.

## **8. Diesel Cars Lose Further Market Share in Germany**

The share of new cars sold with diesel engines in Germany fell in September from a year earlier, according to data published recently, amid continuing concern about emissions. The 104,520 new diesel cars sold accounted for 36% of new registrations, which closely corresponds with sales, from 45% in September 2016, said KBA, Germany's federal motor transport authority. Gasoline-fueled vehicles rose to 60% of total new car sales, the authority said.

Diesel cars have been losing market share in Germany in the wake of the emissions cheating scandal at Volkswagen AG that started roughly two years ago. Since then, public concern has grown, with some politicians calling for a ban on diesel-powered autos. Overall car sales in Germany fell 3% in September to 288,100 vehicles, according to data published by German car makers' association VDA.

## **9. European Sales of Gasoline-Powered Cars Overtake Diesel: ACEA**

Sales of gasoline-powered cars have overtaken diesel in the first half of this year for the first time since 2009, according to the European Automobile Manufacturers Association (ACEA). The shift, following revelations that most diesel cars emit more pollutants on the road than laboratory tests suggested, saw gasoline car sales rise by nearly 10 percent from the first half of 2016, compared with an approximate 4 percent drop in diesel car sales in the same period, the group said.

Sales of "alternative" vehicles - hybrid, electric, LPG (liquefied petroleum gas) and natural gas-powered ones - also rose by more than 35 percent to account for 5.2 percent of total car sales.

The mayors of Paris and Athens have said they plan to ban diesel-engine cars in city centers by 2025 in the wake of the emissions scandal, while France is also making plans to reverse favorable tax treatments for diesel. Some expect other European governments to follow suit. Even car manufacturing centers Stuttgart and Munich have mulled diesel engine bans.

ACEA, however, cautioned the shift to gasoline engines could make it tougher for Europe to meet CO2 reduction targets. "Policy makers need to be aware that a sudden shift from diesel technology to petrol will lead to an increase in CO2 emissions," ACEA Secretary General Erik Jonnaert said.

Jonnaert also called on governments to do more to usher in "alternative" cars. Sales of hybrid electric vehicles rose by a whopping 58 percent in the first half of the year, and electric sales rose by 37 percent, but the groups still account for just 2.6 percent and 1.3 percent, respectively, of total car sales.

## **10. Copenhagen's Mayor Plans to Ban All New Diesel Cars in City By 2019**

Copenhagen's mayor has announced plans to ban new diesel cars from entering the Danish capital. As part of a proposal to improve the city's air quality, Frank Jensen wants to introduce the ban by 1 January 2019. "It's not a human right to pollute the air for others. That's why diesel cars must be phased out," the 56-year-old told Danish newspaper Politiken.

The law would only affect drivers of new diesel cars registered after 2018, but Mr. Jensen insisted it would "mean something for the many, many Copenhageners that are affected by respiratory illnesses".

But any law change would need to win a majority in the Danish parliament.

Mr. Jensen is also pushing for further law changes, including a limit on wood-burning stoves in the city, speeding up the transition to electric buses, and forcing cruise ships docked at the city's port to run on electricity instead of diesel.

Steffen Loft, lead researcher in air pollution at the Copenhagen Institute for Public Health, called the proposal an "important signal" but said it did not go far enough. "It's weak. The proposal could be more restrictive of diesel vans. Firstly, you could introduce the restriction earlier than 2019, and you could choose a stricter standard. And there are no restrictions on diesel-powered cars, in addition to the new cars that may be purchased after 2019," he told the newspaper.

"It's not on top of my list for how ambitious it could be. It is still not in line with other metropolitan environmental requirements such as Berlin, Stockholm, Paris and so on. "

Around 80 people die each year in Copenhagen due to air pollution caused locally, according to research.

## **11. UK Car Sales Slide For A Sixth Month Amid Falling Consumer Confidence**

New car sales in the UK fell for a sixth month in September, leaving the market on course for its first annual decline since 2011. Car registrations dropped by 9.3% to 426,170, the first time the September market has declined in six years. The Society of Motor Manufacturers (SMMT) and Traders blamed declining consumer confidence given uncertainty over Brexit and confusion over air quality plans. Sales of diesel cars crashed by 21.7% last month.

September, when number plates change, is a key month for car sales. New car registrations have fallen 3.9% over the first nine months of 2017 and are expected to record a fall over the year as a whole.

The SMMT had been expecting an annual decline but it now looks as though that drop may be bigger than expected, a spokeswoman said.

Sales of diesel cars have been falling for six years and if this trend continues, CO2 emissions from new vehicles could rise this year for the first time since average CO2 emissions in Britain were first recorded in 2000, the SMMT said.

Diesel vehicles were long promoted as being cleaner than petrol cars but recent research suggests that they could be worse for causing carbon emissions. Tax breaks have favored diesel over petrol, even though they are a leading emitter of the air pollutants nitrogen oxides (NOx), which is responsible for many thousands of premature deaths in Europe each year.

This year, the UK government announced that it would ban all new petrol and diesel cars and vans from 2040. It followed a similar announcement in France.

The biggest declines in September were seen at opposite ends of the market with sales of luxury saloons and superminis falling 36.4% and 21.2% respectively. Demand from business, fleet and private buyers all fell in September, down by 5.2%, 10.1% and 8.8% respectively. Demand for new vans dropped 4.2% in September to 57,368, driven by a fall in sales of smaller vans. Sales of pick-ups and heavier van sales rose slightly.

Credit insurance firm Euler Hermes predicts new UK car sales will fall 5% this year to 3m vehicles and 6% in 2018 to 2.8m after five years of growth. The US is the only other global market that will

experience declines. Overall, the firm predicts that global vehicle sales will reach 100m by 2019, driven by strong demand in China and India.

## **12. Paris Bans All Cars From the Whole City for a Day**

Parisians and tourists were encouraged to stroll through the City of Light on a recent Sunday as officials banned cars from its streets for a day. Paris has experimented with car-free days in the past, but Sunday marked the first time the entire city was handed over to ramblers, cyclists and roller-bladers. Only emergency vehicles, buses and taxis were allowed on the streets from 11 a.m. until 6 p.m. Paris time.

Paris mayor Anne Hidalgo was elected on a promise to curb air pollution and reduce car traffic in the French capital, where vehicle emissions are often high.

The car-free day created a potential headache for the organizers of Paris fashion week, who rely on trucks to install and remove lavish, sky's-the-limit shows. Worried fashion houses like Valentino sent out numerous email reminders to guests who planned to arrive by car, reminding them to organize alternative transport.

The Paris couture federation, which supports the initiative, spent months working with police and local authorities to ensure events ran smoothly.

## **13. Transport 'Has Largest Green Impact' On Sharing Economy**

The transport sector can deliver the largest environmental benefits within the so-called 'sharing economy' according to a study by the Nordic Council of Ministers, the formal cooperation forum of Denmark, Finland, Sweden, Norway and Iceland. The research analyzed changes in consumer behavior associated with some 100 sharing initiatives in Nordic countries, and their impacts in terms of CO2 emissions and resource use.

It found that initiatives such as car sharing, carpooling and car hailing have the biggest potential to reduce CO2 emissions, as they cut the number of kilometers driven per household and curtail car production, as well as reducing air pollution, noise and traffic congestion. One shared car could replace up to 13 personal cars and reduce the net impact by 130-1,000 kilograms of CO2 emissions per household per year, according to estimates.

The sharing of private accommodation is also greener than occupying hotel rooms, as it lowers consumption of energy and water, and production of waste. A Dutch study last year flagged up the potential of the circular economy, including sharing, to boost recycling and cut CO2 emissions.

As sharing initiatives lead to savings, however, the Nordic Council study also found that their environmental benefits might be offset by increased spending on more goods or other services — the so-called rebound effect. For example, lower accommodation prices could lead to more air travel.

Ultimately, says the report, the impact of these activities depends on environmental policies, including taxation. It concludes that sharing initiatives should be encouraged and all emissions should be priced or regulated.

## **14. EP Vote on Charging Points 'A Blow to EV Infrastructure Roll-Out'**

European Parliament negotiators failed recently to adopt a more ambitious stance on the compulsory installation of charging points than one agreed earlier this year by energy ministers, which the EU executive warned would do little to drive a switch from conventional to electric vehicles.

A report by the parliament's industry and energy committee on the European Commission's proposal for reforms to the Energy Performance of Buildings Directive (EPBD) called for the compulsory installation of at least one charging point for every ten parking spaces in non-residential buildings that are new or undergoing major renovation.

That is the same as the EU Council position, but while energy ministers agreed that every third space should also be pre-cabled to allow easy installation of a charging point, MEPs only called for this requirement to apply to every tenth spot.

For residential buildings, neither the ITRE committee, nor energy ministers called for anything beyond compulsory pre-cabling. By contrast, the EU executive's proposal tabled in November 2016 called for a charging point for every tenth parking space in all new commercial and residential buildings.

The pro-reform Platform for Electro-Mobility sought to put a positive spin on the ITRE vote in a statement "welcoming" the report, which is subject to formal adoption at a full session of the parliament in Strasbourg. "As they are more frequented than private buildings, large non-residential buildings ensure high visibility for and intensive use of EV charging points," said the group, which comprises mainly environmental NGOs and electricity industry companies. It also welcomes provisions supported by MEPs that would simplify permitting procedures and clarification that the rules for non-residential should also apply to mixed-use buildings.

The vote came a day after EU climate and energy commissioner Miguel Arias Cañete warned that the EPBD was the only instrument EU lawmakers had to increase the charging of electric vehicles in private buildings. "Today we are in a chicken and egg situation, where the sale of electric vehicles is being held back by the lack of charging points – and investment in charging points is low because of the limited sales of electric vehicles," Cañete said.

### **15. Claim: Zero-Emissions Transport Policy 'Will Cost Jobs'**

One in three European automotive jobs could be lost due to decarbonization policy, industry and union leaders have warned following publication of a European Commission report recommending a move to a zero-emissions sector. In the report, the multi-stakeholder group on the competitiveness and sustainable growth of the automotive industry called for an EU industrial policy agenda "aligned strongly" with the 2030 climate and energy targets.

It recommended rapid implementation of the Alternative Fuels Infrastructures Directive, revision of post-2020 CO<sub>2</sub> targets and measures to stimulate faster uptake of zero-emissions vehicles.

The report also called for policies in support of the mass production of batteries and cells in Europe, and measures to increase demand for low and zero-emissions vehicles, including "ambitious fleet targets for heavy duty vehicles" and registration quotas for public authorities.

In a joint statement, associations representing car manufacturers, car suppliers and trade unions said they supported the report but warned of the "risks" of a binding mandate. They said the report failed to examine the social and employment effects of a decarbonization policy.

Environmental groups welcomed the report's proposals. Speaking at the launch of the report, William Todts, executive director of environmental NGO Transport & Environment, said the recommendations "provide important actions to secure a more sustainable automotive industry and mobility in the EU".

## **16. Auto Industry Seeks Policy Support for EVs**

Car manufacturers have called on the European Commission to promote the sale of electric vehicles in legislative proposals setting post-2020 limits on fuel consumption and CO2 emissions for cars and vans. The only EU countries where electrically charged vehicles accounted for more than one per cent of overall sales last year were those with a GDP per capita in excess of €30,000, the European Automobile Manufacturers Association (ACEA) said.

"Many people take the Norwegian market as a benchmark. But just like its €64,000 GDP, more than twice the EU average, Norway's ECV share of 29% is an exception in Europe," ACEA secretary general Erik Jonnaert said.

The highest market share in the EU was seen in Sweden, on 3.6% last year. The UK and France came joint second, with combined sales of just over 66,000 units representing a market share of 1.4%.

Sales of electric vehicles were close to zero in less wealthy countries, with Bulgaria, Greece and Estonia shifting only 88 units between them in 2016, according to ACEA's figures. "This should be a wake-up call for policymakers," Jonnaert said. Future decarbonization measures should be inclusive, rather than assuming that all countries are in the same position as a handful of advanced... markets".

The Commission is committed to a switch to electric vehicles, and recently criticized governments and MEPs for watering down proposals for making the installation of charging points mandatory in new buildings.

Jonnaert concluded that the final e-car product, "no matter how good it is", is not sufficient to create demand, and called on the EU executive to "take this into account" when formulating its upcoming proposal on car emissions.

The petrol and diesel sector, meanwhile, fought its own corner. The trade association Fuels Europe called on senior Commission officials to base EU policy on lifecycle emissions – which a recent survey suggests would still favor electric cars – rather than the CO2 content of exhaust fumes.

The lobby group's director John Cooper argued in a letter dated 30 October that "the current regulatory framework for evaluating CO2 emissions is somehow misleading consumers into thinking that choosing an EV [electric vehicle] results in no emissions." "Accordingly we call on the Commission to resist requests to mandate a quota of EVs and to keep true to its principles of being technology neutral," Cooper wrote to Commission president Jean-Claude Juncker and the relevant commissioners.

In fact, officials within the EU executive have already ruled out a quota specific to electric vehicles, at least when speaking off the record. Electricity generators are now pushing for a European

quota for zero-emission vehicles (ZEVs), which would include other technologies such as hydrogen fuel cells.

### **17. Hamburg Port Reviews Fee Structure To Reward Greener Vessels**

Less polluting vessels will pay lower charges to use the port of Hamburg under a proposed review of fees that was announced recently. From 1 January 2018, it is proposed that a component of the fees charged on vessels entering Hamburg port will be based on their International Air Pollution Prevention (IAPP) certificate rating, the port authority said.

Vessels will pay an additional charge on top of a base rate if they fail to present an IAPP certificate or their rating is poor, while vessels with a good rating will be granted a discount.

Five existing “green rebates” — Environmental Ship Index (ESI) certification, the use of Liquid Natural Gas (LNG) and renewable electricity, and “Green Award” or “Blue Angel” certification — will be integrated into the new scheme. Such rebates are proven to work, the port authority said. Worldwide some 6,000 vessels are ESI certified, and 20% of calls into the port of Hamburg are from “greener vessels” than regulations require.

An EU study in June found that port charges have a significant potential to reduce emissions.

The proposal is due for approval by the Hamburg city parliament.

### **18. EU Sets Out Green Measures in €550m Oceans Package**

The European Commission has announced a slew of measures targeting environmental impacts on the seas. The €550m package, announced at its Our Ocean conference in Malta, is aimed at tackling growing ocean challenges such as plastic pollution, protection of marine life and climate change.

Almost half, €250m, was pledged to fund marine and maritime research in 2017, including €40 million to support low-emission and advanced waterborne transport. More than €30 million was earmarked for marine energy.

The EU executive will also invest €10m in setting up maritime technology cooperation centers with the International Maritime Organization in Africa, Asia, the Caribbean, Latin America and the Pacific to foster improved energy efficiency in shipping.

A further €1.5m will be targeted at reducing black carbon emissions in the Arctic, with another €600,000 going to environmental projects in the region.

Another measure, among a list of 36 in the package, was €60m in funding over 2018-2019 for the All-Atlantic Ocean Research Alliance, with partners such as Brazil and South Africa.

### **19. Danish EPA Doing Good Job on Sulfur Monitoring of Shipping**

The Danish Environmental Protection Agency (EPA) is doing a good job on monitoring shipping in the North Sea and the Baltic Sea area, Sara Ropke of the Danish EPA has said. With 19 companies reported to the authorities so far, Ropke told reporters that the agency, which operates two sniffers able to detect sulfur emissions, is doing more than it is required to do under the

regulations, adding that the sniffers -- one on the Great Belt Bridge and the other from a helicopter -- used to monitor shipping emissions do not form part of its EU obligations.

Ropke said that funding to monitor emissions from shipping operating in the North and Baltic Sea area at the current level is in place for next year. The agency recently referred two more shipping companies to the Danish Police.

However, it will not be naming the companies. "We don't think it is our role to name companies as that can be seen as an extra penalty," she said. But if the police choose to do so that is a different matter.

Since 2015, the sulfur cap in emission control areas (ECA) is set at 0.1% while from 2020, the global cap on bunker fuel outside ECA falls to 0.5%.

Bunker and shipping companies have raised concerns over a level playing field being maintained once the regulations come into force. Without effective compliance, unfair competitive practices could emerge, they say.

## **20. NGOs Welcome EP's Call for 2050 Zero-Emissions Goal**

The EU executive should develop by mid-2018 a strategy to cut its net CO2 emissions to zero, the European Parliament agreed in a resolution adopted ahead of UN climate talks in Bonn. Under the 2015 Paris Agreement, all parties are expected to communicate their long-term climate strategies by 2020.

Wendel Trio, the director of Climate Action Network (CAN) Europe said MEPs were right to recognize that the EU's current 2030 emissions reduction target of 40% compared to 1990 levels is not in line with the commitments made in Paris. "We hope the message will get through to EU governments, who are at the moment doing the exact opposite by watering down the already low national targets under the Effort Sharing Regulation (ESR)," Trio said.

MEPs agreed their position on the ESR in June, and environment ministers are expected to adopt their general approach at an EU Council meeting on 13 October. "So far EU countries have turned a blind eye to the need to increase emission reductions under the ESR, and instead have advocated... loopholes that will lower the already weak 30% target under the ESR to a mere 23%," Trio said.

The resolution adopted ahead of the COP23 summit also called for concrete EU and international commitments to increase financing for climate action. "Lending and investment practices should be in line with the well below 2°C target, including divesting from fossil fuels and phasing out export credits," the parliament said in a statement after the vote.

With moves to strengthen the EU emissions trading system well under way – albeit with differences between the parliament and EU member states yet to be bridged – the resolution also welcomed developments worldwide to introduce such cap-and-trade schemes, noting that 18 are in operation across four continents.

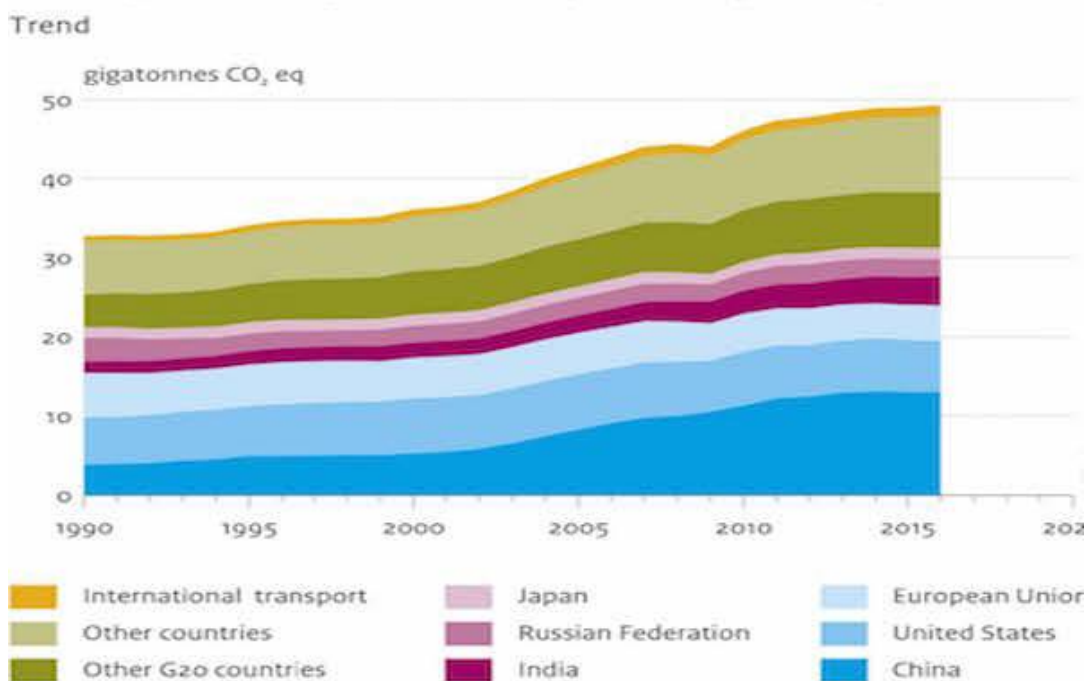
In a resolution broadly in line with the motion endorsed last month by its environment committee, the European Parliament also endorsed a move to censure the US over its decision to withdraw from the Paris Agreement, describing the Trump administration's move as "a step backwards".



The social democratic S&D group said the resolution should serve as a guide for the G20 nations and the European Union, and also called for the status of “climate refugees” to be recognized internationally. "The impact of climate change on migration can no longer be ignored. According to the UN, environmental changes will lead to the forced displacement of 250 million people by 2050," MEP Gilles Pargneaux said.

## 21. EU Leads Global CO2 Emissions Decoupling Trend

### Global greenhouse gas emissions, per country and region



Climate - PBL CO2 trends 2017

CO2 emissions stalled at both global and EU level in 2016 while the economy kept growing, new data show. These are the findings of a forthcoming study by PBL in the Netherlands and a report by the European Commission’s Joint Research Centre.

The EU’s economy grew by 1.9% year-on-year but carbon emissions increased only by 0.2%. The UK and Bulgaria saw the biggest falls in CO2 emissions, with -6.4% and -6.0% respectively. Alongside Brazil, which saw a reduction of 6.1%, these countries saw the largest falls worldwide, according to the Dutch agency.

Globally, greenhouse gas emissions increased by half a percentage point, against GDP growth of about 3%. This means “the 2016 emission increase was the slowest since the early 1990s, except for global recession years”, the PBL summary report finds. The full report was published ahead of the COP23 Bonn meeting in early November.

Non-CO2 emissions, which make up 28% of total emissions, grew the most according to the PBL. Methane has the largest share in this category, constituting about 19% of global emissions. Its main sources are fossil fuel production (25%), cattle (23%) and rice production (10%). Other non-CO2 emissions come from nitrous oxide and fluorinated gases.

CO2 emissions fell because of changes in the energy mix, mainly the decline of coal and the uptake of renewables. CO2 emissions from cement and lime production however increased by 6.4%, almost double the year-on-year increase recorded in 2015, the JRC found.

The research also shows that CO2 emissions in the EU are now 20.8% lower than they were in 1990 and 17.9% less than in 2005. The EU's global share last year remained stable at 9.6%.

## **22. Second Audi Employee Arrested In Germany in Emissions Probe**

Prosecutors have arrested a second Audi employee in connection with the automaker's emissions scandal and increased the number of suspects in a related investigation.

Audi admitted in November 2015, two months after parent Volkswagen Group's diesel emissions scandal broke, that its 3.0-liter V-6 diesel engines were fitted with an auxiliary control device deemed illegal in the United States.

U.S. authorities are seeking to extradite a former Audi manager arrested in July in connection with the diesel investigation. The man, who in Germany can only be identified as "Giovanni P," is presumably Giovanni Pamio. He has been charged in the U.S. with conspiring to defraud U.S. regulators and consumers through software designed to cheat emissions tests in thousands of Audis.

Wolfgang Hatz, former Research and Development chief at Porsche and head of powertrain development at Audi and parent Volkswagen in previous roles, was taken into custody, a person said, marking the first arrest of a former board member of one of Volkswagen's units in Germany.

Hatz left Porsche last year, having been suspended since Volkswagen's emissions test-cheating scandal broke in September 2015. Investigations found no evidence against him, Porsche said in May 2016.

Mr. Hatz was reportedly close to former VW chief executive, Martin Winterkorn, who has denied any knowledge of the "defeat devices" which allowed vehicles to artificially reduce emissions during tests before their existence was exposed publicly.

Audi has no knowledge of the arrest and continues to cooperate with authorities, a spokesman said.

German business daily Handelsblatt first reported the arrest and Sueddeutsche Zeitung disclosed Hatz's identity.

Audi admitted in November 2015, two months after parent Volkswagen's diesel emissions scandal broke, that its 3.0 liter V6 diesel engines were fitted with an auxiliary control device deemed illegal in the United States.

In March, Munich prosecutors searched offices at the carmaker's Ingolstadt base, where about 44,000 workers are employed, and the premises of Jones Day, a U.S. law firm hired by Volkswagen to lead an investigation into the emissions scandal.

Four months later the U.S. Justice Department said it had charged a former Audi manager with directing employees at the company to design software to cheat U.S. emissions tests in thousands of Audi diesel cars. The former Audi manager, Italian citizen Giovanni Pamio, was

subsequently arrested by Munich prosecutors on suspicion of fraud and false advertising in connection with the carmaker's emissions scandal. Pamio remains in custody pending ongoing German investigations and an extradition request by U.S. authorities.

## **NORTH AMERICA**

### **23. Wehrum Dodges Calls on California GHG Waiver, Signaling Ongoing Fight**

William Wehrum, the nominee tapped to lead EPA's air office, sidestepped calls from Senate Democrats during his confirmation hearing to reverse his stance in the Bush administration to deny California's request for a Clean Air Act waiver to enforce its own vehicle greenhouse gas rules, underscoring the ongoing battle between the state and the Trump EPA over the state's rules.

The issue surfaced at an October 4 Senate environment committee confirmation hearing for Wehrum, during which Democrats entered into the record two documents on the issue -- a March 2006 email from Wehrum to EPA staff proposing to deny California's then-pending request, as well as a 2008 report from Democrats on the House oversight committee detailing internal agency push-back to that idea during the Bush administration.

At the time he wrote the email, Wehrum was acting EPA air chief, though he had left the agency by the time it ultimately decided to reject the waiver request in March 2008. The Obama administration ultimately reversed the decision in July 2009.

During the confirmation hearing, Sen. Kamala Harris (D-CA) asked Wehrum if, during any contemporary review of California's waiver, he would "heed the advice of career staff and recognize and preserve California's authority to issue its own new motor vehicle standards."

Wehrum declined to answer, and instead said he would commit to "understand that provision [of the air law] as much as possible, and implement it as faithfully as possible." He said air act section 209 allows California to enforce its own vehicle emissions standards "in appropriate circumstances."

But Wehrum's 2006 email to EPA's vehicle, air and general counsel offices underscores that, at the time, he was not inclined to grant such waivers. "I think we should assert the existence of preemption and propose to deny the waiver based on the absence of compelling and extraordinary conditions," Wehrum wrote. That alludes to a legal test under section 209 under which EPA has typically granted California's request for waivers to enforce its vehicle emission rules upon the state's assertion that its air quality problems are particularly bad and thus require tougher standards.

The email was written when the Bush administration was resisting pressure to establish GHG controls and before the Supreme Court issued its landmark 2007 decision in *Massachusetts v. EPA* that affirmed that GHGs fit the definition of a regulated "air pollutant," setting the stage for federal vehicle GHG rules.

Wehrum further wrote that "this determination would be specific to the GHG standard" and would not apply to other aspects of California's program related to low emission vehicle (LEV) requirements.

Clean Air Act section 209 says that EPA must grant a waiver request if, among other things, the state needs the regulations to "meet compelling and extraordinary circumstances." The statute sets out a deferential standard for California, requiring the agency to show that the state's assertions are incorrect. The Bush administration denied the request, arguing that California must demonstrate that a specific standard -- not its vehicle program as a whole -- is necessary to meet the compelling and extraordinary test.

The agency at the time found that the section was not "intended to allow California to promulgate state standards for emissions from new motor vehicles designed to address global climate change problems" and that "the effects of climate change in California are [not] compelling and extraordinary compared to the effects in the rest of the country."

Before courts could issue a ruling on that issue, the Obama EPA reversed course and granted California its waiver. It cited both California's need for its overall vehicle program as well as threats the states face from climate change, which worsens the state's local air pollution problems.

Numerous legal experts have argued that Trump EPA would face an extremely high legal bar in reversing the Obama EPA's move, at least for California's vehicle program to model year 2025, in part because the agency would have to reverse an already-granted waiver.

EPA Administrator Scott Pruitt has said the current waiver is not currently under review, though he has declined to say if the agency will back California's authority.

Even during the Bush administration, its ultimate decision to deny the waiver request came against strong recommendations from EPA career staff to grant the request. They argued there were not "any good arguments against granting the waiver," according to an internal briefing referenced in the 2008 House oversight committee report. "All of the arguments discussed here [to deny the waiver] are likely to lose in court if we are sued. The arguments here are the best of a bad lot."

The briefing discussed options including but not limited to asserting a lack of compelling and extraordinary conditions. It described all of them as having "high to very high legal vulnerability."

#### **24. Vehicle GHG Rules Become Major Flashpoint for Climate Damages Fight**

The Trump administration's review of vehicle greenhouse gas and fuel economy rules is becoming a major flashpoint over the White House's efforts to diminish the role of monetized climate benefits in regulatory cost-benefit analysis, with environmentalists essentially threatening litigation over any failure to account for increased GHGs due to weakening the vehicle standards.

The warnings surface in comments from several major environmental groups to the National Highway Traffic Safety Administration (NHTSA) as it develops a National Environmental Policy Act (NEPA) review to inform its plan to revisit preliminary vehicle fuel economy standards in the years leading up to model year 2025.

The comments highlight the regulatory stakes involved in the assumptions Trump officials use to reconsider their vehicle GHG and fuel economy rules -- including whether NHTSA measures the impact of its pending rulemaking compared with already final MY21 standards or instead with the preliminary, "augural" MY25 requirements that are generally aligned with final standards issued by EPA and California.

But the issue could also surface in the Trump EPA's upcoming proposal to repeal the Clean Power Plan, as well as other administration rules to delay or repeal other Obama-era climate rules, such as methane standards for oil and gas facilities.

"NHTSA must quantify and monetize the climate change effects caused by any changes it may propose to the stringency level of the" MY22-25 standards, says September 25 comments from roughly a dozen environmental and public interest groups. Groups joining these comments include Natural Resources Defense Council (NRDC), Public Citizen, Environmental Defense Fund (EDF), American Council for an Energy-Efficient Economy, Union of Concerned Scientists (UCS), Sierra Club, Center for Auto Safety, and others.

Specifically, the groups say that President Trump's March executive order that disbanded an inter-agency working group (IWG) that developed the social cost of carbon (SCC) metric to quantify the benefits of reducing GHGs does not remove an administrative and legal requirement to calculate such climate damages.

Trump's order disbanded the IWG and generally barred agencies from using the SCC in cost-benefit calculations, though a top Office of Management and Budget (OMB) official has since said that the administration is "trying to figure out a good, rigorous technical way" of calculating carbon dioxide damages in rules' cost-benefit analysis, though any new estimates are likely to be lower than what the prior administration calculated.

But environmentalists say that "Any downward deviation from the IWG's range of SCC estimates would be arbitrary and capricious," arguing that ignoring the SCC would contradict language in OMB guidance, known as Circular A-4, that requires use of the best currently available data and methodologies.

The significance of the SCC argument becomes particularly clear when read in tandem with another of the groups' demands -- that NHTSA treat final EPA and California MY22-25 vehicle standards as the regulatory baseline, or "no action alternative" in its NEPA review. Doing so would mean measuring the impact of NHTSA's pending fuel economy rulemaking -- and any corresponding changes to EPA's GHG rules -- in comparison with the current vehicle GHG and preliminary fuel economy standards.

As such expected concessions to automakers would then show up as GHG increases, and thus increased climate damages and reduced benefits, with similar implications for calculating damages from non-GHG pollutants or lost oil savings benefits from relaxed rules.

While only a fraction of the original rule's benefits are tied to the SCC -- most are tied to consumers' fuel savings -- omitting such benefits would make it marginally easier to justify weaker fuel economy limits.

Additionally, a successful push by environmentalists to force the administration to incorporate the SCC into the vehicle rules would serve as an important precedent as EPA and other agencies seek to roll back a host of major climate regulations.

Separate September 25 comments from a similar collection of groups, which are solely focused on the SCC issue, seek to refute claims in NHTSA's regulatory notice that it is not required to monetize climate change effects, and that doing so would be too difficult. "Under legal standards for rational decision-making, agencies must monetize important greenhouse gas effects when the decisions are grounded in cost-benefit analysis," the comments say.

Regarding NHTSA's claim that climate impacts are "difficult to quantify," the groups say: "It is not: the social cost of greenhouse gas protocols provide a thorough, quantitative treatment of uncertainty, including uncertainty relating to temperature changes, environmental impacts, and the translation of those impacts into monetary estimates."

Groups filing those comments are EDF, NRDC, Sierra Club, UCS and the Institute for Policy Integrity at New York University.

## **25. OMB Begins Review of EPA Proposal to Repeal Glider Truck GHG Limits**

The White House Office of Management & Budget (OMB) is beginning its pre-publication review of a draft Trump EPA proposal to repeal greenhouse gas emission reduction requirements for so-called "glider kits" that were included in the Obama administration's Phase 2 GHG rule for medium- and heavy-duty trucks.

According to OMB's website, it received EPA's draft proposal on October 20. The proposal is an outgrowth of the Trump administration's reconsideration of the heavy-duty GHG rule as it pertains to glider vehicles and trailers, which EPA announced in August.

The plan appears aimed only at gliders, which are incomplete trucks sold without powertrains that are intended to be used with refurbished engines. It is not clear if and when EPA plans to move forward with a rule regarding GHG limits for trailers, which the Obama EPA regulated for the first time in its Phase 2 rulemaking.

The agency does not have a description of the rulemaking on its website. The title of the proposal is, "Repeal of Emission Requirements for Glider Vehicles, Glider Engines, and Glider Kits."

Both the glider and trailer manufacturing sectors say EPA lacks authority to regulate their equipment at all, arguing the products are not self-propelled "motor vehicles" subject to Clean Air Act limits. The Obama EPA disagreed with those claims, and ultimately regulated the equipment in its Phase 2 regulation.

Citing those legal claims, both sectors petitioned EPA to reconsider aspects of the rule that apply to their sectors. In addition, a trailer manufacturer group is pursuing a lawsuit against the rule, and has asked an appellate court to pause those requirements after EPA refused to take that step when it granted the reconsideration petitions.

GHG cuts tied to the trailer standards are estimated to provide up to 9 percent of the rule's overall emission reductions. It is not clear how much of the rule's emission cuts could be at risk if the agency scraps the standards for gliders. That sector is not a major portion of the market but has been growing in recent years.

The broader trucking industry has opposed reopening the requirements, and some officials are questioning why the business-friendly Trump administration is responding to complaints from the relatively smaller sectors, rather than listening to advice from the vast majority of the trucking industry, which supports the current regulation as a whole.

Repealing GHG limits for gliders could cause two concerns for other truck makers.

- First, it is not clear whether EPA would shift the compliance burden that otherwise would have been borne by glider vehicles onto manufacturers of traditional vehicles, or whether the agency would reduce the overall amount of emissions that the rule would cut.
- Second, the move could give gliders an edge in the market because they would face no costs to comply with the rule while other truck manufacturers would continue to face significant compliance costs.

Environmental groups, which have charged that gliders take advantage of a regulatory “loophole,” are almost certain to oppose any EPA move to soften requirements for the vehicles out of concern that the rule’s overall GHG benefits might be reduced.

The glider “kits” allow older, refurbished engines to be installed that do not meet current emission requirements. In addition to its claim that the kits are not self-propelled vehicles, the glider industry also argues that fully assembled glider vehicles are not “new” trucks. EPA’s authority under air act section 202 is limited to new vehicles.

However, EPA wanted to include them in the regulation because their emissions can be 20-40 times higher than state-of-the-art engines, according to agency data. The agency has predicted that the growing glider sector could add as many as 10,000 trucks annually -- data the glider sector questioned in its petition for the agency to reconsider the truck GHG rule’s standards for gliders.

The rule allows a limited number of gliders with old engines to continue to come to market and requires the manufacturers to move to newer technology over time. The limited numbers seek to halt any efforts by fleets to circumvent the phase 2 rules and continue to buy cheaper, higher-emitting emissions technology.

Paul Billings, vice president for policy and advocacy for the American Lung Association, noted the EPA’s own data said up to 1,600 premature deaths would be avoided by controlling emissions of glider kits. “This is not an exemption. This is literally a loophole big enough to drive the biggest, dirtiest truck you’ve ever seen through,” Billings said.

## **26. Court Pauses EPA’s GHG Trailer Standards, Further Imperiling Truck Rule**

A three-judge panel of the U.S. Court of Appeals for the District of Columbia Circuit has stayed implementation of the portions of the Obama EPA’s greenhouse gas rule for heavy-duty trucks that regulate trailers, giving the manufacturers a reprieve from fast-approaching January compliance deadlines.

The move could also cast doubt on EPA’s underlying authority to regulate trailers, a long-standing argument from manufacturers, though a final court ruling on that issue could be months away because the Trump EPA still is formally reconsidering the regulation.

However, if the trailer provisions are ultimately scrapped, it could remove roughly 10 percent of the heavy-duty rule’s GHG benefits.

The action will almost certainly further inflame truck and engine manufacturers, who are already concerned over Trump EPA efforts to roll back provisions of the rule addressing so-called “glider kits,” incomplete trucks sold without powertrains that are intended to be used with refurbished engines. They fear such rollback measures could create a competitive disadvantage by bolstering other sectors.

The D.C. Circuit's stay comes in an October 27 per curiam ruling finding that the Truck Trailer Manufacturers Association (TTMA) has "satisfied the stringent requirements for a stay pending court review."

The court also agreed with the Trump administration's request to hold the litigation, TTMA v. EPA, et al., in abeyance "pending further order of the court." It requires the parties to file status reports on the regulation every 90 days.

The Trump EPA is reconsidering the rule as it applies to trailers and glider kits, given claims by those sectors that the agency lacks fundamental authority to regulate their equipment because the products are not self-propelled "motor vehicles" subject to Clean Air Act limits. The Obama EPA disagreed with those claims, and ultimately regulated the products in the truck GHG rule.

The agency has not yet acted on a regulatory proposal to alter the truck rule's trailer standards, and before the D.C. Circuit's stay was issued, manufacturers faced a January deadline at which they must sell trailers that comply with the rule's emission requirements.

In the event that the Trump EPA adopts the sector's claims about its authority to regulate trailers, the D.C. Circuit would likely continue its abeyance in TTMA as it reviews any lawsuit over the agency's new rule.

But any EPA effort to roll back the trailer standards could be complicated as California already has similar measures that could create a patchwork of requirements.

When it launched its reconsideration, EPA declined to administratively stay the regulation, which prompted TTMA to seek a judicial stay September 26. The group argued its claims against the agency's authority were likely to succeed on the merits, and that its members would suffer irreparable harm absent a stay because trailer manufacturers will lose sales and customers. It added that "the problem is happening now" because trailers are built to order and ordered months in advance.

"Many trailer customers do not want the equipment that the Final rule requires manufacturers to sell, and have informed TTMA's members that they do not want to purchase trailers that contain such equipment," the industry motion said, adding that, "Compounding the problem, EPA has been slow in certifying equipment that is compliant with the new regulations."

On October 13<sup>th</sup>, several states and environmental group that support the trailer standards urged the court not to grant the stay, arguing the industry group's claims of harm were "speculative." They also noted that California already has in place similar trailer GHG standards, and that companies are complying with that rule. A key difference in the rules is that California regulates fleet owners, while EPA's rule for the first time would put the point of obligation on trailer manufacturers.

"That the trailer industry has experienced no disruption in implementing California's standards, which rely on the same kinds of components and technologies, confirms that implementation of the federal rule pending this Court's review will not irreparably harm TTMA's members," said a group of eight states led by California.

## **27. Four Bills Move Through House Panel to Weaken Air Pollution Requirements**



A House environment panel voted November 15 to move forward four bills aimed at easing clean air regulations for coal refuse plants, brick kilns, wood heaters, and race cars. The bills, approved by the House Energy and Commerce Subcommittee on Environment, now move to the full Energy and Commerce Committee.

Similar versions of all the bills, except the wood heater bill, were introduced in the last Congress but failed to become law. Their chances could be different in the current political environment, given the Trump administration's strong anti-regulatory stance.

The panel approved, by a 13-10 vote, the Satisfying Energy Needs and Saving the Environment (SENSE) Act (H.R. 1119), which would sustain an existing waiver for waste-to-power companies under the Environmental Protection Agency's Mercury and Air Toxics Standards rule before it expires. Without the waiver, four of the nation's 18 coal refuse plants—three in Pennsylvania and one in West Virginia—likely will go out of business in April 2019, when the current waiver expires, according to the bill's supporters. Opponents claim the bill would overturn evidence-based scientific decisions made by government agencies and courts.

Another bill (H.R. 1917), which would extend the date by which brick makers have to control hazardous air pollution from their kilns, was approved by the subcommittee on a 12-10 vote. Brick companies, most of which are small firms, would have to borrow millions of dollars to pay for the equipment needed to comply with EPA rules, according to Rep. Bill Johnson (R-Ohio), who introduced the legislation. Opponents maintain the bill is merely a bid to delay health protections until industry lawsuits are fully litigated and appealed.

By a 12-10 vote, the subcommittee approved a bill (H.R. 453) that would give manufacturers three more years before their heaters have to meet more stringent emissions standards under the Clean Air Act. The current rule prohibits companies from making and selling, after May 2020, any wood heaters, hydronic heaters, and forced-air furnaces that don't meet the standard.

Finally, the panel approved, on a 13-9 vote, a bill (H.R. 350) to exclude cars made or modified for racing from being regulated as motor vehicles under the Clean Air Act. When introducing the bill in January, Rep. Patrick McHenry's (R-N.C.) office said, "Congress never intended for race cars to be subject to the Clean Air Act."

## **28. Former EPA Chief Reilly Slams House For 'Full Retreat' On Environment**

Former EPA Administrator William Reilly is harshly criticizing the House-passed spending bill that includes major cuts to "core" EPA programs, saying that the provisions as written signal a "full retreat" from decades of efforts to achieve environmental improvement and urging the Senate to reconsider.

"One should make no mistake that a full retreat has been signaled by the House budget, and if this is the budget that ends up coming out of the Senate and [subsequent negotiations], then the United States can expect all of the curves of [environmental] improvement which have been so steady with public support over the past 40 to 50 years to begin to go the other way, to start trending down," Reilly said in comments to reporters.

The remark makes clear that Reilly, who served as administrator during the George H.W. Bush administration, sees the House passed budget as incompatible with promises by Administrator Scott Pruitt to implement a "back to basics" agenda that Pruitt has defended as a way to emphasize other environmental priorities in lieu of climate change programs.

“It is very difficult to square the commitments the [EPA] administrator has made to core programs with a 27 percent reduction in clean air, clean water and safe drinking water,” Reilly told reporters.

His criticisms come at a time when the agency’s defenders are pressing for senators to reconsider the House-passed funding cuts to EPA’s budget, as well as policy “riders” that impose new restrictions on agency activities.

Reilly’s comments come after a recent analysis by the Environmental Protection Network (EPN), a group of former EPA employees, shows that the House-passed budget would result in a 27 percent cut to core EPA programs, even though the House’s overall funding for EPA is \$1.7 billion more than the overall administration request.

The analysis cites diversions by Congress of funds from EPA’s crucial Environmental Programs and Management account to fund other priorities both within and outside the agency. It also raises concern about the impact of policy riders on environmental protections.

Reilly in his comments expresses broad concern at both the core program cuts and several of the policy provisions in the House-passed bill that could hamstring enforcement of environmental laws including through citizen suits. “That is the legacy that the Trump administration and the Pruitt administration are directing us to and it is a tragedy for the environment,” if implemented, he said.

## **29. Governor Brown Signs Bills Aimed At Cutting Car Emissions**

Gov. Jerry Brown signed a dozen bills recently aimed at helping California put more zero- and low-emissions vehicles on its roadways. Reducing greenhouse gas emissions from cars is one of the key ways California is trying to meet its ambitious goals of reducing how much climate-changing gas the state releases into the air. The state is working toward putting 1.5 million zero-emission vehicles on the road by 2025 — an ambitious target. The transportation sector was the largest contributor to greenhouse gas emissions in 2015, at 40 percent, according to the state Air Resources Board.

The bills Brown signed require the state to purchase more zero- and low-emission vehicles and extend incentives for low-income Californians to buy electric vehicles, among other things.

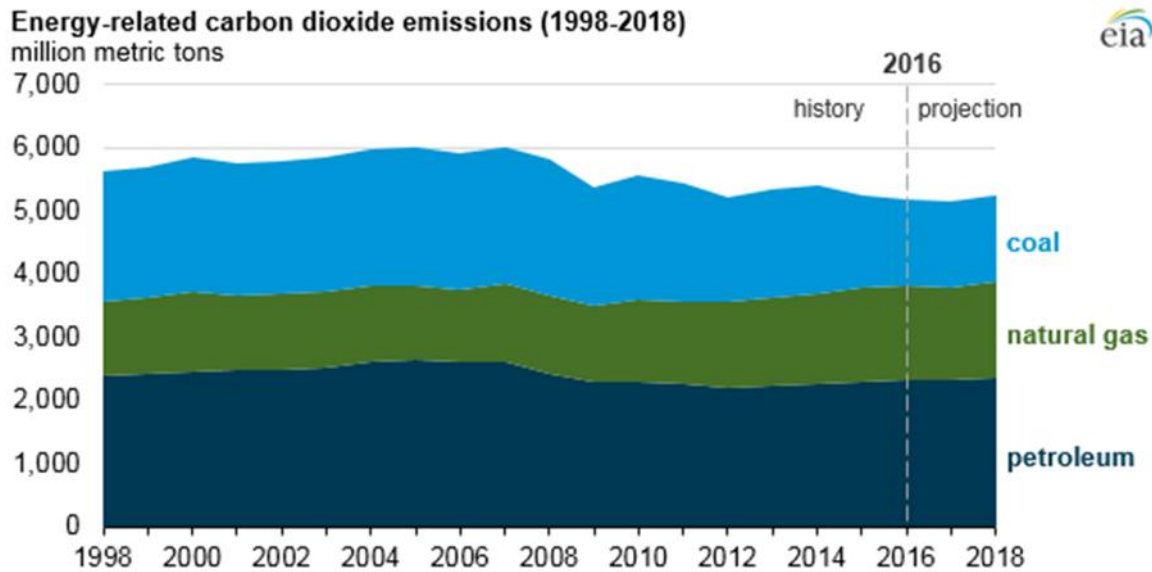
California’s existing Clean Vehicle Rebate Project provides rebates of up to \$7,000 to people who buy or lease zero-emission or plug-in hybrid vehicles. Applicants with lower incomes get priority on the rebates, but that was scheduled to end this year. A bill by Democratic Assemblyman Jim Cooper of Elk Grove maintains the focus on low-income applicants through 2019.

Two other bills require the state to increase its purchase of zero-emission vehicles to 50 percent of its light-duty fleet by 2025 and 30 percent of its heavy-duty fleet by 2030.

More electric vehicle charging stations could be popping up at state parks and beaches under a bill by Democratic Assemblywoman Autumn Burke of Inglewood. Brown signed her bill allowing electric companies to propose charging station pilot programs.

In a signing message, Brown warned the charging stations should be placed thoughtfully. “Deployment of charging infrastructure should take place in locations that make the most sense and that minimize any increased costs to ratepayers,” he wrote.

### 30. Energy-Related Carbon Dioxide Emissions Expected To Fall In 2017 but Rise In 2018



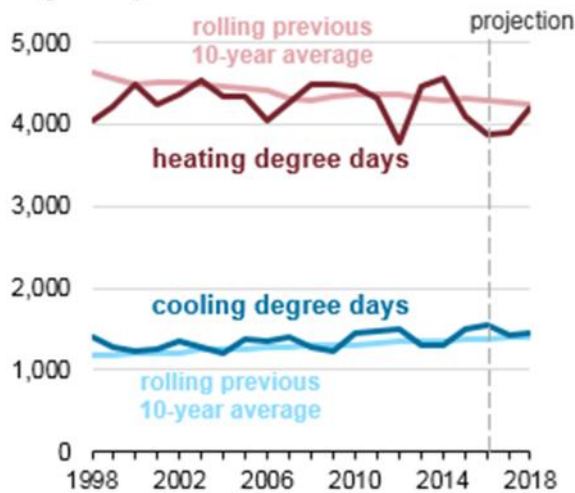
Source: U.S. Energy Information Administration, Short-Term Energy Outlook

Energy-related carbon dioxide (CO<sub>2</sub>) emissions fell in both 2015 and 2016, and they are expected to fall again in 2017, based on forecasts in EIA’s Short-Term Energy Outlook. However, EIA forecasts a 2.2% increase in energy-related CO<sub>2</sub> emissions in 2018. An annual increase is not without recent precedent; annual emissions rose in 2010, 2013, and 2014, although U.S. energy-related CO<sub>2</sub> emissions have generally been declining since reaching their peak in 2007.

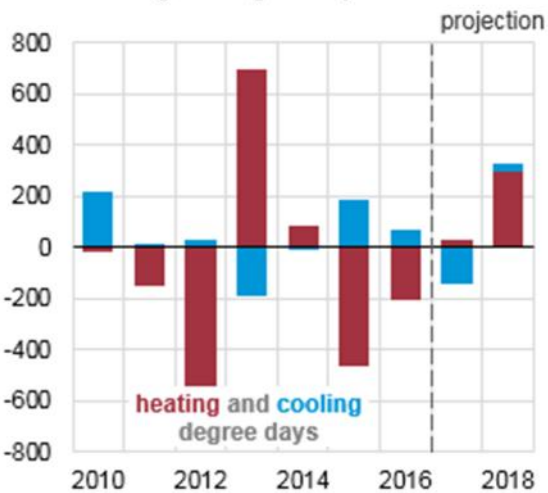
Weather is a key factor in annual changes in energy consumption and the resulting emissions. Weather-related energy demand can be estimated by changes in population-weighted degree days, which reflect deviations from a base temperature of 65 degrees Fahrenheit. Heating degree days estimate the need for heating-related energy demand on colder days, while cooling degree days indicate the need for cooling (air conditioning) on warmer days.

By the end of 2017, annual heating degree days are expected to have been higher than in 2016, and cooling degree days are expected to have been lower. EIA’s short-term projections for heating and cooling degree days largely reflect a return to normal temperatures, based on the average of the previous 10 years. Consequently, in 2018, both heating and cooling demand are expected to increase, by 7.5% and 2.4%, respectively.

**Heating and cooling degree days (1998-2018)**  
degree days



annual change in degree days



Source: U.S. Energy Information Administration, Short-Term Energy Outlook

These increases are expected to drive more energy consumption for heating—fueled by natural gas, electricity, and other fuels—and more energy consumption for air conditioning—fueled mostly by electricity. Because about 63% of the electricity generated in the United States is from coal and natural gas, increases in electricity consumption also mean more emissions from coal and natural gas power plants.

In 2018, energy-related CO<sub>2</sub> emissions are expected to increase for each fossil fuel—petroleum, natural gas, and coal—for a total increase of 111 million metric tons. The most recent year with emissions increases in all three fossil fuels was 2013, when emissions rose by 128 million metric tons from the previous year.

**Annual change in energy-related carbon dioxide emissions (2010-2018)**  
million metric tons



Source: U.S. Energy Information Administration, Short-Term Energy Outlook

Weather also plays a role in power generation from certain fuels. After two years of higher-than-average levels of precipitation in some areas, hydropower generation is projected to decrease in 2018 by 30 billion kilowatt-hours (kWh). Beyond hydro, increases in other renewable and nuclear generation (20 billion kWh and 4 billion kWh, respectively) are not enough to offset the expected hydropower decrease, leading non-carbon electricity generation to decline by 5 billion kWh. If realized, this would be the first annual decline in electricity generation from non-carbon sources since 2012.

Because total power generation is expected to increase in 2018, electricity generation from coal- and natural gas-fired sources is projected to increase by a combined 97 billion kWh. The resulting increase in coal and natural gas CO<sub>2</sub> emissions in the power sector—28 million and 29 million metric tons, respectively—combined accounts for 52% of the total projected increase in energy-related emissions in 2018.

### **31. BYD Expands Its U.S. Battery Bus Factory**

BYD, the busy builder of all-battery buses, has completed a \$22 million expansion of its factory in Lancaster, Calif. – a former RV plant that’s expected to soon employ more than 600 people, able to produce some 1,500 buses annually. That capacity will be needed in coming years, says a top executive, as the cost of an all-battery bus approaches that of other alternative fuel buses, such as those fueled by CNG/compressed natural gas.

BYD has meanwhile notched its largest U.S. order to date for its all-battery articulated buses – 75 (including options) 60-foot vehicles for the Indianapolis Public Transportation Corporation’s new bus rapid transit line. The IndyGo Red Line is to be the nation’s first all-electric BRT operation.

BYD’s Phase 3 at Lancaster has seen expansion from 250,000 to 450,000 square feet (at a facility that employed just 35 three years ago). A formal grand opening was scheduled for October 6<sup>th</sup>. BYD builds lithium battery modules and packs and BMS/battery management systems there, as well as fully battery-electric buses and trucks, and forklifts. More than two dozen engineers are employed for R&D.

Including options, BYD has logged the following double-digit U.S. battery bus orders:

- AVTA/Antelope Valley Transit Authority – 85 mixed vehicles (F&F, February 12, 2016);
- IndyGo – 75 sixty-footers;
- LA Metro – 60 forty-footers (F&F, July 31);
- Albuquerque – 20 sixty-footers (F&F, August 11); and
- UC Irvine – 20 forty-footers (F&F, January 23).

Whereas all-battery buses were previously seen as a prohibitively expensive luxury, “Virtually every single property we talk to right now has some level of interest,” says BYD sales VP Macy Neshati. That’s because vehicle prices have dropped from more than \$1 million for a 40-foot battery bus prior to 2014, and approximately \$1 million in 2015, to about \$800,000 last year, and \$650,000 to \$750,000 today,

Neshati says. He pegs the cost of a CNG bus at \$525,000 to \$550,000. Given fuel and especially maintenance cost savings, he told F&F, the capital investment delta can be made up in about two years. “The next ten years you’re in positive territory,” he says.

BYD has grown the plant in Lancaster with the employee in mind, Neshati says, mentioning the Antelope Valley's hot summers and chilly wet winters. In addition to a robust HVAC system, there is a gym for employees and two cafeterias. It's "a first-class facility," he says. "We've really gone to extremes to make sure that this is a facility that people want to work at."

And while capacity of 1,500 battery buses per annum might seem like overkill for the North American market, Neshati sees 750 BYD battery buses as a real possibility for 2018. "We've got the property," he says. "Why go through this again?"

Shenzhen, China-headquartered BYD expects to produce 14,000 electric buses this year – four times the tally, says Neshati, of the entire U.S. transit market. For BYD, the expansion in Lancaster is the point of a wedge.

### **32. Labor Department: Solar, Wind Jobs To Boom Over Next Decade**

President Donald Trump pledges to revive the nation's struggling coal mines, but new data from the federal agency that tracks employment growth suggests blue-collar job seekers would do better to look to clean energy.

According to projections released by the Bureau of Labor Statistics, the top-growing job classification over the next nine years will be solar photovoltaic installers. Those positions are expected to double, from 11,300 in 2016 to 23,200 by 2026. The median worker employed installing solar panels made \$39,340 last year.

Wind turbine service technicians came in at No. 2. Those jobs were projected to grow by more than 96 percent, from 5,800 to 11,300. They were paid a median salary of \$52,260 last year.

Though coal miners did not make the federal list of fastest-growing jobs, employment is expected to continue to boom in the oil and gas sector. Derrick operators, roustabouts and rotary drill operators were all listed among the top 30.

Jobs in health care are also expected to continue to grow at a good clip, with positions for home health aides, personal care aides, physician assistants and nurse practitioners all projected to grow at least 30 percent.

Meanwhile, the job classifications expected to shrink the most were topped by locomotive firers, with just 300 of them left by 2026. Positions for respiratory therapy technicians, parking enforcement workers, typists and watch repairers were also expected to dwindle in the next decade.

### **33. Campaign Urges Administration to Follow Through On RFS Review**

A coalition of independent refiners, retailers, and labor unions called on the Trump administration to move ahead on a previously announced review of biofuel quotas under the Renewable Fuel Standard (RFS) despite opposition from renewable fuels organizations and two US senators from Great Plains states. The Fueling American Jobs Coalition (FAJC) launched a week-long television advertising campaign on October 30 that criticizes US President Donald Trump and his administration for allegedly caving in to pressure from Sens. Jodi Ernst (R-Iowa) and Heidi Heitkamp (D-ND) as well as biofuel groups.

“The need for significant reform has only grown over the last year as the cost of purchasing Renewable Identification Numbers (RIN) to comply with the RFS has skyrocketed, threatening some refiners’ survival,” FAJC said.

“The noble goal of the RFS is not without merit, but the flawed manner in which it is administered unfairly picks winners and losers in the gasoline retail industry and oil refining industries,” it said.

The group’s effort came days after nine other senators warned Trump in an October 25 letter that “if your administration does not make adjustments or reforms related to the RFS, it will result in a loss of jobs around the country, particularly in our states.”

The letter continued, “For example, a recent study found that if US independent refiners go out of business, an estimated 75,000-100,000 American jobs are potentially at risk.” It was signed by Sens. Ted Cruz and John Cornyn (R-Tex.), John A. Barrasso and Michael B. Enzi (R-Tex.), Patrick J. Toomey (R-Pa.), Jeff Flake (R-Ariz.), and three others.

American Fuel & Petrochemicals Manufacturers Pres. Chet Thompson applauded the letter. “The adverse impacts of these mandates on American families and workers have been clear for too long. We welcome an open and constructive dialogue about the best way to promote competition among fuels for the betterment of all Americans,” he said.

Pennsylvania Gov. Tom Wolf (D) sent a request to Trump on October 20 to ask US Environmental Protection Agency Administrator E. Scott Pruitt to waive obligations under the RFS for Philadelphia-area refiners, which have had to buy RINs at significantly higher prices to meet their renewable fuel obligations.

Heitkamp said on October 18 that EPA reportedly was backing off plans to revise biofuel quotas under the RFS after she and other Senate members raised concerns about potential impacts on farmers and biofuel producers.

Ernst raised questions about possible biofuel quota changes on October 17 in a meeting with Pruitt. “Our meeting today was another clear demonstration that biofuel-producing states will never stop fighting to protect the RFS,” she said.

### **34. Cummins Westport Tests Ultra-Low Emissions Natural Gas Engines**

Cummins Westport and the California Natural Gas Vehicle Coalition have begun testing new low emissions natural gas engines in drayage trucks at the Southern California port complex. The joint venture between Cummins Inc. and Westport Innovations is testing 20 trucks equipped with the 12-liter ultra-low emissions natural gas engine – called the ISX12N – across seven drayage fleets in the San Pedro Bay in Los Angeles. The engines produce 400 horsepower and 1,450 pound-feet of torque.

Cummins will add another 16 trucks with the new engines at the ports of Los Angeles and Long Beach within the next 30 days, said Hugh Donnell, head of the company’s North America truck segment.

The company also is testing another 10 trucks in fleets in Wisconsin, Florida and Texas.

“We accumulate miles to validate and verify that our product is doing what we want it to do,” Donnell told reporters. “It’s a testing process that goes on for generally a year or more.”

All of the major truck manufacturers except Navistar are participating in the testing.

The near-zero emissions technology can lower three key types of tailpipe pollutants: NOx, diesel particulates and greenhouse gases, or GHG. The engine produces 0.02 grams of NOx per horsepower-hour, which is 90 percent less than the current Environmental Protection Agency standard of 0.2 grams.

Environmental groups like the California Air Resources Board and air quality officials believe trucks equipped with such engines will help eliminate harmful diesel emissions from trucks operating out of the ports of Long Beach and Los Angeles, the nation's largest port complex.

Cummins recently filed to receive CARB certification and hopes for approval from the agency in November, Rob Neitzke, president of Cummins Westport, told reporters.

"We understand the importance of reducing NOx emissions, especially here in California and in one of the busiest transportation corridors in the nation," said Neitzke.

On November 2, the ports of Los Angeles and Long Beach will consider changes to its Clean Air Action Plan, or CAAP, to replace diesel trucks with cleaner technologies such as the ISX12N engine. The mayors of Los Angeles and Long Beach have set a goal to have near-zero or zero emissions at the complex by 2035.

The California Natural Gas Vehicle Coalition, or CNGVC, recently introduced its own plan – the Advanced Clean Trucks Now plan, or ACT Now – which calls on the ports to replace diesel trucks with near-zero and zero emission trucks over the next five years to improve regional air quality and reduce GHG.

"The time to act is now" because the California legislature recently passed its Clean Air Initiative, providing \$895 million in grant money for reducing emissions from mobile sources, including heavy-duty trucks, said Greg Roche, vice president of sustainable trucking for Clean Energy Fuels. "This is the most money that's ever been available in this state to clean up diesel trucks," Roche told the press. "For the ports, this is an opportune time to make a change because money is available to help them do this. There's no guarantee that this money will be available in the future."

By using renewable natural gas, or RNG, the new engine reduces GHG emissions by 70 percent or more, Roche said. "This is a major step on how the air quality can be improved immediately," Roche said, while the industry works on other technologies such as electric trucks and hydrogen fuel cell vehicles, both of which are also undergoing testing.

### **35. Toyota Develops Zero Emission Fuel Cell for Heavy Duty Trucks**

Toyota Motor North America has developed a hydrogen fuel cell system for heavy-duty trucks. The zero-emission, Class 8 proof-of-concept has completed more than 4,000 successful development miles, while pulling heavy cargo and emitting nothing but water vapor.

"Toyota has led the way in expanding the understanding and adoption of fuel cell technology," said TMNA Executive Vice President Bob Carter. "From the introduction of the Mirai passenger vehicle to the creation of the heavy-duty fuel cell system in Project Portal, Toyota continues to demonstrate the versatility and scalability of the zero-emission fuel cell powertrain."



With testing and development miles already having been completed, TMNA's Project Portal is ready to go to work. Initial feasibility study routes, moving goods from select Port of Los Angeles and Long Beach terminals to surrounding rail yards and warehouses for distribution, began on October 23rd 2017. It's estimated the truck's daily trips will total around 200 miles. These localized, frequent route patterns are designed to test the demanding haulage capabilities of the fuel cell system, while capturing real world performance data. As the study progresses, longer haul routes will be introduced.

The initial feasibility study operations will be managed by the TMNA Project Portal team, in collaboration with Toyota's Service Parts Accessories Operations group and its drayage provider, Southern Counties Express (SCE).

Revealed in April 2017, Project Portal is the next step in Toyota's effort to broaden the application of zero-emission fuel cell technology that can serve a range of industries. It is a fully functioning heavy duty truck with the power and torque capacity to conduct haulage operations while producing zero emissions. Heavy duty vehicles make up a significant percentage of the annual emissions output at the Ports of Los Angeles and Long Beach, and the Portal feasibility study may provide another path to further reduce emissions.

The Project Portal heavy-duty truck concept generates more than 670 horsepower and 1,325 pound feet of torque from two Mirai fuel cell stacks and a 12kWh battery, a relatively small battery to support class eight load operations. The concept's gross combined weight capacity is 80,000 lbs. (36,288kg), and its estimated driving range is more than 200 miles per fill, under normal operation.

### **36. Northeastern States Are Looking To Curb Emissions From Cars.**

Cars and trucks are the next target of Northeastern states, as they look beyond power plants to address climate change. With the Trump administration walking back federal greenhouse gas limits for vehicles, Northeastern states are looking at their own authorities to curb emissions from the second-largest source of climate pollution. Steps being considered would put more pressure on automakers to bring electric vehicles to the market and could include a cap-and-trade program for retail gasoline distributors modeled on a similar program in California.

Though the federal government is considering easing greenhouse gas standards, the Northeastern states combined with California—all of which have long term goals to address climate change—carry enough clout that they might still drive automakers toward cleaner cars and trucks. The effort has a bipartisan thread in the Northeast with representatives of New York's Gov. Andrew M. Cuomo (D) and Baker of Massachusetts discussing ways to curb emissions.

"If we get those two states to jump in, that will drive it for the region," Daniel Gatti, a policy analyst for the clean vehicles program at the Union for Concerned Scientists, told reporters. "There's real promise here."

Transportation accounted for 44 percent of total carbon dioxide emissions among nine states in the Regional Greenhouse Gas Initiative, a pollution trading program for power plants. Those nine Northeastern states as well as California, which has also aggressively pushed for limits on vehicle emissions, account for 20 percent of all U.S. emissions from transportation.

One of the options the nine states—Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont—are considering is a cap-and-trade program that would require fuel distributors to buy carbon allowances for their product.

Massachusetts must reduce greenhouse gas emissions from the transportation sector 3.1 percent by 2020 under its Global Warming Solutions Act. The state hasn't released a plan for achieving that goal, but lawmakers are considering dozens of bills to reduce transportation emissions, including a tax on miles driven and a clean fuel standard like those in California and Oregon.

New York and Massachusetts are already trying to encourage greater use of electric vehicles, regardless of what happens with a regional greenhouse gas program geared towards transportation. New York provides buyers with a \$2,000 rebate on the purchase of an electric car, under its \$70 million Drive Clean Rebate program. Massachusetts offers a rebate of up to \$2,500 to residents who purchase a new electric vehicle through a \$12 million program funded through proceeds from the Regional Greenhouse Gas Initiative auctions.

Automakers are touting investments in electric vehicles and looking for state programs to help foster charging stations and other necessary infrastructure. "There is a clear connection with states and local municipalities, who work closely with automakers and stakeholders to design financial and non-financial programs, and market adoption" for electric vehicles, Laura Toole, a spokeswoman for General Motors, told reporters. General Motors announced this month that it would launch at least 20 new all-electric vehicles by 2023, including two in the next 18 months.

Ford also announced that it's accelerating its work on electric vehicles and smart cars, creating a dedicated "electrification team" as part of the company's promise to deliver 13 new electric vehicles over the next five years,

There are about 11,000 fully-electric vehicles on the road in Massachusetts, but it is hoping to increase that number to 300,000 by 2025, according to the state Department of Transportation.

Some 4,209 fully-electric cars were sold in New York this year, up from 2,609 last year, according to the governor's office. As a result, carbon emissions would be reduced by 115,000 metric tons per year. New York also hopes to have 3,000 charging stations installed by 2018.

The transition to hybrid and electric vehicles is coming faster and sooner than expected as a result of regulations such as the federal corporate average fuel economy standards, which are currently being re-evaluated by the Trump administration, Emil H. Frankel, a senior fellow at the Eno Center for Transportation, said. "Regulations are critically important in the absence of higher fuel prices," he told reporters. "Regulation does incentivize innovation."

### **37. Head of EPA Ignores Environmental Groups, Meets Only With Corporations**

Scott Pruitt, head of the Environmental Protection Agency, has had a very busy schedule since being confirmed to lead the agency set up to protect America's air, water, and land from pollution. Unlike his predecessors, Pruitt—a climate-science denier and aggressive advocate of fossil fuels—has largely ignored environmental groups and public-health advocates in his months at the EPA. Instead, he has met almost exclusively with countless heads of fossil-fuel and manufacturing industries, whose activities the agency has traditionally regulated.

His schedule has included meetings with Alliance Resource Partners, a coal-mining company; the president of Shell Oil Company; the chief executive of Southern Company, a coal-burning utility company; and many others.

To understand the details, The New York Times pored over a 320-page log of Pruitt's daily schedules, which listed an overwhelming number of high-profile meetings with top industry executives. Many of the companies are old allies of Pruitt, who sued the EPA more than a dozen times to block the agency's enforcement of emission regulations on Oklahoma's fossil-fuel producers when he was the state's attorney general.

EPA representatives have since defended Pruitt's schedule, claiming that "the agency is now meeting with those ignored by the Obama administration." William K. Reilly, EPA administrator under President George H.W. Bush, believes otherwise. Reilly told the press that if anything, the current EPA chief should meet with environmental groups more often, due to his past history with the agency and the sheer number of lawsuits he filed, almost all of them dismissed by the courts.

"I would think he would feel a responsibility to bend over backward to show a sense of judicious impartiality," Reilly said.

The EPA's inspector general has also opened a preliminary investigation into Pruitt's government-funded travels to Oklahoma, which occasionally appear to include only minimal official business. For example, one scheduled multi-day trip included only a single meeting of one hour with Sam Wade, the chief executive of the National Rural Water Association, on May 5, 2017.

Pruitt flew home the following Monday; the weekend trip cost \$1,043.

### **38. Interior, EPA Each Outline Efforts to Reduce Regulatory "Burdens"**

The US Department of the Interior and the Environmental Protection Agency separately reported energy regulatory burdens discovered within their operations and steps under way to relieve them. Other federal departments and agencies also issued reports on October 25 in response to US President Donald Trump's Executive Order 13783 directing departments and agencies across the government on Mar. 28 to review and possibly change rules that impede the nation's energy development.

"Developing our energy resources to grow our economy and protecting the environment are not mutually exclusive. However, while conducting the review outlined in the executive order, we found that several costly and burdensome regulations from the past threaten that balance by hampering the production or transmission of our domestic energy," said Interior Sec. Ryan Zinke, who also signed a secretarial order establishing an executive committee on expedited permitting.

"We can be both pro-jobs and pro-environment. At EPA, that means we are working to curb unnecessary and duplicative regulatory burdens that do not serve the American people—while continuing to partner with states, tribes, and stakeholders to protect our air, land, and water," EPA Administrator E. Scott Pruitt said.

Specific problems identified and actions undertaken in DOI's review included:

- 94% of the US Outer Continental Shelf being closed to oil and gas activity under the 2017-22 management program developed during the Obama administration. Secretarial Order 3350 began the process of developing a projected 2019-24 program giving full consideration to federal leasing on the Atlantic, Pacific, and Alaska OCS in addition to

the Gulf of Mexico. It also revived applications to conduct the first geophysical tests off the US Mid-Atlantic to identify potential resources since the 1980s, and authorized appointing a policy counselor to the secretary to coordinate DOI's energy portfolio spanning nine of its 10 bureaus.

- A 2015 US Bureau of Land Management rule covering hydraulic fracturing on public and Indian lands which imposed additional compliance costs on oil and gas operators already following state and tribal regulations. Secretarial Order 3349 put BLM's rule under review, and the agency published a rulemaking to rescind the requirement on July 25.
- BLM's Venting and Flaring Rule, which the agency issued under its authority to prevent the waste of federal oil, gas, and mineral resources, but which critics said impinged on EPA's responsibility to control and limit toxic air emissions. Secretarial Order 3349 put the regulation under review, and BLM proposed temporarily suspending some of its requirements on October 5 while it actively reviews the underlying rule for possible revision.
- Unnecessarily long National Environmental Policy Act reviews for infrastructure projects such as pipelines and electricity transmission lines. DOI's review identified master leasing plans and greater sage grouse resource management plans as possible revocation candidates. Deputy Interior Sec. David Bernhart also issued an August memorandum setting a deadline of 1 year and limiting environmental impact statements to 150 pages, or 300 pages for unusually complex projects.
- Systemic delays in federal oil, gas, and mineral leasing, which reduce certainty for producers and keep states from receiving their shares of federal revenue and royalties. In addition to the secretarial order forming an executive committee on expedited permitting that Zinke signed on October 25, DOI has filled nearly half of the 92 vacancies it found in that area in January, and BLM has reduced the time it takes to process drilling permit applications to an average 46 days.
- Abuses under the Endangered Species Act when considering onshore and offshore projects. Secretarial Order 3353, which Zinke signed on June 8, established an internal review team to evaluate both federal and state greater sage grouse conservation plans while considering local economic growth and job creation. ESA regulations which may be outdated, unnecessary, ineffective, and inconsistent with secretarial orders also are being reviewed.

EPA's report discussed nine actions on energy regulations covered by Trump's executive order, and included four initiatives EPA is undertaking to implement it including reforms of New Source Review and National Ambient Air Quality Standards, evaluations of effects EPA regulations have on employment, and reestablishment of the Smart Sectors Program to engage with businesses on how to reduce unnecessary regulatory burdens while protecting human health and the environment.

### **39. Canada Aligns Small Engine Emissions Rules with U.S.**

Canada wants to make it easier for lawnmower and other small engine manufacturers to sell their products in the U.S. so it's giving the industry an extra year to meet new air pollution requirements. Delaying the new pollution standards for small engines until the 2019 model year will allow manufacturers such as Ariens Co., Husqvarna AB, MTD Products Inc., Briggs and Stratton Corp., and Toro Co. to bring their products into compliance with the new requirements, Environment and Climate Change Canada said October 4<sup>th</sup>. The standards were originally planned to take effect for model year 2018 engines.

Other changes to the requirements, which manufacturers had sought, align Canada's labeling requirements with those in the U.S.

"The rule looks to provide a clear path for manufacturers to concurrently sell products in the U.S. and Canada under an EPA certification," Kris Kiser, president and chief executive officer of the Outdoor Power Equipment Institute, which represents more than 100 power equipment, engine and utility vehicle manufacturers, told the press. Kiser said Canada's regulations should serve as a model for other countries considering similar requirements.

The new standards apply to lawn and garden products such as hedge trimmers, lawn mowers, leaf blowers, and snow blowers as well as to small generators, chainsaws, and generators.

When fully implemented, the rules are expected to reduce pollutant emissions from small engines by 58,000 metric tons of volatile organic compounds and 20,000 metric tons of nitrogen oxides between 2019 and 2032, the department said.

Benefits are expected to total C\$153 million to 253 million (\$122 million to 201 million) over that period, while costs are expected to total C\$91 million (\$72 million), including increased engine and testing costs and government compliance promotion and enforcement activities, it said.

While many of the 1.5 million to 2 million small gas engines that enter Canada each year already meet U.S. requirements, further aligning the two countries' regulations will prevent less expensive engines with higher pollution emissions from entering Canada, Environment and Climate Change Canada said.

#### **40. Filling Key Slot, Trump Taps Andrew Wheeler as EPA Deputy Administrator**

After months of speculation, the White House formally nominated Andrew Wheeler, the former Senate environment committee staff director, to be EPA's next deputy administrator, filling a key slot at the agency that had remained open for months.

Wheeler's nomination, along with a handful of other recent nominations and appointments, means the administration now has much of its political leadership selected. The White House announced October 5 that it has sent Wheeler's nomination to be EPA's second-in-command to the Senate.

Wheeler, former staff director and chief counsel for Sen. Jim Inhofe (R-OK) when he was chairman of the Senate Environment & Public Works (EPW) Committee, has been a principal with Faegre Baker Daniels Consulting and co-leader of its energy and natural resources practice since he left Capitol Hill.

While at EPW he worked on every major piece of energy and environment related piece of legislation for over a decade, and before that worked at EPA, and the departments of Energy, Transportation and Interior, including working on the 1998 and 2005 highway bill reauthorizations. He also worked on EPW's clean air subcommittee for both Inhofe and the late Sen. George Voinovich (R-OK).

In the past few days, the administration has also announced its selection of several regional administrators who do not require Senate confirmation. They include Doug Benevento, a former Colorado regulator and power-sector attorney, named October 5<sup>th</sup> as EPA's Region 8 administrator; Cosmo Servidio, a former Pennsylvania state regulator, who was named October

4 as the agency's Region 3 chief covering Mid-Atlantic states; and Peter Lopez, a New York state legislator due to begin as Region 2 administrator on October 10.

The administration has previously named Trey Glenn, a former Alabama regulator, as Region 4 administrator, and Cathy Sepp, a former Wisconsin official, as deputy administrator in Region 7. While Democrats are blocking some EPA nominees from advancing, Republicans say they are looking forward to their confirmation to help implement the administration's deregulatory agenda. "There is no one more qualified than Andrew to help Scott Pruitt restore EPA to its proper size and scope," Inhofe said in an October 5 statement in support of Wheeler.

But despite calls from Inhofe and others for quick confirmations, Democrats are continuing to block nominees from advancing. During an October 4 confirmation hearing for nominees to lead EPA's air, water, toxics and general counsel's offices, Democrats reiterated pledges to continue blocking nominees until EPA responds to dozens of oversight requests. Their efforts have already blocked the administration's nomination of Susan Bodine to lead EPA's enforcement office from advancing, even though her nomination cleared the environment committee in July.

In addition, Sen. John Barrasso (R-WY), the chairman of the environment committee, hedged on whether Michael Dourson, the administration's nominee to lead EPA's toxics office, has a majority of votes to win confirmation in the face of concerns over his past work for industry. "Every senator votes their conscience and their constituents' and for the country," Barrasso told reporters.

#### **41. GM Announces Plans for 'All-Electric Future'**

On October 2<sup>nd</sup>. General Motors announced that it will produce two new electric models on the Bolt underpinnings in the next 18 months and 20 electric and hydrogen fuel cell vehicles by 2023. After nearly a century of building vehicles powered by fossil fuels, General Motors announced that the end of GM producing internal combustion engines is fast approaching.

At a media event at GM's technical campus in Warren, Mich., Mark Reuss, the company's chief of global product development, said the transition will take time, but the course has been set. "General Motors believes in an all-electric future," Reuss said. "Although that future won't happen overnight, GM is committed to driving increased usage and acceptance of electric vehicles."

Reuss avoided naming the year when the auto giant will cease producing gas and diesel vehicles, noting that the company is too large to make such an estimate. GM finished 2016 as the world's third-largest auto-seller, breaking previous company records with 10 million vehicles sold, the company said in a news release.

The automaker said that arriving at a "zero emissions future" will require a two-pronged approach: battery electric and hydrogen fuel cell electric vehicles.

At the event, officials unveiled three concepts for reporters: a sporty crossover, a larger wagon or SUV and a tall, boxy pod car that looked like a people-mover for cities. GM also introduced a fuel-cell-powered heavy-duty truck with two electric motors known as Surus, or "silent utility rover universal superstructure."

GM's foray into the electric marketplace has already resulted in resounding success, with the Chevrolet Bolt being named Motor Trend's 2017 Car of the Year and the 2017 North American Car of the Year. The Bolt boasts a 240-mile battery range on a single charge and costs \$37,500 before tax incentives. That range places the vehicle well above the Nissan Leaf (up to 107 miles

on a single charge) and slightly above Tesla's Model 3 (up to 220 miles on a single charge for a standard battery).

As GM commits to electric innovation, the company will compete in an increasingly crowded marketplace. In recent months, Tesla unveiled the company's first mass market electric vehicle, joining companies such as Ford, Volvo, Nissan, Aston Martin and Jaguar Land Rover, all of whom are vying for market space.

Ford recently announced plans to create a group known as "Team Edison" that is to be tasked with developing fully electric cars. Sherif Marakby, Ford's head of electrification and autonomous vehicles, told reporters that the company is on pace to produce 13 electrified vehicles over the next five years.

#### **42. Volkswagen Diesel Emissions Fixing Bill Hits \$30bn**

The diesel emissions cheating scandal will cost Volkswagen an extra \$3bn (€2.5bn), because engines are proving "far more technically complex and time consuming" to adapt the company said. The additional cost, for fixing engines in the United States, takes the total bill to \$30bn.

News of the additional financial burden from dealing with vehicles in the United States underlines the difficulty the company is having extricating itself from the scandal.

Shares in the German carmaker initially fell sharply on the announcement although they later recovered most of the lost ground.

"This is yet another unexpected and unwelcome announcement from VW, not only from an earnings and cash flow perspective but also with respect to the credibility of management," said Arndt Ellinghorst, analyst at Evercore ISI.

VW first admitted in September 2015 that it had used illegal software to cheat US emissions tests. Since then the firm has been adapting its cars to meet legal requirements. But the process in the United States is proving tougher than expected.

It is also amending cars in Europe, but the process there is more straightforward, VW said.

### **ASIA-PACIFIC**

#### **43. J.D. Power Finds That Chinese Carmakers Narrow Quality Gap**

The quality gap between Chinese brands and international brands in China continues to narrow, with Chinese brands doing slightly better than their global rivals in three of eight quality categories surveyed, according to consulting firm J.D. Power.

J.D. Power said its Initial Quality Survey this year showed the gap between Chinese and global brands on average fell to 13 problems per 100 vehicles among surveyed customers, down from 14 last year. The number of complaints in the survey of new car buyers was down dramatically from 2000, when the consulting firm began its quality survey in China. That year, buyers of Chinese-branded vehicles identified 396 more problems per 100 vehicles than their global rivals.

The three categories in which Chinese brands came slightly ahead on quality included vehicle interior; controls and displays; and infotainment.

But the top performers were all international brands except in the small SUV category, in which only a few global-brand models compete. Top quality performers included Hyundai, Kia, Porsche, Lexus, Mazda and Audi.

#### **44. China Implements Ban on High-Sulfur Diesel Used By Tractors, Ships on November 1**

China said it would stop domestic sales of diesel with sulfur content higher than 10 parts per millions (ppm), typically used by tractors and ships, from November 1, in its latest effort to clean up the nation's air. The move, announced just ahead of the winter season when pollution levels spike as more coal is used for heating purposes, could prompt oil companies in the country to ship higher-sulfur diesel surplus overseas in the coming months.

However, refiners had been mostly expecting this move and were ready to produce diesel adhering to the so-called "national five" standard that allows a maximum sulfur content of 10 ppm.

The challenge will be in the execution of the ban, an oil analyst said, which follows a move earlier this year to stop sales of diesel with more than 50 ppm of sulfur and a 10-ppm cap on diesel used by automobiles. The government's quality inspectors can only run random checks, and both dealers and users will be tempted to stick to dirtier and cheaper supplies, said Seng-Yick Tee, oil analyst with consultancy SIA Energy. "Margins could be pinched if you produce more lower-sulfur fuels," said Tee.

Enforcing the ban on diesel used by fishing boats is likely to be even more difficult, with most of these small consumers using marine gasoil containing 5000-ppm sulfur, traders said.

To cope with the changing fuel quality, refineries have ramped up imports of lower-sulfur crude oil, a reason why shipments of Russian grades into China soared to a record high in September with a 60 percent year-on-year rise.

China's National Development & Reform Commission said in a statement that it would crack down on the production and distribution of oil products that do not meet government standards, and increase its supervision of major refiners and rural gas stations.

#### **45. China Gives Carmakers More Time in Biggest Electric-Vehicle Plan**

China unveiled a comprehensive set of emission rules and delayed a credit-score program tied to the production of electric cars, giving automakers more time to prepare for the phasing out of fossil-fuel powered vehicles. Under the so-called cap-and-trade policy, automakers must obtain a new-energy vehicle score—which is linked to the production of various types of zero- and low-emission vehicles—of at least 10 percent starting in 2019, rising to 12 percent in 2020, the Ministry of Industry and Information Technology said on its [website](#). The rule applies to carmakers that manufacture or import more than 30,000 traditional vehicles annually and those who fail to comply must buy credits or face fines.

"This is the single most important piece of EV legislation globally," said Colin McKerracher, a London-based analyst at Bloomberg New Energy Finance. "Overall, it provides further support for the EV industry in China. EV sales will continue growing quickly, despite the phase-down in direct subsidies."



China previously proposed to start implementing the policy next year, a target that was viewed by automakers as overly ambitious. China, which has vowed to cap its carbon emission by 2030 and curb worsening air pollution, joins the U.K. and France in seeking a timetable for the elimination of vehicles using gasoline and diesel. The country needs to use alternative energy to power some 200 million vehicles that ply its roads and reduce dependence on oil imports.

The targets look achievable for the industry as a whole, McKerracher said. Considering the credit structure, 12 percent in 2020 would translate to about 4 percent to 5 percent of actual vehicle sales, he said.

“China is sending a clear signal to domestic automakers that had been dragging their feet on EVs that it’s time to get on board,” McKerracher said.

Earlier this month, China’s government said it’s working on a timetable to phase out fossil-fuel powered vehicles, helping lift shares of local automakers such as BYD. Groups like BYD, Geely, Chery and others will have excess credits, McKerracher said.

While global manufacturers from billionaire Elon Musk’s Tesla Inc. to Nissan Motor Co. and General Motors Co. are racing to grab a slice of the electric-vehicle market in China, local manufacturers such as Geely Automobile Holdings Ltd. have also found considerable success in the market, thanks to generous government subsidies.

BYD topped the new energy vehicle makers in sales in the first seven months of this year, delivering 46,855 electric and plug-in hybrid vehicles, resulting in about 30,000 credit points in the first half, according to the company’s calculation.

Beijing Electric Vehicle, the EV division of state-owned BAIC Motor, followed with 36,084 units. By comparison, GM has sold 738 cars that run on electricity since it launched the Velite 5 plug-in hybrid model at the Shanghai auto show this April.

As part of efforts to boost sales of electric vehicles, foreign automakers are setting up new joint ventures in China. Ford Motor Co. is exploring setting up a joint venture to produce electric vehicles in China with Anhui Zotye Automobile Co. while Volkswagen AG has partnered with Anhui Jianghuai Automobile Group Corp. to make electric cars.

#### **46. But Will Consumers Want To Purchase Those New Energy Vehicles**

Sales growth of New Energy Vehicles in China has been fueled by government subsidies and other incentives, rather than genuine customer demand.

The Beijing Transport Research Institute -- an affiliate of Beijing’s municipal government -- released a survey last month of EV buyers that sought to determine why they bought their vehicles. The survey noted that nearly all EV buyers are urban residents, not farmers. And why are EV buyers clustered in major cities such as Shanghai and Beijing?

The answer lies in the vehicle’s license plate. In Shanghai, one has to pay more than 90,000 yuan (\$13,600) for a license plate in order to buy a conventional vehicle. But if car buyers opt for an EV or a plug-in hybrid, they can get that license plate free.

Beijing’s municipal government also limits sales of new vehicles to 20,000 per month. Whoever wants to obtain a license plate for a conventional vehicle must enter a lottery. In a city with 22

million residents, the odds of winning the lottery are extremely small. But if a Beijing resident buys an EV, the buyer would soon get a license plate as well as government subsidies.

Like Beijing, many other big cities in China restrict sales of conventional vehicles but not EVs. That's a powerful lure for car buyers to embrace EVs. But small and medium-sized cities don't discourage residents from buying conventional vehicles. Some residents in smaller areas buy EVs anyway because they want the government subsidies. Under current policy, buyers of EVs receive up to 66,000 yuan in subsidies, depending on the vehicle's range. Purchasers of plug-in hybrids qualify for a 30,000 yuan subsidy.

Because of the heavy fiscal burden from EV subsidies, China's Ministry of Finance announced plans last year to phase them out by the end of 2020. But as EV sales continue to soar, the financial drain has become unbearably high so the ministry may end the EV subsidies ahead of schedule.

And it's not just the central government that has had second thoughts about EV incentives. This year, Chinese media reported that Shanghai intends to reduce its municipal incentives for EV buyers. Will consumers buy EVs without these incentives? The institute's survey asked this question, and it got a sobering response. Seventy-five percent of respondents in Shanghai said they would not buy an EV if the city stops handing out free license plates.

In other cities, more than 90 percent of respondents would not consider EVs if subsidies were ended and if municipalities did not restrict sales of conventional vehicles.

#### **47. VW Teams with Chinese Partners in \$12 Billion Electric-Car Push**

Volkswagen AG will invest more than 10 billion euros (\$12 billion) with its partners to make and develop a range of new-energy vehicles in China as carmakers step up investments in low-emission models in the world's biggest auto market.

Volkswagen will make the investments by 2025 and introduce 40 locally produced vehicles, its China head Jochem Heizmann told reporters in Guangzhou November 16. The European automaker's venture with Anhui Jianghuai Automobile Group will start production of electric vehicles in the first half of next year, while sales will start in the second half.

The German manufacturer joins Ford Motor Co. in boosting investments in electric-vehicle development in China as the country will require most automakers to produce various types of zero- and low-emission vehicles. The China plans are part of a broader push by Volkswagen, which in September announced a 20 billion-euro plan to build electric versions of all 300 models in the 12-brand group's lineup.

In May, VW received a green light from the government to set up a joint venture with the state-owned Anhui Jianghuai to make electric cars. The Wolfsburg, Germany-based company sold 2.5 million vehicles in China in the first 10 months. VW has previously said it plans to sell 400,000 new-energy vehicles a year by 2020 and increase that number to 1.5 million by 2025.

Recently, Ford said it will invest 5 billion yuan (\$753 million) with partner Anhui Zotye Automobile Co. to make and sell small electric cars in China.

VW will introduce 15 models based on its MQB platform, converting internal combustion engine cars into plug-in hybrid or pure-electric versions, said Heizmann. The rest of the models will be developed on new platforms, he said.

In September, China unveiled a comprehensive set of emission rules and delayed a credit-score program tied to the production of electric cars, giving manufacturers more time to prepare for the phasing out of fossil-fuel powered vehicles. (See story above.) Under the so-called cap-and-trade policy, automakers must obtain a new-energy vehicle score—which is linked to the production of various types of zero- and low-emission vehicles—of at least 10 percent starting in 2019, rising to 12 percent in 2020, according to the Ministry of Industry and Information Technology.

“The new adjusted quota policy is really the right thing,” Heizmann said.

By delaying the implementation year to 2019 and allowing carmakers to combine credits in 2019 and 2020, it’s no longer a major challenge for VW to fulfill the demand, said Heizmann. It’s a tough target for VW to achieve the average fuel consumption level of the fleet at 5 liters per 100 kilometers (62 miles) by 2020 and the automaker is looking at all technologies to improve fuel consumption efficiency of internal combustion engine vehicles, he said.

Electric cars will outsell fossil-fuel powered vehicles within two decades as battery prices plunge, turning the global auto industry upside down and signaling economic turmoil for oil-exporting countries. The Bloomberg New Energy Finance forecasts that adoption of emission-free vehicles will happen more quickly than previously estimated because the cost of building cars is falling fast.

#### **48. China Sales Climb In October But May Fall Short Of Growth Forecast**

China’s vehicle sales rose 2 percent year on year in October — the fifth straight month of growth — although the auto industry will struggle to meet forecasts of 5 percent annual growth.

Sales totaled 2.70 million vehicles last month, the association reported, and for the first 10 months, industry sales rose 4.1 percent to 22.9 million vehicles. Association officials said they were caught off guard by how slow October vehicle sales were. “We didn’t expect October sales to be this low,” said Chen Shihua, an association official. Chen ascribed slow growth to an “insufficient” offering of discounts and other incentives.

Another official, Shi Jianhua, said: “We would be lucky if overall vehicle sales grew 4 percent this year,” compared with the association’s 5 percent annual growth forecast for 2017. Last year, sales rose nearly 14 percent.

In October, sales of electric vehicles and plug-in hybrids jumped 107 percent to 91,000. For the first 10 months, EV and plug-in hybrid sales rose 45 percent to 490,000 vehicles. The association expects automakers to sell 700,000 EVs and plug-in hybrids this year.

#### **49. China to Cut Tariff on Imported Vehicles**

China says it will gradually lower tariffs on imported vehicles as part of a package of trade agreements announced during U.S. President Donald Trump’s visit to Beijing. China also will allow foreign automakers to set up wholly owned subsidiaries to produce electric vehicles in free trade zones, Vice Finance Minister Zhu Guangyao said at a press conference in Beijing.

Zhu did not indicate when China will reduce a 25 percent tariff on imported vehicles. However, limits on foreign EV production will be eased fairly quickly. Before next June, China will start to ease restrictions on foreign ownership of EV ventures, Zhu noted. Under existing rules, foreign automakers must form joint ventures with local partners to produce vehicles in China. Foreign automakers may own no more than 50 percent of the partnerships.

To promote foreign investment, China opened its first free trade zone in Shanghai in 2013. To date, the government has established 11 such zones across the country, of which six are in coastal areas.

Tesla Inc. has confirmed that it is in talks with Shanghai's municipal government to build EVs in the city's free trade zone.

## **50. Electric Scooter Taxes to Drop as Taiwan Boosts Green Vehicles**

Electric scooter owners in Taiwan could see a tax break as the country aims to boost clean transportation and its domestic electric vehicle industry by extending licensing incentives through 2021. Only 929 car buyers have taken advantage of the existing automobiles license tax waiver for electric cars, and Taiwan hopes dropping the fees for electric scooters will encourage more buyers to consider eco-friendly vehicles. The proposal Taiwan approved on September 28, which still must be approved by the legislature, would extend the existing waiver on the license tax for electric vehicles through the end of 2021. The tax break was set to expire Jan. 5, 2018.

Currently, the vehicle license tax rate in Taiwan for electric scooters under 12 horsepower is zero; electric scooters with 45 horsepower or more pay a vehicle license tax of 1,620 Taiwanese dollars (\$53) annually.

Deputy Finance Minister Tzu-hsin Wu said at a news conference that revising tax codes is one of the government's strategies to encourage the development of domestic electric vehicle industries. As European countries such as Norway consider banning gasoline and diesel cars, Wu said it's important for Taiwan to catch up.

Taiwan projects that the extended tax breaks eventually will put 5,795 electric cars on the road by 2021 and more than double the number of electric scooters to 171,000. The extended tax incentives would help the government gain an additional 800 million Taiwan dollars in revenue, Wu said.

During a recent meeting discussing the tax exemption proposal, Premier Lai Ching-te said the incentives are designed to both encourage green consumption and help boost the development of domestic electric vehicle industries, according to Kuo-yung Hsu, a spokesman for the Taiwan Cabinet.

Taiwan's automakers praised the tax incentives but suggested cash rebates, such as those used in the U.S., could encourage even more buyers to consider an electric vehicle. In Taiwan, cash incentives are offered to buyers of electric scooters as one of the government's pollution control measures. Taiwan wants to ban smoky two-stroke scooters by 2020.

Wen-yi Lo, a spokesman for Taiwan-based Yulon Motor Co Ltd., said the company has invested more than 3 billion Taiwanese dollars (\$99 million) in the past decade to develop electric cars. Taiwan's electric vehicle charging network has expanded with the support of government policies,

and by late 2017 three kinds of electric cars produced by Yulon will be available in Taiwan, he said.

Yen-yang Chen, marketing manager of Gogoro, a Taiwan-based company selling electric scooters, said it's encouraging that the electric vehicle license tax exemption would expand to electric scooters. "More buyers will choose electric scooters because supportive policies have been seen here," Chen told the press.

Gogoro started selling its electric scooters in Taiwan in 2015. By 2016, Gogoro's sales comprised two-thirds of the total 20,000 electric scooters sold in Taiwan, according to government statistics.

Foreign electric automakers also see opportunities in Taiwan. In late January, U.S.-based Tesla Motors delivered its first batch of products to Taiwanese customers and opened its first supercharging station in Taipei.

### **51. Action on Air Pollution in Hong Kong Has Produced Tangible Improvements**

The government of Hong Kong is committed to improving air quality. It published a Clean Air Plan in 2013 and a progress report in June this year, setting out specific control measures on key emission sources. On vehicle emissions, it has had a HK\$11.4 billion incentive-cum-regulatory scheme since 2014 to progressively phase out 82,000 pre-Euro IV diesel commercial vehicles by the end of 2019; subsidized franchised bus companies to retrofit Euro II and III buses with emission-reduction devices and test electric buses; and, set up franchised bus low-emission zones in busy districts, as well as strengthening the emission control of liquefied petroleum gas and petrol vehicles. To control vessel emissions, it has tightened the sulphur content of locally supplied marine light diesel since April 2014. In July 2015, Hong Kong became the first Asian city to mandate that ocean-going vessels at berth switch to low-sulphur fuel. We have also progressively tightened the emission caps of power plants.

From 2012 to 2016, it has seen discernible improvements in air quality. Roadside concentrations of major air pollutants, including respirable suspended particulates, PM2.5, nitrogen dioxide and sulphur dioxide have decreased by 28 to 31 per cent, while ambient concentrations of these pollutants have dropped by eight to 21 per cent.

Looking ahead, it has just further tightened the emission standards of newly registered vehicles, in phases from July this year to October 2018. It will also issue a new technical memorandum by the end of 2017 to further lower emission caps of power plants from 2022 onwards. On vessel emissions, it plans to mandate that most vessels (not just ocean-going ones) use low-sulphur fuel while in Hong Kong waters (not just at berth) starting in 2019. Furthermore, it embarked on a review of the air quality objectives last year to identify possible new measures and assess the scope for tightening the objectives. It aims to complete the review in 2018.

The serious air pollution incidents recently were caused by regional photochemical smog, which happened on calm and hot days. Pollutants emitted in Hong Kong and the Pearl River Delta region were trapped under light winds and reacted to form ozone and fine particulates under the sunlight.

It will continue to work in collaboration with the Guangdong provincial government to improve the air quality of the region.

### **52. President Xi: China in the Driver's Seat on Climate**

In 2012, in a key party leadership speech, China vowed to work with international society to “actively respond” to climate change. Five years on, president Xi Jinping just told China that it is in the “driving seat” when it comes to preserving the planet for future generations.

Speaking at the opening session of the 19th Communist Party congress on October 18, Xi turned early in his remarks to “ecological civilization.” He noted that China had made major efforts to reduce consumption and save resources, and that these steps were paying off domestically—and setting an example globally.

“Taking a driving seat in international cooperation to respond to climate change, China has become an important participant, contributor, and torchbearer in the global endeavor for ecological civilization,” said Xi, about 15 minutes into the start of a three-hour-plus speech known as a “work report.”

In many ways, Xi’s remarks on the environment at the leadership reshuffle meeting, which evaluates the previous five years and sets priorities for the next five years, were couched in more emotional terms than those used by then president Hu Jintao at the last party congress in 2012. While both leaders spoke of the importance of protecting the planet for future generations, Xi said that China must “cherish our environment as we cherish our own lives.”

“Any harm we inflict on nature will eventually return to haunt us... this is a reality we have to face,” Xi told the congress, adding that China must “develop a new model of modernization with humans developing in harmony with nature.”

Xi’s remarks came as the country has increasingly focused on shifting from relying on fossil fuels to reduce its deadly air pollution and coal overcapacity problems at home. But China has also realized that these efforts allow it to command greater respect on the world stage, particularly as the US, under President Donald Trump, has made it clear it isn’t interested in playing a leadership role on safeguarding the environment.

In January, speaking at the Davos economic gathering in Switzerland, Xi defended the Paris climate accord and urged all signatories of the agreement to “stick to it rather than walking away from it.” Less than five months later, US president Donald Trump announced plans to withdraw from the agreement.

“We will get actively involved in global environmental governance and fulfill our emissions reductions,” Xi promised.

Under the Paris accord, China, the world’s biggest emitter of greenhouse gases, has pledged to cut its carbon emissions by 60% to 65% per unit of GDP by 2030, compared with 2005 levels, and to see an overall decline in emissions from 2030. China has been investing in renewable energy, though this is still a small share of its overall energy mix, and subsidizing the purchases of electric cars. In early September, China also said it planned to phase out fossil fuel-powered cars although no specific timeline has been revealed yet.

### **53. Gas Trucks Boom in China as Government Curbs Diesel in War on Smog**

Sales of large LNG trucks are expected to hit record levels in China this year as the government steps up an anti-pollution campaign that includes curbs on heavy-duty diesel vehicles. LNG trucks account for about four percent of the more than six million heavy vehicles able to haul 40 to 49

tons of goods that are currently on China's roads. The vast majority of the 43 billion tons of freight transported across China last year was by highway.

But demand for LNG trucks is soaring as companies and manufacturers shift to vehicles that run on the gas that Beijing sees as a key part of its war against smog.

Sales of LNG heavy trucks surged 540 percent to nearly 39,000 in the first seven months of the year, according to Cassie Liu, a truck analyst with the IHS Markit consultancy. That was partly fueled by a ban this year on the use of diesel trucks to transport coal at northern ports in provinces like Hebei and Shandong, and in the city of Tianjin.

"We are seeing a blowout in LNG trucks this year, thanks to the government's policy push," said Mu Lei, marketing manager for China National Heavy Duty Truck Group [CNHTC.UL], known as Sinotruk, the country's largest manufacturer of heavy-duty trucks.

The shift to gas trucks is helping fuel demand for LNG in China, as are other government measures aimed at clearing the air, especially in the north, which is shrouded in a hazardous coal-fueled smog for much of the winter.

One major project is piping gas to 1.4 million households across the north for heating this winter, shifting away from coal.

China, already the world's No.3 LNG consumer, has seen imports jump 45 percent so far this year.

Government restrictions on cargo overloading last year, for safety reasons, has also driven truck sales as operators rushed to buy bigger trucks.

Beijing will also impose restrictions on thousands of northern factories using diesel trucks, forcing many to use more rail and others to consider gas-powered lorries.

Sales of new heavy-duty trucks, including diesel and LNG vehicles, jumped 75 percent in the January-August period to 768,214, according to industry website [www.chinatruck.org](http://www.chinatruck.org). It did not break down the numbers, but companies say that diesel growth is being dwarfed by that of the LNG trucks.

China, the world's top energy guzzler, wants gas, which emits half the carbon dioxide as that of burning coal, to supply 15 percent of energy demand by 2030, up from 6 percent currently.

That effort stalled in 2014 as an oil price slump lifted demand for diesel. But as oil prices have risen in the past 20 months, rebounding to above \$50, LNG sales, especially from Australia and the United States, have soared.

Diesel costs between 10-30 percent more than gas on average currently at Chinese gas stations, according to truck companies.

#### **54. Hebei Launches Campaign Targeting Pollution-Related Crime**

North China's Hebei Province has launched a six-month campaign targeting pollution-related crime in order to improve the environment during the coming winter, according to the provincial public security department. The campaign runs from October 1 to March 31 and targets crime

such as illegal disposal of dangerous waste, small polluting factories and fabrication of monitoring data by companies with emissions.

Illegal disposal of dangerous waste is the most common environmental crime, accounting for more than 70 percent of environment-related criminal cases in the province, according to Hebei Public Security Department.

Inspections will be carried out by the provincial public security and environmental protection departments as well as provincial higher people's court and procuratorate.

Hebei police have handled 719 pollution-related criminal cases and arrested 1,287 suspects so far this year. By the end of September, more than 11,000 people had been punished this year for poor implementation of measures controlling air pollution, including 220 leading officials, according to the provincial environmental protection department.

According to a work plan issued in August, the head or Party chief of a county will be held responsible if the county lags behind in terms of air quality improvement.

"We have a zero tolerance policy towards manipulating monitoring data," said Li Zhengfang with the department. The Party chief will be held responsible if three cases of monitoring data fabrication are reported in the county, Li said.

The province, home to several of China's top 10 most polluted cities, set up an environmental police squad in 2013 and later an environmental protection courtroom within the provincial higher people's court.

## **55. India Proposes To Adopt Euro V Standards for Non-road Vehicles and Engines**

On August 29<sup>th</sup>, the Ministry of Road Transport and Highways proposed to adopt Euro V emissions standards for non-road vehicles and Engines, including the PN standard.

The Government of India's proposal is to adopt Bharat Stage (CEV/TREM) IV and V emission standards for new diesel driven agricultural tractors, construction equipment vehicles, and combine harvesters by 2020 and 2023 respectively. India has become a global leader by establishing a pathway to Euro Stage V equivalent standards.

The proposed BS (CEV/TREM) IV and V standards are an important step forward in India's efforts to reduce harmful emissions from non-road sources and mitigate the impacts of air pollution on human health. The proposal is consistent with other recent actions taken by the government to control emissions from new on-road vehicles through the adoption of Bharat Stage VI emission standards and to ensure nation-wide availability of low sulfur diesel fuels. The proposed BS (CEV/TREM) IV and V standards would extend these efforts to new agricultural tractors, construction equipment vehicles, and combine harvesters. These sources are an important, and growing, source of air pollutant emissions in the country.

The proposed standards are in general alignment with the Euro Stage IV and V standards for engines used in non-road mobile machinery. Euro Stage V standards, which will be in force beginning in 2018, represent the current international best practice for controlling emissions from non-road diesel engines. Importantly, Euro Stage V standards include stringent particulate matter and particle number emission limits for engines with rated power between 19 and 560 kW. These limits are set at a level which will ensure diesel particulate filters, the key technology needed to



effectively control particulate matter emissions from diesel engines, are applied in Stage V engines in this size range.

If the draft BS (CEV/TREM) IV and V emission standard proposal is adopted, India will become the first region outside of the EU to adopt Stage V equivalent emissions standards for non-road diesel engines. Under the proposed implementation timeline, India will, by 2023, move ahead of countries such as the United States and China in its control of emissions from new diesel powered agricultural tractors, construction equipment vehicles, and combine harvesters.

## **56. 10,000 Electric Cars Highlight Steep Path to India's Ambitions**

Prime Minister Narendra Modi has kicked off India's race to turn all new passenger car sales electric by 2030. The largest order has gone to a company that hasn't commercially started producing the vehicles.

Tata Motors Ltd. hasn't sold a single electric car yet, though Chief Executive Officer Guenter Butschek says its late-mover status is an advantage at a time when technology advances are leading to a fall in costs. Tata along with Mahindra and Mahindra Ltd.—India's sole electric carmaker that plans to boost its vehicle manufacturing capacity to 5,000 units a month—underscore the distance to be covered when compared to China and the U.S.

Ramping up production of electric vehicles in a country where carmakers sell 2.5 million fossil fuel powered units annually is just one part of the problem; finding uninterrupted power supply is another. In addition, non-existent charging infrastructure further widens the gap between India and China, the current global leader. It had 336,000 new registrations in 2016, more than double of 160,000 in the U.S., while India had just 450 cars hitting the roads, according to the International Energy Agency.

The pursuit for all electric new car sales in less than a decade-and-a-half is part of Modi's plan to champion the cause of combating climate change.

India currently has about 350 charging points while China had about 215,000 installed at the end of 2016.

It will take about 15 years in India for total cost of ownership for electric vehicles to reach parity with conventional vehicles, around the time the south Asian nation plans to end the sale of fossil fueled cars.

Modi's administration is hoping to fast-track change by leading from the front. The government-backed Energy Efficiency Services Ltd. (EESL), which is tasked with helping the nation reduce emissions and curb fuel imports, is buying 10,000 battery-powered cars from Tata Motors and Mahindra & Mahindra to replace petrol and diesel cars used by the federal government in about four years.

Tata is running trials of its electric buses after developing the plug-in versions of its Bolt and Tiago hatchback models. Mahindra has plans to expand its capacity to make electric vehicles almost 10-fold to 5,000 units a month in two to three years.

Tata Motors has a two part strategy—one which includes selling cars to the government—and then rolling out electric buses and trucks to cater to the mass transportation segment.

## 57. Delhi Smog: EPCA Suggests Diesel Vehicle Ban to Control Air Pollution



The smog situation prevailed for a fifth day in Delhi. Photo: PTI

The Environment Pollution (Prevention and Control) Authority, or EPCA, has suggested a ban on diesel vehicles and closure of all coal-based power plants and industries in the National Capital Region (NCR) centered on Delhi when the air quality turns toxic.

EPCA also said it had no advance warning of the ‘unprecedented’ adverse weather conditions in the national capital recently last week that resulted in air pollutions levels touching ‘severe’ and ‘emergency’ levels in the Delhi-NCR region. It called for “better weather forecasts”.

Crop burning in northern states is often cited as one of the biggest reasons behind high levels of air pollution in the city. The Delhi government was set to introduce an ‘odd-even’ road rationing scheme from 13 November, but shelved the plan after the National Green Tribunal (NGT) ruled against the several exemptions provided in the scheme.

In December 2016, the Supreme Court had approved a graded response action plan (GRAP) to tackle air pollution in Delhi and adjoining cities. The plan’s main objective was to institutionalize measures to tackle air pollution emergencies in the city, giving a clear direction about steps to be taken by central and state authorities at each level of air quality. GRAP, which was notified by the union environment ministry in January 2017, classifies air pollution into four categories of air quality—moderate to poor, very poor, severe, very severe or emergency.

The suggestions by EPCA, which is tasked with implementation of the comprehensive pollution-tackling plan in the Delhi-NCR, were made in its latest submissions to the Supreme Court on GRAP's implementation and learning from first smog emergency of 2017.

In its report to SC, EPCA said, "the fact is that while crop burning from Punjab and Haryana is a contributory factor it is not the only problem during winter in this region." "Last year adverse weather and lack of long-term action resulted in similar smog episodes during December and January. So, there may be a need for additional emergency measures like closure of all coal based thermal plants and industries in the region," said EPCA, in its report to SC.

It noted that currently SC had imposed a ban on pet coke and furnace oil, but there may be a requirement to temporarily halt all other air pollution sources during peak smog periods.

It also sought a "ban on all diesel vehicles on roads/and or stickers of fuel and age on all vehicles through PUC (pollution under control) certificates so that based on level of threat, categories of vehicles can be prohibited from plying."

EPCA, however, clarified that it will discuss these measures with the union ministry of environment, forest and climate change (MoEF&CC) and the Central Pollution Control Board (CPCB) task force and inform SC of any directions required.

It also called for "better weather forecasts so that agencies have advance notice of the measures that need to be taken". "This year, the last information EPCA had on the prevailing weather conditions was on 6 November 2017. This did not provide any warning of the kind of anti-cyclonic weather disturbance that was happening in the upper circulatory system and the impending problems it would bring. EPCA is now given to understand from weather experts, including IMD, that the situation of the past few days was unprecedented," said EPCA's report to the apex court.

"...across the world, where such smog alert systems are in place, a robust and reliable weather forecasting system is essential for action. EPCA is now working with the ministry of earth science and IMD to see how this forecast and predictions can be improved," it added.

EPCA also said that there is a need for a vastly strengthened system of health advisories and their wide dissemination to people to take preventive action.

### **58. BS VI Fuels Deadline for Delhi Advanced To April as Air Pollution Chokes City**

Delhi's gas stations will only sell the world's cleanest petrol and diesel from April 1, the government said recently, advancing the rollout of Bharat Stage (BS)-VI fuels by two years to fight rising pollution in the capital city. BS-III and BS-IV cars and two-wheelers can run on BS-VI fuels. But any emission gains will only be marginal in a city whose pollution woes are often compared to a "gas chamber".

The decision also signals a political statement from Prime Minister Narendra Modi's government on tackling pollution — especially given that the Delhi government has come up short on solutions to tackle the problem.

In a statement, the petroleum ministry said the measures would help mitigate the problem of air pollution in and around Delhi. "The decision to leapfrog directly from BS-IV to BS-VI is also in line with Hon'ble PM's commitment at @COP21 to voluntarily cut our carbon emissions....," petroleum

minister Dharmendra Pradhan said, referring to India's commitment to reduce emission of greenhouse gases under the Paris accord signed two years ago.

BS emission standards regulate the output of air toxic particles from motor vehicles, identified as one of the biggest polluters in Delhi, a city of 17 million people that has been enveloped in such hazardous smog this month that schools were briefly ordered shut, coal-fired power switched off and construction work stopped.

BS-VI standards will limit the level of sulphur in fuels. It was 100 ppm (parts per million) under BS-III, halved to 50 ppm under BS-IV and with BS-VI it will be 10 ppm.

A 2016 report by Indian Institute of Technology, Kanpur, showed that a big contributor to Delhi's air pollution is road dust, which accounts for about 35% of tiny particles known as PM 2.5 in the air, followed by vehicles at 25%. PM2.5 acts as respiratory irritants and long-term exposure can lead to lung cancer.

Environment groups welcomed the government move. "Even though the full air quality gains will come when vehicles also move to BS-VI emissions standards, the current move should not be underestimated in a choking city like Delhi," said Anumita Roychowdhury, executive director of the Centre for Science and Environment.

"With substantially cleaner fuel emissions, control system in on-road fleet will improve and give some emissions benefits."

Fuel norms in India are implemented in a staggered manner, with metro cities enforcing them before the rest of the country. The BS-IV standards were introduced in some parts of the country in 2010 and rolled out nationwide on April 1, 2017.

The auto industry's reaction was cautious. "We are already working on a stretched deadline to launch BS-VI vehicles by April 2020..," said Pawan Goenka, managing director, Mahindra and Mahindra Ltd. "I don't foresee any mainline player with multiple models being able to launch complete portfolio of BS-VI compliant vehicles by April 2018."

## **59. As India Endures Blanket of Smog, China's Battle Offers Lessons**

As New Delhi suffers through a surge in the most harmful type of smog—a toxic stew that makes India's capital one of the most polluted in the world—Beijing offers lessons in how another troubled city made progress clearing the air.

China has made its capital the focal point of a clean-up drive. It's replacing some of its coal-burning facilities with cleaner fuels, encouraging electric vehicles and threatening polluters with harsh penalties. In India, government officials have said the jury is still out on whether the air is as dirty as researchers claim, and the Environment Minister told a local news program recently that "no death certificate has the cause of death as pollution."

The diverging philosophies show up clearly in the numbers. Concentrations of PM-2.5 have soared in recent years in India. They've stabilized at much lower levels in China, where the government has vowed to reduce the pollutant by more than 15 percent by March 2018 in the capital and nearby areas. Beijing's levels remain well above international guidelines, but unlike in India they've stopped their surge.

In India, the government has forbidden crop burning after harvests in four states, where the practice is a major contributor to the haze. The ban hasn't been widely enforced. Regulators set next month as the deadline for retrofitting power plants with sulfur scrubbers. The power industry has largely ignored the mandate.

China's polluted air drew global scrutiny in 2008 when Beijing hosted the Olympic Games. India lacks the same public awareness of the problem along with its impact on human health and the economy, said Pawan Gupta, a scientist at NASA's Universities Space Research Association. "Most recent discussions in India started after a World Health Organization report in 2014, which put Delhi in the spotlight for the worst air quality around the world," Gupta said.

Beijing is far from the ideal. Even after average concentrations of PM-2.5 fell almost 10 percent, the biggest annual decrease in the past four years, the figure is still more than seven times the World Health Organization's recommended level. And the improvements may have stalled. Levels didn't fall significantly in the first half of 2017 in 366 cities being monitored, Greenpeace East Asia said in a July report.

Based on the pace of reduction in pollution between 2013 and 2016, Beijing will still need about a decade before it can enjoy blue skies, Greenpeace said. Ma Jun, founder and director of the Beijing-based Institute of Public and Environmental Affairs, agreed. "Air in a majority of Chinese cities still fails to meet national standards, so it still needs emission cuts and more efforts," Ma said.

What's missing in India is a proper scientific approach, as the country continues to rely on ad-hoc measures, according to Sumit Sharma, associate director at the Energy and Resources Institute's Earth science and climate change division. "We're breathing air whose quality is not fit for human health," Sharma said, adding that action should start in the summer if dirty winters are to be avoided.

What's needed, according to the experts: Deadlines and targets for PM-2.5 levels; coordinated action between states and the regions most affected by winter smog; adherence to coal-power emission standards, and; air quality monitors in more of the affected cities.

The situation is an outcome of three decades of bad governance, according to Ritwick Dutta, an environment lawyer and the managing trustee for the Legal Initiative for Forest and Environment. "The central government has absolved itself of all responsibility, while the state pollution control boards are understaffed, untrained and have no mechanism to ensure implementation," Dutta said.

## **60. New Zealand Rolls Out New Gasoline Specs to Reduce Sulfur to 10 PPM**

New Zealand has rolled out new specifications for gasoline, including changes to methanol content and introducing oxygen limits, and will implement a lower sulfur content in gasoline of 10 ppm from 50 ppm with effect from July 1, 2018. The government made amendments to Engine Fuel Specification Regulations 2011, which impact both gasoline and diesel, according to an earlier statement from the Ministry of Business, Innovation and Employment.

It has increased the methanol limit in gasoline to 3% volume from 1%, the statement said.

Also, the new regulations will introduce a total oxygen limit of "2.7% mass for petrol blended with not more than 5% volume ethanol or 3.7% mass for petrol blended with more than 5%, but not more than 10%, volume ethanol," according to the government's website.

Additionally, the changes will raise the biodiesel blend limit in diesel from 5% to 7%.

The changes aim to "improve environmental and public health outcomes ... enable new cleaner vehicle technologies [while] provide as much flexibility as possible to fuel suppliers within minimum environmental, public health and consumer protection constraints, " the ministry had said in a statement in August.

Refining NZ operates the country's sole refinery -- the 135,000 b/d Marsden Point plant near Whangarei. The refinery supplies 60%-65% of the domestic gasoline demand. It used to fulfill 50% of the demand before a four-year expansion project was completed in March 2016.

The refinery had installed a continuous catalyst regeneration unit, which boosted gasoline production by 2 million barrels/year to around 13 million barrels/year (35,600 b/d).

According to the ministry's latest data released on its website, New Zealand imported 2.17 million barrels of gasoline over January-March, against 2.22 million barrels in the previous quarter.

### **61. New Zealand Aims To Go Green with Electricity, Tree Planting**

New Zealand's incoming government is hoping to make the nation greener by planting 100 million trees each year, ensuring the electricity grid runs entirely from renewable energy, and spending more money on cycle ways and rail transport. Jacinda Ardern, who has recently taken over as prime minister, outlined agreements her Labour Party reached with other political parties joining them in the new government.

The 37-year-old will be New Zealand's youngest leader in more than 150 years and hopes to take the country on a more liberal path following nine years of rule by the conservative National Party. "I don't need to be influenced on climate change," she said. "It will sit at the heart of what this government does."

Ardern's plan is for New Zealand to reduce its net greenhouse gas emissions to zero by the year 2050.

Some of the targets will require only incremental changes. New Zealand already generates about 85 percent of its electricity from renewable sources including hydroelectric, geothermal and wind. Ardern plans to increase that to 100 percent by 2035, in part by investigating whether solar panels can be used atop schools.

She said the country will need to double the amount of trees it plants each year, a goal she said was "absolutely achievable" by using land that was marginal for farming animals. Her plans also call for the government's vehicle fleet to be green within a decade.

### **62. Cruise Ships in Hobart Facing 0.1% Sulfur Cap**



Cruise ship at Hobart

Cruise ships berthed in the Tasmanian port city of Hobart may have to keep to a low sulfur limit on fuel oil if the city council gets its way. The council has called on Australia's federal government to set a 0.1% sulfur cap for cruise ships in the port, the same limit that is already in force in Sydney.

Cruise ship emissions in Hobart have been under scrutiny for some time.

City councilor Helen Burnet said the change needed to happen fast. "This year we are having a doubling of cruise ships in our port," Burnet was reported as saying.

A campaign by Sydney residents against cruise ship emissions was taken up in a regional election campaign leading to the 0.1% cap.

The White Bay Terminal in Sydney was built in 2013 without onshore power facilities. Residents complained that emissions and noise from cruise ships, which keep running when docked, were affecting their quality of life.

## **SOUTH AMERICA**

### **63. Chile Aims to Boost Lithium Output as Electric Cars Rise**

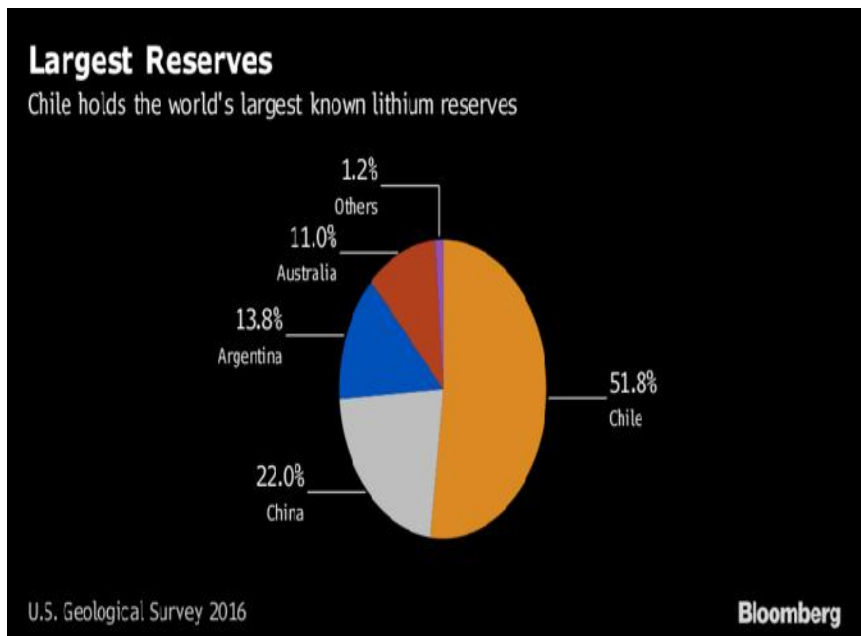
The country holding the world's largest reserves of lithium is drafting regulations that would allow companies to set up new mines amid soaring demand for the mineral used in electric-car batteries. A Chilean government commission is expected to offer guidance by the end of the year for private companies that want to start lithium operations in the country, Mining Minister Aurora Williams said in an interview.

Lithium is considered a strategic resource in Chile, and no company has obtained a license in more than two decades. While global demand for lithium is expected to surge this year as carmakers push to bring electric vehicles to the mass market, only two companies mine lithium in Chile.

"What Chile wants is to maintain and increase production so we can capture this space in the market," Williams said. "We are working on a set of documents that effectively set up ways and procedures to mine lithium."

Chile holds more than half of the world's known reserves of the mineral, and CRU Group says the country has the lowest mining costs. Miners pump lithium-rich brine from beneath salt flats in the country's north and leave it to dry in evaporation pools. Sociedad Quimica y Minera de Chile SA and Albemarle Corp. remain the only companies producing lithium in the nation.

The Chilean government will also unify environmental monitoring in Atacama, where both SQM and Albemarle are operating, to ensure that mining operations have no irreversible impact on the salt-flat's delicate environment and on the communities living around it, Williams said.



Privately owned companies that want to start a lithium operation in Chile can either partner with a state-owned company or negotiate special contracts directly with the government. Chilean-owned Minera Salar Blanco spent months in talks with the government before withdrawing from the process. “There are no rules, no one knows what the requirements are,” Minera Salar Chief Executive Officer Cristobal Garcia-Huidobro said in an interview in his office in Santiago. “When we realized the process wasn’t

advancing we decided to withdraw and wait for the government to write down the rules.”

The new framework won’t change lithium’s special status, and companies will still have to negotiate directly with the state, according to Sergio Hernandez, executive vice-president of the Chilean copper commission Cochilco, a member of the committee drafting the rules. However, it will provide more clarity on financial guarantees for projects, investment requirements, compensation to communities or land owners, environmental rules, taxes, and royalties.

“The lithium royalty will probably be a bit higher than for copper,” Hernandez said. “This makes sense because of the natural advantages of starting production of a resource that is fresh, low-cost and easy to extract.”

The framework would be a sign that Chile is opening up to new players and that much more new, low-cost lithium production could enter the market over the medium term. Even a sign that the regulation is business-friendly would have an effect on prices, according to Marcelo Awad, a Wealth Minerals Ltd. manager in Chile.

“Long-term lithium prices, used to evaluate projects globally, could drop 25 percent when the regulatory framework is out,” said Awad, whose company has acquired mining concessions in salt flats across the country. “Chile has the world’s largest reserves that can be mined at the lowest price, so the mere announcement should lower the long-term price.”

Companies are using long-term estimates of \$11,000 to \$12,000 per metric ton of lithium carbonate, which would fall to \$8,000 to \$9,000 per ton when the regulations are put in place, Awad said. Lithium prices have more than doubled in the five years to 2016, according to UBS Group AG. The mineral averaged \$14,250 a ton in July, according to Benchmark Minerals.

“It is important that companies wait for the definitions, but whatever the demands are, they will not diminish in any significant way Chile’s geological and institutional advantages as a lithium producer,” Hernandez said. “We will remain attractive.”



## AFRICA

### **64. NPA wins 2017 Climate and Clean Air Award**

Chief Executive Officer of the National Petroleum Authority, says the authority is committed to promoting clean environment with the enforcement of the policy on low sulfur diesel standards. Hassan Tampuli said this when he received this year's "Outstanding Policy" award from the Climate and Clean Air Alliance at the on-going Climate Change Summit (COP23) in Bonn, Germany.

According to him, Ghana is determined to collaborate with countries in the sub-region to adopt a harmonized fuel specification for the entire sub-region similar to what currently pertains in the East Africa sub-region.

A statement from the Alliance said Ghana is the first West African country to move to low sulfur diesel and with a new sulfur content standard of 50 parts per million (ppm), down from 3000 ppm, a remarkable achievement.

"This improved fuel quality directly affects Accra's 3 million residents, reducing exposure to poor urban air quality and fine particles. With cleaner fuel now available, Accra can lead in the adoption of cleaner bus standards, including importing ultra-low sulfur diesel for Euro 6/VI - soot free - buses."

The alliance said the country's move will influence regional efforts to improve air quality. Ghana is a major player in the West African fuel system as a fuel refiner and a major export hub for refined fuels. The policy will help lead West Africa's desulfurization and adoption of cleaner vehicle emissions standards to lower particulate matter (PM2.5) pollution and black carbon emissions.

In December 2016, Nigeria, Togo, Benin and Cote d'Ivoire joined Ghana in adopting low sulphur diesel fuel standards. The countries also committed to implement cleaner vehicle standards and work with the ECOWAS Commission towards sub-regional fuel and vehicle emissions standards harmonization by 2020. Nigeria's desulfurization impacts all of West Africa, and Ghana's lead role in cleaning up fuels and vehicles for lower PM and black carbon emissions is key to moving the entire region to low sulfur fuels.

Before adopting the new standards the National Petroleum Authority held an extensive public consultation including internal and external stakeholders. It has also been key to the development and adoption of the new standards and has established a standing committee for the purpose of implementation, monitoring and enforcement.

Other award winners include Minister of Environment, Chile, Governor of California, USA and the Mayor of Durban South Africa.

### **65. Onitsha (Nigeria) Has the Worst Air Pollution in the World, Says WHO**

More than 90% of people worldwide have to breathe polluted air and the people most likely to suffer are those who live in crowded places, where the shift to cleaner forms of transportation and fuel has not happened (or is happening too slowly).

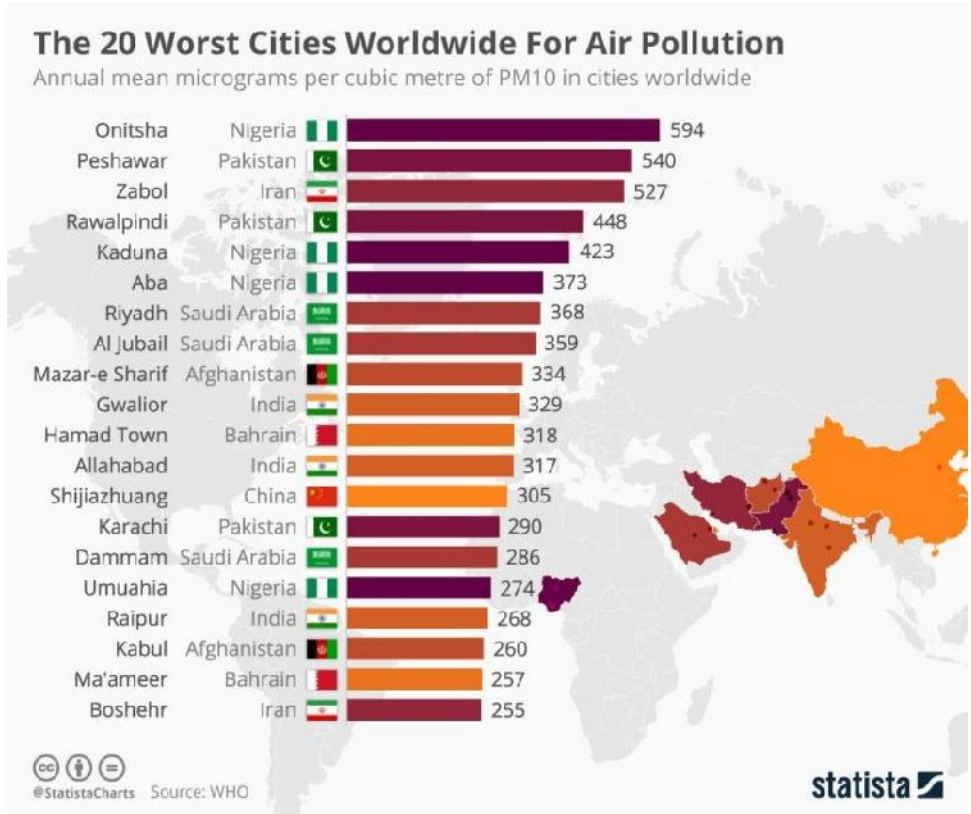


(Photo: Africa News)

This is particularly evident in some areas of Asia and Africa, where smog hangs over cities, seeps into the countryside and even people's homes.

But the air pollution in some cities on those continents is worse than others. According to the World Health Organization (WHO), Onitsha, Anambra state is the city with the worst air pollution in the world.

The report shows that Onitsha has staggering levels of PM10 particulate matter in its air. Onitsha's mean annual concentration was recorded at 594 micrograms per cubic meter by WHO, which is 30 times more than the recommended limit. Three other Nigerian cities were named in the WHO report for high PM10 levels: Kaduna, which came fifth, followed by the cities of Aba – in sixth place – and Umuahia, in 16th position.



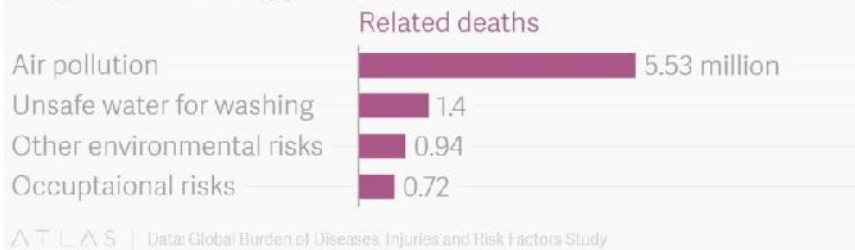
(Photo: WHO)

Just last year, the World Bank reported that 94% of the population in Nigeria is exposed to air pollution levels that exceed WHO guidelines (compared to 72% on average in Sub-Saharan Africa in general) and air pollution damage costs about 1% of gross national income.

Onitsha, Kaduna, Aba and Umuahia are grossly polluted, not just in

terms of the air quality, but also the solid waste that litters the streets, blocking drainages and canals. But the same can be said for many Nigerian cities. Many times, there's no dustbin in sight, so residents dump heaps of rubbish by roadsides and on street corners.

### Air pollution is the biggest environmental health risk



Nigeria does not recognize air pollution as a problem or take it seriously, but the health effects attributed to sustained exposure to PMs, especially PM2.5s, are well proven.

## GENERAL

### 66. Bus Manufacturers Commit to Bring Cleaner ‘Soot-Free’ Buses to 20 Megacities

Four of the world’s largest bus and engine manufacturers have committed to make it easier for major cities to purchase buses equipped with low emissions technologies, in order to tackle climate change and toxic air pollution. BYD, Cummins, Scania and Volvo Buses will ensure ‘soot-free’ engine technology is available for purchase in 20 megacities beginning in 2018. The manufacturers will each release through their websites a full product portfolio available in each city and will begin publicly reporting the number of soot-free buses sold in each year.

Soot free is defined as including any engine that meets Euro VI norms or EPA 2010 norms, and any diesel engine with a diesel particulate filter, gas-powered engine, or a dedicated electric drive engine. Further reductions in climate impacts of soot-free buses are achievable with low-carbon fuels and engines that deliver the lowest lifecycle greenhouse gas emissions.

The cities involved in the scheme are, Abidjan, Accra, Addis Ababa, Bangkok, Bogotá, Buenos Aires, Casablanca, Dar es Salaam, Dhaka, Istanbul, Jakarta, Johannesburg, Lagos, Lima, Manila, Mexico City, Nairobi, Santiago, Sao Paulo, and Sydney.

Less than 20% of all buses sold globally meet the definition of soot-free, with the vast majority being diesel powered. Older generation diesel technology produces high levels of black carbon emissions, or soot, which are amongst the most dangerous pollutants for public health and a major contributor to climate change. The cleanest buses today can reduce these emissions by more than 99 percent.

The Global Industry Partnership on Soot-Free Clean Bus Fleets is an initiative led by C40 Cities, the Climate and Clean Air Coalition (CCAC), and International Council on Clean Transportation (ICCT), Centro Mario Molina Chile and UN Environment. The commitment was announced at the CCAC Clean Buses for Clean Air Workshop in Paris.

### 67. Electric Trucks to Grow Fast From Now Through 2030: Report

In the coming years, the world’s auto industry will continue to shift its product mix to electric and electrified vehicles to meet growing concerns over carbon emissions and stringent fuel-economy regulations across the globe.

However, the passenger-car segment isn’t the only area that will see electric powertrains implemented. A new study suggests the market for electric trucks—light, medium, and heavy-duty commercial trucks—is on the verge of booming. Released by McKinsey Energy Insights, the study looked at three key factors that will influence the adoption of electric trucks.

The most important drivers of adoption, it said, will be cost parity between electric trucks and diesel-powered trucks, electrification readiness, and a supportive electric-vehicle environment.

With those three factors in mind, the study projected electric trucks' upcoming boom in the marketplace; by 2030, the electric models could account for 15 percent of total truck sales.

The sales figures will vary by area, since each of the three major markets the study studied—China, Europe, and the United States—has unique characteristics.

McKinsey Energy Insights pins Europe as the earliest adopter of electric trucks, thanks to higher fuel prices and a supportive environment for electric vehicles in general. Specifically, it projects light-duty trucks will reach cost parity between now and 2021, while heavy-duty trucks will achieve parity in Europe by 2027.

In the United States, the study paints a very different picture. Thanks to lower price differentials between diesel and electricity, the U.S. isn't likely to embrace electric trucks as quickly as Europe. The U.S. is also a vastly different landscape, and batteries will be tasked with going longer distances—boosting costs and perhaps requiring additional technology and other improvements.

While Europe reaches cost parity by 2021, neither the U.S. nor China will likely achieve parity until 2030 or later, the study says.

China faces similar hurdles to those in the U.S.: range, battery technology, and distances covered. The supply of electric trucks will likely outweigh a sufficient charging infrastructure in the U.S. and China for some time, per the study.

Regulatory forces make up the final facet of electric truck adoption rates.

A few European countries have already announced various bans on fossil fuel-powered vehicles in the coming decades, and China has just rolled out its first electric-car quotas to begin in 2019. These regulations will increasingly shape the electric truck market as they materialize.

In the United States, it remains somewhat unclear how particular states and cities could or would implement such regulations. If similar bans occur, you can probably count on California to lead the change in the U.S.

## **68. Air Pollution Exposure Reduces the Development of Working Memory in Children**

A study led by the Barcelona Institute for Global Health (ISGlobal) has demonstrated that exposure to air pollution on the way to school can have damaging effects on children's cognitive development. The study, published recently in *Environmental Pollution*, found an association between a reduction in working memory and exposure to fine particulate matter (PM<sub>2.5</sub>) and black carbon during the walking commute to and from school.<sup>1</sup> However, the researchers emphasize that the benefits of daily walking or cycling outweigh the risks of exposure.

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<sup>1</sup> *Environmental Pollution*, 2017; 231: 837 DOI: [10.1016/j.envpol.2017.08.075](https://doi.org/10.1016/j.envpol.2017.08.075). **Impact of commuting exposure to traffic-related air pollution on cognitive development in children walking to school.**, Mar Alvarez-Pedrerol, Ioar Rivas, Mònica López-Vicente, Elisabet Suades-González, David Donaire-Gonzalez, Marta Cirach, Montserrat de Castro, Mikel Esnaola, Xavier Basagaña, Payam Davvand, Mark Nieuwenhuijsen, Jordi Sunyer.,

Previous research found that exposure to traffic-related pollutants in schools was associated with slower cognitive development. The aim of the new study was to assess the impact of air pollution exposure during the walking commute to school. The findings of an earlier study had shown that 20 percent of a child's daily dose of black carbon, a pollutant directly related to traffic, is inhaled during urban commutes.

"The results of earlier toxicological and experimental studies have shown that these short exposures to very high concentrations of pollutants can have a disproportionately high impact on health," explains Mar Álvarez-Pedrerol, ISGlobal researcher and first author of the study. "The detrimental effects may be particularly marked in children because of their smaller lung capacity and higher respiratory rate," she adds.

The study was carried out in Barcelona and enrolled over 1,200 children aged from seven to 10 from 39 schools, all of whom walked to school on a daily basis. The children's working memory and attention capacity was assessed several times during the 12-month study. Their exposure to air pollution over the same period was calculated on the basis of estimated levels on the shortest walking route to their school.

Statistical analysis of the findings revealed that exposure to PM2.5 and black carbon was associated with a reduction in the growth of working memory; an interquartile range increase in PM 2.5 and black carbon levels was associated with a decline of 4.6 percent and 3.9 percent, respectively, in expected annual development of working memory. No significant associations were found with exposure to NO2 and none of the pollutants studied were observed to have any effect on attention capacity. In this study, boys were much more sensitive than girls to the effects of both PM2.5 and black carbon.

"Above all, we do not want to create the impression that walking to school is bad for children's health because the opposite is true—walking or cycling to school, which builds physical activity into the child's daily routine, has health benefits that far outweigh any negative impact of air pollution," explains Jordi Sunyer, head of ISGlobal's Child Health Programme and co-author of the study.

"The fact that children who walk to school may be more exposed to pollution does not mean that children who commute by car or on public transport are not also exposed to high levels. His colleague Mar Álvarez-Pedrerol went on to explain "The solution is the same for everyone: reduce the use of private vehicles for the school run and create less polluted and safer home-to-school routes."

This is the first time that a team of scientists has studied the potential impact on cognitive development of exposure to air pollution in children who walk to school.

## **69. EV Carbon Footprint Always Smaller Than Diesel**

The lifetime CO2 emissions from an electric vehicle are lower than those of a conventional diesel model even when its batteries are charged using the 'dirtiest' electricity in Europe, according to a study released recently. The study conducted by VUB university in Brussels for the NGO Transport & Environment (T&E) concludes that, on a lifecycle basis – that is, including pollution

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<sup>a</sup>ISGlobal, Centre for Research in Environmental Epidemiology (CREAL), Barcelona, Catalonia, Spain

arising from the manufacture of the vehicle and battery – this holds true even in countries with the highest power sector CO2 emissions.

In Poland, where over three-quarters of electricity is generated by burning coal, the lifetime carbon footprint of an electric vehicle would be 25% less than that of a diesel. In Sweden, which gets two-thirds of its power from renewable sources, emissions for an electric vehicle would be 85% less, the report finds.

The sustainability should improve further with advances in battery technology and as more of the cells are re-used for electricity storage or recycled, T&E said in a statement. "With the rapid decarbonization of the EU electricity mix, on average electric vehicles will emit half the CO2 emissions of a diesel car by 2030, including the manufacturing emissions," said Yoann Le Petit, the group's e-mobility specialist.

The single most important opportunity to improve the climate impact of battery-power vehicles lies in the supply mix of the electricity, especially phasing out coal-fired power plants and substituting them with natural gas and renewables.

An analysis released along with the study concludes that physical shortages of critical raw materials such as lithium, cobalt, nickel, graphite are unlikely even as demand takes off. However, T&E argued that extraction should be held to high social and environmental standards. "In the long term, reuse, recycling, and progressive substitution of these materials should generalize".

## **70. Global Carbon Dioxide Emissions Stabilized In 2016**

Global emissions of climate-warming carbon dioxide remained static in 2016, a welcome sign that the world is making at least some progress in the battle against global warming by halting the long-term rising trend.

All of the world's biggest emitting nations, except India, saw falling or static carbon emissions due to less coal burning and increasing renewable energy, according to data published by the Netherlands Environmental Assessment Agency (NEAA). However other mainly developing nations, including Indonesia, still have rising rates of CO2 emissions.

Stalled global emissions still means huge amounts of CO2 are being added to the atmosphere every year – more than 35bn tons in 2016 – driving up global temperatures and increasing the risk of damaging, extreme weather. Furthermore, other heat-trapping greenhouse gases, mainly methane from cattle and leaks from oil and gas exploration, are still rising and went up by 1% in 2016.

"These results are a welcome indication that we are nearing the peak in global annual emissions of greenhouse gases," said climate economist Prof Lord Nicholas Stern at the London School of Economics and president of the British Academy.

"To realize the goals of the Paris agreement and hold the increase in global average temperature to well below 2C, we must reach peak emissions as soon as possible and then achieve a rapid decline soon afterwards," Stern said. "These results from the Dutch government show that there is a real opportunity to get on track."

Jos Olivier, the chief researcher for the NEAA report, sounded a note of caution: “There is no guarantee that CO<sub>2</sub> emissions will from now on be flat or descending.” He said, for example, a rise in gas prices could see more coal burning resume in the US.

The flat CO<sub>2</sub> emissions in 2016 follow similar near-standstills in 2014 and 2015. This lack of growth is unprecedented in a time when the global economy is growing. As the number of years of flat emissions grows, scientists are more confident a peak has been reached, rather than a temporary halt. In July 2016, senior economists said China’s huge coal burning had peaked, marking a historic turning point in efforts to tame climate change.

Stern said many of the big emitting nations had achieved significant reductions in 2016: “However, all countries have to accelerate their emissions reductions if the Paris goals are to be met.” He said this could also drive development in poorer nations: “We can now see clearly that the transition to a low-carbon economy is at the heart of the story of poverty reduction and of the achievement of the UN Sustainable Development Goals.”

The new Dutch report shows CO<sub>2</sub> emissions from China, the world’s biggest emitter, fell 0.3% in 2016. US CO<sub>2</sub> emissions fell 2.0% and Russia’s by 2.1%, with the EU flat, although UK emissions tumbled by 6.4%, as coal burning plunged.

Of the top five emitters, only India’s CO<sub>2</sub> emissions rose, by 4.7%. Significant increases were also seen in Indonesia, Malaysia, the Philippines, Turkey and Ukraine.

However, over a quarter of the warming effect seen by the world comes from non-CO<sub>2</sub> greenhouse gases, with methane by far the most significant. Cattle belch the gas and are responsible for 23% of global methane emissions, and this source rose by 0.4% in 2016. Scientists have warned that the growing global appetite for meat, especially beef, cannot continue if climate change is to be kept under 2C.

Another quarter of methane emissions come from fossil fuel production and leaks in gas distribution pipes. Since 2000, emissions from coal and gas production have grown by more than 65%.

Carbon emissions from forest destruction and other land use changes were not included in the main analysis as they are more difficult to estimate and vary strongly from year to year.

## **71. Rise in Emissions in 2017 Is a ‘Step Back For Humankind’**

Worldwide carbon emissions are projected to rise by around 2% in 2017, according to the latest figures from the Global Carbon Project. The increase, which was announced as nations met in Germany for the annual UN climate negotiations (COP23), comes after three years of relative stability.

“This is very disappointing,” said Corinne Le Quéré, director of the Tyndall Centre for Climate Change Research at the University of East Anglia. “With global carbon dioxide emissions from all human activities estimated at 41 billion tons for 2017, time is running out on our ability to keep warming well below 2C, let alone 1.5C.”

She warned that rising temperatures could amplify the impacts of hurricanes and create more powerful storms. “This is a window to the future,” she said. “We need to reach a peak in global

emissions in the next few years and drive emissions down rapidly afterwards to address climate change and limit its impacts.”

The recent rise is thought to be largely due to an increase in coal being burnt as fuel in China, as a result of stronger industrial growth and lower hydro-power generation caused by low rainfall in the country, which accounts for 28% of global emissions.

Robert Jackson, a co-author of the report and an Earth scientist at Stanford University in California, predicts a further rise in emissions in 2018. “That’s a real concern,” he said. “The global economy is picking up slowly. As GDP rises, we produce more goods, which by design produces more emissions.”

Nick Molden, founder and CEO of Emissions Analytics, says the true figures could be even worse than the report suggests. Official figures for vehicle emissions have been showing a decline in CO<sub>2</sub> that has not reflected real-world performance, he told Professional Engineering. “If that’s baked into these figures they could underestimate the extent of the problem.”

The discrepancy is because official emissions test figures quoted by vehicle manufacturers can differ from the actual amounts by 40% on average. Molden also pointed out that, although there are a growing number of electric vehicles, if they’re powered by coal-fired power stations they could still account for significant emissions.

Amy Luers, executive director at research organization Future Earth, called the news “a step back for humankind”. “We must reverse this trend and start to accelerate toward a safe and prosperous world for all.”

Others are more optimistic, pointing to a 14% per year rise in use of renewable sources of energy over the past five years. “Prices for wind and solar power are plummeting, and batteries and storage are helping to balance supply and demand for electricity,” said Jackson. “The world’s energy future is changing before our eyes.”

## **72. Global Atmospheric CO<sub>2</sub> Levels Hit Record High**

The concentration of carbon dioxide in the atmosphere increased at record speed last year to hit a level not seen for more than three million years, the UN has warned. The new report has raised alarm among scientists and prompted calls for nations to consider more drastic emissions reductions at the climate negotiations in Bonn.

“Globally averaged concentrations of CO<sub>2</sub> reached 403.3 parts per million (ppm) in 2016, up from 400.00 ppm in 2015 because of a combination of human activities and a strong El Niño event,” according to The Greenhouse Gas Bulletin, the UN weather agency’s annual flagship report.

This acceleration occurred despite a slowdown – and perhaps even a plateauing – of emissions because El Niño intensified droughts and weakened the ability of vegetation to absorb carbon dioxide. As the planet warms, El Niños are expected to become more frequent.

The increase of 3.3 ppm is considerably higher than both the 2.3 ppm rise of the previous 12 months and the average annual increase over the past decade of 2.08ppm. It is also well above the previous big El Niño year of 1998, when the rise was 2.7 ppm.



The study, which uses monitoring ships, aircraft and stations on the land to track emissions trends since 1750, said carbon dioxide in the atmosphere is now increasing 100 times faster than at the end of the last ice age due to population growth, intensive agriculture, deforestation and industrialization.

The last time Earth experienced similar CO<sub>2</sub> concentration rates was during the Pliocene era (three to five million years ago), when the sea level was up to 20m higher than now.

The authors urged policymakers to step up countermeasures to reduce the risk of global warming exceeding the Paris climate target of between 1.5C and 2C. “Without rapid cuts in CO<sub>2</sub> and other greenhouse gas emissions, we will be heading for dangerous temperature increases by the end of this century, well above the target set by the Paris climate change agreement,” World Meteorological Organization chief Petteri Taalas said in a statement.

The momentum from the Paris accord in 2015 is faltering due to the failure of national governments to live up to their promises. In a report to be released on Tuesday, UN Environment will show the gap between international goals and domestic commitments leaves the world on course for warming well beyond the 2C target and probably beyond 3C. International efforts to act have also been weakened by US President Donald Trump’s decision to quit the accord.

Prof Dave Reay, professor of carbon management at the University of Edinburgh, said: “This should set alarm bells ringing in the corridors of power. We know that, as climate change intensifies, the ability of the land and oceans to mop up our carbon emissions will weaken. There’s still time to steer these emissions down and so keep some control, but if we wait too long humankind will become a passenger on a one-way street to dangerous climate change.”

“The numbers don’t lie. We are still emitting far too much and this needs to be reversed,” the head of UN Environment Erik Solheim said in reaction to the new report. “What we need now is global political will and a new sense of urgency.”

The report comes amid growing concerns that nature’s ability to deal with CO<sub>2</sub> is weakening. Recent studies show forest regions are being cleared and degraded so rapidly that they are now emitting more carbon than they absorb.

“These large increase show it is more important than ever to reduce our emissions to zero – and as soon as possible,” said Piers Forster, director of the Priestley International Centre for Climate at the University of Leeds. “If vegetation can no longer help out absorbing our emissions in these hot years we could be in trouble.”

The World Meteorological Organization predicted 2017 will again break records for concentrations of carbon dioxide and methane, but the growth rate will not be as fast because there is no El Niño effect.

### **73. US Oil and Gas 'Resurgence' Expected As Global Demand Grows**

Oil will continue growing as a source of energy for over two decades, with the U.S. set to become the undisputed leader in crude and gas production, the International Energy Agency said recently. The report from the Paris-based agency will come as grim news for officials attending global climate talks in Bonn, Germany, as they grapple with ways to contain carbon emissions. Scientists just this week said that emissions of the heat-trapping gas rose this year after three years of not growing.

The IEA said oil production will be driven by continued growth in energy-hungry industries. Though solar power is set to become the cheapest source of new electricity generation and the boom years for coal are over, oil and gas will continue to meet the bulk of the world's energy needs, the IEA said.

Oil demand is forecast to keep rising until 2040, with natural gas growing by a sharp 40 percent.

A more widespread use of electric cars will not be enough to consign oil to the past, said IEA Executive Director Fatih Birol. "It is far too early to write the obituary of oil, as growth for trucks, aviation, petrochemicals, shipping and aviation keep pushing demand higher," said Birol.

Total energy demand is expected to have grown by 30 percent by 2040 — and would be growing twice that without efforts to improve energy efficiencies.

The price of oil has risen over 30 percent since June to a two-year high of around \$57 a barrel in New York trading amid evidence of stronger economic growth around the world. But analysts expect the price to not rise much further in coming months as the U.S. ramps up production.

The IEA echoed that view, saying it expects the U.S. to see a resurgence in its oil and gas industries and become the world's biggest net exporter by the end of the 2020s. Asian countries will become the biggest net importers of oil and gas, taking in 70 percent of imports by 2040 as their economies expand at a fast clip.

Environmental activists decried the IEA forecasts as discounting any efforts by countries to limit emissions as part of the Paris Agreement on climate change. "None of its core scenarios for the future of energy provide a reasonable chance that the world will avoid climate catastrophe," said Adam Scott, senior advisor at Oil Change International.

#### **74. IHS Markit Study: VMT Will Soar While Sales Growth of New Vehicles Will Slow**

The automotive future will be different—though with some noticeable similarities—as the convergence of disruptive technologies, government policies and new business models usher in a new era of multidimensional competition, says a new major research initiative by IHS Markit.

A shift from buying cars to buying “mobility” will be a driving force of change in the automotive future, the study says. By 2040, vehicle miles traveled (VMT) will have grown to an all-time high of around 11 billion miles per year (a 65 percent increase since 2017) in China, Europe, India and the United States—the key markets examined for the study—and will keep growing. At the same time, **sales growth** of new light-duty vehicles will slow substantially.

The competition between the internal combustion engine and electric vehicles, the disruptive force of “mobility-as-a-service” (MaaS)—such as ride-hailing—and the much-anticipated emergence of autonomous vehicles will lead to more profound changes in personal transportation than experienced over the past century combined, the study says.

The continued emergence of mobility-as-a-service (MaaS) providers will be among the most important and disruptive forces in the future, the study says. The MaaS industry is expected to purchase more than 10 million cars in the study's key markets in 2040—compared to just 300,000 in 2017.

Oil's monopoly as a transport fuel will erode, though it will remain a major part of the automotive landscape, the study says. Market share for cars primarily powered by gasoline and diesel will still account for 62 percent of new cars in 2040 in the four major key markets (down from 98 percent in 2016) with a total of 54 million new vehicle sales in 2040, according to the study's baseline scenario. In this scenario, global oil demand still rises from 98 mbd today to 115 mbd in 2040 (the study also explores a more radical scenario in which oil demand in 2040 is less than it is today).

The dominance of the full internal combustion engine (ICE) will slide away, the study says. ICE vehicles still comprise a majority of new car sales in 2040—buoyed by sales of mild to full hybrids, which still primarily rely on internal combustion engines. However, cars powered solely by gasoline or diesel will have fallen below 50 percent of new cars sales by 2031.

Higher fuel economy and emissions standards and the reduction in gasoline's share of new vehicle sales will lead to a decline in aggregate gasoline demand in key markets during the 2020s, the study says, even though overall oil demand will rise.

Electric vehicles (EVs) will account for more than 30 percent of new cars sold in key automotive markets examined for the study by 2040—up from just 1 percent of new car sales in 2016. A key tipping point will be battery pack costs, which are expected to decline to a price point in the 2030s that will make EVs cost competitive with internal combustion engine vehicles, the study says.

Autonomous vehicles are also expected to emerge as a significant share of new vehicle sales after 2030, the study finds.