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# CAR LINES

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## EUROPE

### 1. New EU Euro VI Rules on Heavy Vehicle Pollution Published

A regulation setting stricter limits on pollution from trucks and buses will enter force on August 7<sup>th</sup> following its publication in the EU's official journal. The new limits will apply from 2013. The Euro VI regulation was approved by EU governments and MEPs in December. Heavy duty vehicles will not be allowed to emit more than 400 milligrams per kilowatt hour (mg/kWh) of NO<sub>x</sub>, and 10mg/kWh of particulate matter. Total hydrocarbon emissions (NMHC) would be limited to 160mg/kWh, compared with 550mg/kWh under Euro V rules. Carbon monoxide (CO) limits remain unchanged at 4,000mg/kWh.

In spite of this final adoption, it is still expected that the European Commission will propose a delay in implementation because of the current economic downturn.

### 2. European Ozone Pollution Is Declining — But Not Everywhere

Ground-level ozone is among the most harmful air pollutants in Europe today. Elevated ozone levels cause health problems, premature deaths, reduced agricultural crop yields, damage to plants in semi-natural ecosystems and corrosion of physical infrastructure and cultural heritage. Ozone pollution is declining — but not everywhere

Troublingly, efforts to combat European ozone levels are achieving only limited success. Although Europe has steadily reduced emissions of the air pollutants that lead to ozone formation in recent decades, ozone levels remain largely unchanged in many countries.

A new report by the European Environment Agency (EEA) explores the reasons for this apparent contradiction, using data from the European air quality database, AirBase, and computer models to investigate ground-level ozone formation in Europe.

#### Key findings

- The longest time series in AirBase (14–16 years) are available for four countries. These indicate that ground-level ozone has declined significantly in the Netherlands and the United Kingdom, falling during the 1990s and leveling off thereafter. No significant trends were identified in Austria and Switzerland.
- Inter-annual variations in weather conditions have a significant impact on yearly ozone levels. Discerning the effect of reduced ozone precursor emissions therefore requires long time series of data from stable monitoring networks. Unfortunately, extended time series are generally unavailable, particularly in southern Europe where ozone pollution is a major problem.
- Several unknowns complicate attempts to model ozone levels. Significant uncertainties exist regarding the magnitude and distribution of inter-continental inflows of ozone and its precursors, and the size and distribution of isoprene emissions from plants.
- The importance of meteorological conditions in ozone formation suggests that predicted changes in climate could also lead to increased ground-level ozone in many regions of Europe.
- Computer modeling was used to estimate the ozone levels that would arise if precursor emissions declined (as countries reported) or if they held constant at 1995 levels. The

ozone levels recorded in 18 countries across Europe correspond more closely to the model output based on the assumption of declining emissions.

- Ground-level ozone has become a hemispheric or even global air pollution and climate change problem. Ozone abatement should be integrated into local, regional and global strategies and measures that simultaneously address emissions of air pollutants and greenhouse gases.

### **3. Europe's Air Quality Improving, Data Shows**

Although levels of major air pollutants continued to decline in the EU in 2007, the residential and road transport sectors are becoming increasingly significant sources of pollution, the European Environment Agency (EEA) said in a new report released on August 21st.

The European Community's air pollutant emission inventory report finds that in 2007, sulfur oxides (SO<sub>x</sub>) emissions were down by 72 % from 1990 levels. The downward emission trend of three main pollutants which cause ground-level ozone continued in 2007: carbon monoxide (CO) fell by 57 %, non-methane volatile organic compounds (NMVOCs) were down by 47 % and nitrogen oxides (NO<sub>x</sub>) have dropped 36 %. EU-27 emissions of all four pollutants were lower in 2007 than in 2006.

Emissions of fine particulate matter (PM<sub>2.5</sub>), a seriously health-damaging pollutant, have decreased by 2 % compared to the previous year and by about 12 % since the year 2000. However, reporting of PM emissions from Member States is less complete than for the other main pollutants.

In 2007 the top polluting sources in the EU-27 were fuel combustion in households, passenger cars, heavy duty vehicles, and in power plants.

Other findings of the report include:

- The residential sector is an important source of several pollutants. Energy use by households (the burning of wood, gas, coal etc) is the most important source of PM<sub>2.5</sub> and NMVOC, the second most important source of CO and is a significant source of both SO<sub>x</sub> and NO<sub>x</sub>.
- The road transport sector remains a major source of air pollution in the EU 27. Heavy duty vehicles are the single most important source of NO<sub>x</sub>, while passenger cars are among the top 6 polluting sources for CO, NO<sub>x</sub>, PM<sub>2.5</sub> and NMVOC.
- Power plants producing heat and electricity have reduced emissions significantly since 1990 by improving abatement equipment, switching to cleaner fuels and through improved energy efficiency. However the sector remains a large source of air pollution, responsible for around 60 % of all EU-27 SO<sub>x</sub> emissions and 20 % of total NO<sub>x</sub> emissions;
- Agricultural activities in the EU-27 cause more than 90 % of the EU-27's ammonia (NH<sub>3</sub>) emissions. Ammonia is a particularly important pollutant with respect to Europe's environment, responsible for eutrophication and acidification of ecosystems.
- The largest Member States are generally responsible for the most air pollution. France, Germany, Italy, Poland, Spain and the United Kingdom contributed the most to EU-27 emissions in 2007.

Reducing emissions of air pollutants brings significant social and economic benefits: fewer premature deaths and lower health care costs, as the toll from pollution-related diseases is also reduced. In addition, as emissions of air pollutant fall, Europe's environment suffers less harm to crop production and to natural ecosystems, along with less damage to infrastructure and public buildings caused by corrosive pollutants.

#### **4. Commission Rejects Bulk of Air Quality Derogations**

The European Commission has rejected 75 out of 94 requests to extend a deadline for meeting EU air quality standards on particulate matter (PM10) in various zones across nine member states, according to a recent press release. The commission approved exemption requests for 19 pollution zones in Austria, Germany and Hungary, after finding that they satisfied the conditions set in the CAFE air quality directive. They will now have until June 2011 to meet the PM10 concentration limits, which should have been achieved in 2005.

The remaining 75 extension requests covered zones in Belgium, Denmark, Greece, Spain, France and Slovakia. The commission rejected them because of insufficient data or because abatement measures outlined by the countries could not guarantee that the standards would be met within the extended deadline. Where extensions have been rejected, member states must either reapply citing new evidence, or comply with the limits in the shortest possible time to ward off infringement proceedings.

Infringement action has already been launched against ten member states for failing to comply with PM10 limits. Only four member states have reported compliance with air quality rules, according to the commission.

Airborne particles (PM 10) are emitted mainly from industry, traffic and domestic heating. They can cause asthma, cardiovascular problems, lung cancer and premature death.

EU air quality legislation sets binding limit values and/or indicative target values for the maximum permitted concentrations of certain pollutants in the air. There are two binding air quality limit values for particulate matter (PM10) based upon daily and annual average concentrations. These entered into force on 1 January 2005.

Directive 2008/50/EC which entered into force in 2008 allows Member States to request time extensions for PM10, NO2 and benzene. Compliance with the limit values may be postponed until 10 June 2011 at the latest for PM10. During the time extension period the limit values continue to apply plus a margin of tolerance.

A first decision on time extensions, concerning the Netherlands, was adopted on 7 April 2009. The Commission decided that the conditions for an exemption from the PM10 limit values were satisfied by all Dutch air quality zones, as well as the conditions for a postponement of the NO2 limit values until 2015, except for one zone where the extension was set to apply until end 2012.

In January 2009, infringement proceedings were launched against 10 Member States that by then had not submitted notifications or had not notified all air quality zones exceeding the limit values for PM10.

The Commission set out the approach it will take in assessing national notifications for extensions in a Communication and a Staff Working Paper adopted last year. The conditions are as follows:

- All appropriate measures must have been taken before the initial attainment date to achieve compliance (2005 for PM 10).
- The cause of the exceedances must be due to one or more of the following factors: Transboundary air pollution from other countries; adverse climatic conditions; or site-specific characteristics affecting how pollution is dispersed.
- Compliance must be achieved by the expiry of the exemption period (June 2011). For each air quality zone an air quality plan must be prepared setting out the planned measures to ensure compliance.

Following notification, the Commission has nine months within which to raise objections, otherwise the exemption is deemed to have been approved. If objections are raised and the limit values continue to be exceeded, enforcement action will be taken.

### **5. Spain Confirms It Will Exceed Air Pollutant Caps**

Spain will exceed national limits on emissions of three of four air pollutants set for 2010 under the national emission ceilings (NEC) directive, according to the latest government forecasts issued at the end of July. An analysis published last year by the European Environment Agency indicated that Spain would not meet limits for nitrogen oxides (NOx), non-methane volatile organic compounds (NMVOCs) and ammonia (NH3) without taking additional measures. But Spain's 2008 environment profile released last week shows that even with additional measures, NOx, VOC and NH3 emissions will exceed national ceilings for 2010 by 19%, 12.6% and 15% respectively.

### **6. French Parliament Approves Kilometer Tax for Trucks**

Both chambers of the French parliament, the Assemblée Nationale and the senate, have backed a proposal to introduce a kilometer tax on Trucks. The proposal is part of a major piece of environmental legislation. The law, called "Grenelle 1", was approved by the Assemblée Nationale, the lower chamber of the parliament, in October.

The kilometer tax on Trucks will apply to all Trucks using national roads, and some local roads in France. About one third of lorry kilometers driven in France are already covered by tolls and the new system will extend coverage by another third. The tax will apply from 2011.

Austria, the Czech Republic, Germany and Switzerland have already introduced distance-based charging schemes but Swedish transport minister Åsa Torstensson said a kilometer tax on Trucks in Sweden would be unfair to businesses in sectors such as forestry because Sweden is an "elongated" country where there is little or no alternative to road transport in many areas.

The EU's "Eurovignette" rules on road charging for heavy vehicles allow member states to charge Trucks for certain costs. But road charging systems vary across Europe. Examples include truck toll charges, which are currently in place in countries such as Germany and Sweden, and a kilometer tax.

A proposal to revise the Eurovignette rules is being scrutinized by EU lawmakers, but negotiations in the Council of Ministers are stalled. The European Commission is conducting further analysis on the impact of the plan after governments raised serious concerns over its cost. Council discussions are expected to start again once the commission completes its revised impact assessment.



## **7. France Faces Internal Fight Over Carbon Tax**

France should aim to introduce a tax on carbon dioxide emissions by 2010 to help fight global climate change, according to a panel advising the government. The plan has already drawn fire from intensive fuel users such as farmers and fishermen, and the government pledged to offset any tax with cuts elsewhere while the head of the panel indicated the scheme might have to be delayed. "Carbon dioxide emissions are a threat to life on the planet ... among the many necessary responses, a significant tax on carbon dioxide emissions is one the most pertinent and efficient," the panel concluded.

France is aiming to divide its greenhouse gas emissions by four by 2050.

Under the carbon tax plan, France would bill 32 Euros (\$46) for every ton of carbon dioxide emitted in 2010 and lift the levy progressively to 100 Euros per ton by 2030. This would add between 7 and 8 cents to the cost of a liter of petrol. The tax will affect all sectors that are not part of existing emissions trading programs.

The report is expected to provide the basis for legislation, due to be debated after parliament's summer break. It will face intense discussion as details are thrashed out.

While most politicians agree emissions must be cut to fight global warming, a key part of the debate is on how to compensate poorer households, workers in certain sectors and those who need to drive because they work at night or live in rural areas. But the idea of such compensation has attracted criticism from budget watchers who point to France's growing debt burden -- already exacerbated by the economic crisis.

The extra cost would vary according to the size of households and their location. The report said a couple with children living in the country could pay about 303 Euros a year extra, while a single parent family in a big city might pay only 78 Euros a year extra. The levy would bring between 8-9 billion Euros to state coffers, divided roughly equally between households and businesses, the report said, although the level of the tax will be one of the key points under discussion.

## **8. French Parliament Passes First Piece of Wide-Ranging Environmental Road Map**

On July 23<sup>rd</sup>, both houses of France's Parliament voted overwhelmingly to pass into law the first installment of the country's ambitious environmental program, known as the Grenelle Environment process. Made up of 57 articles, Grenelle 1 includes provisions to lower France's greenhouse gas emissions 20 percent from 1990 levels, to boost the share of energy from renewable sources to 23 percent of consumption, and to improve energy efficiency of buildings by 38 percent—all by 2020. It also requires registration of nanomaterials and the creation of a per-kilometer tax on heavy trucks.

Air pollution measures in the bill include a goal to reduce airborne fine particulate matter 30 percent by 2015.

Parliament is still debating a second bill, Grenelle 2, which would provide the legal means to implement Grenelle 1's proposals.

Some of Grenelle 1's most important measures, such as the popular "Bonus-Malus" program, zero-rate financing for energy efficiency construction, and a program to reduce pesticide use by

2018, already have been set into motion through the 2009 budget law, government decrees, and other mechanisms. Under Bonus-Malus, buyers of new cars with relatively high levels of carbon dioxide emissions pay a fine, while buyers of low-emissions cars receive bonuses. Emissions thresholds under the program are to be toughened starting Jan. 1, 2010. A “junkyard bonus” program Sarkozy started in December 2008 also pays owners of cars 10 years old or more a bonus for buying a new, cleaner-running car when the older car is destroyed.

The 2009 budget law implemented 44 key tax-related measures in support of the environment or energy efficiency. Those measures are expected to bring in some €2.7 billion (\$3.9 billion) in additional tax receipts for 2009–2011, but will be entirely offset by an equivalent amount in tax abatements.

### **9. French Air Quality Improving; To Reduce PM<sub>10</sub>**

France's air pollution levels continued trends noted in previous years for most regulated pollutants in 2008, with sulfur dioxide, carbon monoxide, and benzene levels declining, while levels of nitrogen dioxide stagnated or rose slightly in rural areas, according to a French government report released on July 29<sup>th</sup>. The report by the French Ministry of Ecology, Energy, Sustainable Development, and the Sea and the Agency for Environment and Energy Management (ADEME) said ozone concentrations were slightly down in 2008, due mainly to 2008's cloudier summer here. However, long-term, background levels of ozone continue to exceed those observed in the 1990s, the report said.

According to the report, 2008 data showed a slight decrease in concentrations of inhalable particles of 10 micrometers or less in size (PM-10), compared with levels in 2007, during which levels passed thresholds a “very high” number of times. However, it said data from the first quarter of 2009 suggested that the number of days in which PM-10 levels pass thresholds could be higher this year.

The French government will adopt in September a plan to further reduce emissions of particulate matter in the domestic, industrial, transport and agricultural sectors. France has a goal of reducing fine particulate matter (PM2.5) concentration levels by 30% by 2015.

### **10. Dutch Conclude Price-Based Policies 'Best Suited To Cut Pollution'**

Price-based policies such as raising parking fees and introducing a kilometer charge for road users are the most efficient measures to change mobility patterns and reduce pollution by 2020, according to a Dutch agency. Efforts to improve the availability and quality of public transport and new housing developments aimed at reducing travel will not change behavior, Dutch environmental assessment agency PBL said in report on public transport published in July.

A Dutch kilometer charge for all road users was proposed by the government nearly two years ago. France recently approved a similar charge for lorries. But Sweden opposes such a charge arguing it would be unfair to businesses in sectors such as forestry.

### **11. London Mayor to Review Congestion Charge Exemptions**

London's congestion charge may be changed to allow thousands of petrol and diesel-driven cars to enter the capital's charging zone for free. Existing exemptions apply to electric and hybrid cars, but there are now 20 conventional car models that emit the same or less carbon than the second generation Toyota Prius, which is exempt.

Campaigners have argued the congestion charge should be based on emissions rather than technology and have now claimed victory after the mayor of London's office confirmed Transport for London (TfL) was undertaking a review. The campaigners claim the rules have failed to keep up with improvements in vehicle technology since the congestion charge was launched in 2003.

There are 14,170 drivers with one of the 20 non-hybrid cars emitting less than 105g/km CO<sub>2</sub>. They currently have to pay the £8 charge, while their hybrid counterparts enjoy a waiver. Campaigners say the "injustice" is highlighted by the fact that a 4x4 Lexus hybrid with emissions of 192g/km CO<sub>2</sub>, almost twice today's most efficient cars and well above the national average, is exempt from the charge. Another exempt Lexus hybrid, the LS 600h, emits 219g/km CO<sub>2</sub>.

Richard Hebditch, campaigns director for the Campaign for Better Transport, said: "The mayor should say no to this proposal [to make low-emission cars exempt]. The purpose of the congestion charge zone is not to reduce pollution – though that may be a useful by-product of the zone – but to reduce the number of cars coming in to central London. Exempting more cars will increase congestion and traffic."

There are also concerns that allowing more "low-CO<sub>2</sub>" cars into the zone for free could exacerbate the capital's already notoriously bad air quality. All but six of the 20 non-hybrid cars with emissions under 105g/km CO<sub>2</sub> have a diesel engine, which have been the focus of concerns over premature deaths caused by particulate pollution. Simon Birkett, of the Campaign for Clean Air in London, said: "When considering modifications to the congestion charging scheme, it's essential that small benefits for CO<sub>2</sub> are not obtained at the cost of substantial increases in air pollutants that cause premature death and other health problems. Particular care is needed when diesel is concerned because it is not well-suited to polluted cities like London."

## **12. Motor Lobby Resists EU Plan to Cut Van CO<sub>2</sub> Emissions**

Vans and light trucks sold in the European Union will have to meet tighter carbon dioxide (CO<sub>2</sub>) standards within four years, under plans being developed by the European Commission and already strongly criticized by the automotive lobby. Light commercial vehicles have so far been exempt from the EU CO<sub>2</sub> standards for passenger cars set late last year, prompting fears that carmakers would circumvent the rules by reclassifying larger models as LCVs.

The proposals would set average CO<sub>2</sub> emissions from LCVs at 175g/km by mid-2013, compared with slightly above 200g/km for new LCVs today, according to internal Commission documents seen by the Financial Times. A long-term target of 135g/km is also tabled. The proposal is due to be finalized by the Commission by the end of September, when it would go before the European Parliament and member states.

ACEA, the Brussels-based European carmakers' lobby dismissed the plans as "unenforce-able", saying its members could not meet new standards within such a short period. "We have nothing against reasonable regulation but these proposals will put in danger the competitiveness of the industry," said Ivan Hodac, ACEA's secretary-general. "This is an unbelievable thing to suggest during such a deep crisis in the industry."

More than 2m light commercial vehicles are sold in the EU annually, accounting for about one in eight vehicle sales.

In a 2007 policy paper on car emissions the commission envisaged a slightly more stringent target, saying the 175g/km limit could apply from 2012.

The proposal would be similar to that agreed recently on CO<sub>2</sub> emissions from passenger cars, whereby each manufacturer is given a fleet-specific target to ensure that the overall EU average goal is met.

Dudley Curtis at Transport and Environment, a green campaign group, said applying some of the technology developed for cars could ease the transition. He added that it was important to close the loophole that could allow passenger cars to be classified as trucks.

### **13. Transport's True Contribution to Climate Highlighted**

Carbon dioxide emissions from the EU transport sector are underestimated in official reporting because data submitted to the UN under the Kyoto Protocol do not include international aviation and shipping, green group T&E has argued in a report published this month.

Carbon emissions in the EU actually rose by more than 35% between 1990 and 2007 while emissions from other sectors decreased by 8.9%, says the green group. Aviation emissions more than doubled during that period, while CO<sub>2</sub> releases from shipping rose by 60%.

These two sectors accounted for 24% of EU transport emissions in 2007. Transport's share of total EU emissions has risen from 3.8% in 1990 to 6.9% in 2007, according to the T&E report. Emissions from shipping grew by 0.9% that year, compared with 2.8% for aviation.

The most recent official data from the European Environment Agency which excludes aviation and shipping emissions showed greenhouse gas emissions from the EU transport sector only rose 26% between 1990 and 2006.

### **14. Daimler Gets Funding for Hybrid Buses**

German manufacturer Daimler has announced that it was included in the Electric Mobility Model Regions development program set up by the German Ministry of Transport, Building and Urban Affairs (BMVBS). To be eligible for the funding, Daimler had to agree to launch the results of their research by late 2010.

According to the letter of intent signed between Daimler and BMVBS, the manufacturer will receive funding to develop, evaluate, and test the first small fleet of diesel-hybrid city buses able to run solely on electric power.

Eight model regions will be included in the program, to act as pilot test projects for Daimler. The manufacturer already announced it will use the money to further enhance and test the Mercedes-Benz Citaro G BlueTec Hybrid articulated bus. So far, it is the world's single bus able to run for several kilometers solely on electric power.

The manufacturer will test 30 of these buses in everyday operation in the selected regions. The Mercedes-Benz Citaro G BlueTec Hybrid provides 20 to 30 percent less fuel consumption figures, while cutting CO<sub>2</sub> emissions by about the same amount.

## 15. Germany Agrees Plan to Lead Electric Car Market

German Chancellor Angela Merkel's cabinet has agreed on a plan to get a million electric cars on Germany's roads by 2020 and transform the country into the world's top electric car market. The plan includes 500 million Euros (\$705.1 million) of funding for the construction of electric charging stations and programs to boost battery technology in Europe's biggest auto market.

"We're facing a paradigm change in the automobile industry," Transport Minister Wolfgang Tiefensee said at a news conference in Berlin. "It's our goal to reduce energy consumption and explore new energy sources if Germany wants to keep its place in the world as environmental leader."

Merkel's coalition government is aiming to slash greenhouse-gas emissions by as much as 40 percent by 2020 in a program that includes increasing the share of electricity from renewable sources to as much as 30 percent from 12 percent.

The electric-mobility program aims to build on Germany's automotive expertise when setting up "an efficient infrastructure" for electric cars, with a goal of more than 5 million electric vehicles by 2030, according to the 53-page document.

Germany's major automakers are developing platforms for electric vehicles and won't be able to roll out models until 2011, said Economy Minister Karl Theodor zu Guttenberg, a member of the Christian Social Union, the sister party of Merkel's Christian Democrats, at the news conference. "One million cars by 2020 is an ambitious but entirely achievable goal," Guttenberg said. "We're taking steps to ensure that Germany's automobile industry will preserve its leading role, that's why progress in this area is important."

The push to develop a viable electric car has been driven by the need to cut greenhouse gas emissions in order to curb climate change and reduce reliance on fossil fuels. Political support for greener transport has been growing. In an economic recovery package released last year, the European Union earmarked €5 billion for its Green Car Initiative.

The EU plan includes support for research into electric and hybrid vehicles, but also allocates funds for hydrogen powered-vehicles and fuel cell technology. High density batteries are seen as key to unlocking the problem of making electric cars compete with contemporary petrol engines.

According to EurActiv Germany, automotive analysts acknowledge that Germany is behind the pace in the "green-car" race, with countries as diverse as China, Japan and the US investing heavily in electric and other alternative technologies. This week, the Japanese manufacturer Nissan unveiled its all-electric Leaf, scheduled for mass-production in 2012, and other big car-makers including Daimler, Mitsubishi and General Motors have models ready for production.

In Europe, many countries have already introduced schemes, often more ambitious than the German one, to create markets for electric vehicles. Spain has pledged to put one million electric cars on the roads by 2014 while Portugal plans to put in place Europe's first national recharging network for electric vehicles.

The UK, on the other hand, plans to offer subsidies of up to £5,000 to encourage motorists to buy electric or plug-in hybrid cars. The German plan does not provide such direct incentives to opt for an electric car.

## **16. Portugal Proposes Incentives to Boost Electric Car Sales, Infrastructure**

On July 20<sup>th</sup>, Portuguese Prime Minister José Sócrates proposed a package of incentives and requirements to encourage the spread of electric cars and supporting infrastructure. To put Portugal “at the front line of countries trying hardest for sustainable mobility in favor of the environment,” Sócrates called for buyers of electric cars to receive an incentive of up to €5,000 (\$7,095). The amount could rise to €6,500 (\$9,223) if an older vehicle is traded in.

Under the plan, companies would receive a 50 percent corporate tax reduction on electric car purchases.

To help build a recharging infrastructure for these new cars, Sócrates said the government “shortly” will introduce legislation requiring new buildings to include recharging stations in garages. The ruling Socialist party has the absolute parliamentary majority necessary to approve the measures.

The moves came as Sócrates signed a memorandum of understanding in Lisbon with the Renault-Nissan Alliance to build an electric car battery plant in Portugal. The government will provide financial incentives and infrastructure improvements. With an initial investment of €250 million Euros (\$355 million), the plant is expected to open in 2012 with 200 employees and producing up to 60,000 lithium-ion batteries annually.

Sócrates said the use of electric vehicles will help to reduce carbon dioxide emissions and dependence on foreign oil. “Portugal is one of the first countries in the world to have a nationwide charging network for electric vehicles, named Mobi-E. This leadership has only been possible thanks to Portugal's decisive move towards renewable energies—43% of electricity consumed is produced from clean energies,” Sócrates said.

The Mobi-E network was launched in collaboration with local governments on June 29<sup>th</sup>. It aims to have 320 recharging stations in place in 2010 and 1,300 by 2011.

## **17. Paris Plans Zero-Emissions Car-Sharing**

Neither political wrangling nor a global economic crisis has managed to pull the plug on an ambitious plan by the Paris mayor's office to bring zero-emission car-sharing to the French capital by 2011. The concept is championed by Mayor Bertrand Delanoë as another step in the city's efforts to promote eco-minded alternatives to traditional urban transportation.

Known as “Autolib,” after the French words for “automobile” and “liberté” (freedom), the program will be modeled on the city's successful Velib bike-sharing system. Introduced in 2007, the fleet of roughly 20,000 bikes has proven to be a hit with Parisians and tourists in search of a quick and convenient way to get around the city.

After months of silence regarding Autolib – and rumors that the global recession could cancel it altogether – Le Figaro reports that further details of the car-share program will emerge this fall, when government officials return from summer holidays. According to Le Figaro, these fine points will include the location of the 1,400 vehicle parking stations (both in the city and surrounding suburbs), the vehicle booking process and membership costs.

## **18. Peugeot to Show Diesel Hybrid Sports Car at Frankfurt**

The Frankfurt Motor Show is the venue for the launch of the production version of the RCZ sports car; Peugeot will also take the opportunity to unveil the RCZ concept Hybrid4. The RCZ Hybrid4 will go on sale in Europe in mid-2011: a 2.0-litre HDi FAP diesel engine of 120 kW at the front and an electric motor of 27 kW maximum at the rear.

It offers a low level of fuel consumption and CO2 emissions for sports cars: 3.7 liters/100 km and 95 g/km of CO2, proof that sportiness can also be environmentally responsible. Power and torque figures suit the sporty pretensions of the RCZ Hybrid4, with a combined potential power of 147 kW and maximum torque of 300 Nm at the front and 200 Nm at the rear.

Peugeot's 6-speed electronically controlled manual gearbox, already used throughout the Peugeot range, is combined with the internal combustion engine due to its automatic operation mode and ability to optimize fuel consumption.

The 2.0-litre HDi FAP engine under the front bonnet powers the front wheels and the electric motor in the rear powers the rear wheels to create a four-wheel drive system. PSA Group's Hybrid4 vehicles are powered by an internal combustion engine (diesel) and an electric motor, which can operate independently or together.

The internal combustion engine operates mostly on main roads and motorway journeys. The electric motor takes over from the internal combustion engine during its less efficient phases, in particular when moving off or when driving at low speed or again on deceleration (energy recovery). This corresponds to the needs of the vehicle when operating in urban conditions.

This application reflects Peugeot's desire to offer Hybrid4 in different vehicles across its range – vehicles that may be very different (crossover, coupé...), based on different platforms, but with a common goal: to offer renewed driving enjoyment.

Peugeot has a lot of historical expertise to call upon for the electric element of Hybrid4 – to date, the Peugeot 106 Electric, marketed between 1995 and 2003, remains the best selling zero emissions vehicle in the world. In fact, the PSA Group has produced 10,000 electric vehicles.

## **19. Latvia Sets Environmental Priorities for 2009-15**

The Latvian government has announced policy guidelines setting priorities for environmental protection during the period 2009-15. The guidelines specify environmental policy objectives in five areas: air, water, land, nature and climate change.

Actions in coming years will focus on "priority tasks" because of an anticipated drop in public revenues, the government said last week. Priorities include improving air quality in cities, reducing eutrophication in the Riga Gulf and recycling. The decline in demand for recycled materials has made it hard to meet objectives in this area, according to the government.

## **20. Photovoltaic Sector Hit by Overcapacity Until 2012**

Solar panel production will outpace demand by more than 100% this year, according to a report by research firm iSuppli. This oversupply problem will continue until 2012, the firm predicts. Almost half of all solar panels produced this year will have to be stored in inventory as a result.

Manufacturers will be forced to cut production to reduce storage costs. Stocks will be absorbed when global demand is expected to pick up again after 2012.

Demand for solar panels has declined because of the financial crisis and Spain's recent decision to change its generous feed-in-tariff structure. In July, BP reported a significant drop in solar sales due to "ongoing demand weakness in the market".

The German solar industry is facing a serious crisis because of declining sales and growing competition from Asia, according to AFP. Last week, firm Q-cells said it will cut around 500 jobs following a drop in sales. In May, consultants Frost and Sullivan warned Europe's market leader position was being threatened.

### **21. Airlines Given Extra Time for CO2 Monitoring Plans**

Germany and the UK have postponed the first deadline for the aviation sector under the EU's emissions trading scheme (ETS) because of the delayed publication of a list dividing responsibility for administering the scheme among EU member states. More countries are expected to follow suit, including France. Member states are unable to know exactly which airlines are required to draw up emissions monitoring plans until the list is officially published. The initial deadline for submitting the plans was 31 August.

All stakeholders now reportedly agree this deadline is unrealistic. As a result, UK authorities have given aircraft operators approximately 11 weeks from the list's date of publication to submit their plans. The European Commission approves of the move.

A final list of aircraft operators was released by the commission's environment department on 5 August. A preliminary list issued in February has been considerably expanded. For example, the number of airlines to be regulated by the UK grew from 780 to 891. This list is important because it determines which member state will benefit most from carbon payments made by airlines once they join the EU ETS in 2012. The UK, France and Germany are expected to yield the largest revenues as they are the biggest administering countries.

Airlines flying into and out of the EU are required to submit plans outlining how they will monitor and report their annual greenhouse gas emissions and ton-kilometer data. Airlines must start monitoring their emissions from 2010. The data will help the commission to establish individual caps for airlines covered by the ETS.

### **22. Republic of Slovenia Amends Motor Vehicle Act**

The Government of Slovenia has approved amendments to the Motor Vehicles Act, particularly regulating the provisions which will reduce the extent of tax evasion in this area, as the Act comprehensively regulates more types of motor vehicle (including motorcycles and mopeds), modernizes the system of taxing motor vehicles by considering environmental criteria, and seeks to prevent double taxation (elimination of taxing used vehicles and the possibility of a rebate when exporting or leaving the country with a vehicle). Some amendments refer to coordinating and harmonizing provisions with the purpose of the Act.

The main innovation is that the amended Act is environment-oriented, as the tax system considers the Kyoto Protocol provisions on gradually decreasing air pollution due to greenhouse gas emissions, and the EU guidelines on taxing vehicles, which promote the taxation of motor



vehicles according to emissions of particularly CO<sub>2</sub> and pollutants which adversely affect air quality.

The key amendments introduced by the Act are the following:

- motorcycles and mopeds are also to be taxed
- the tax on motor vehicles already registered in Slovenia is abolished
- tax brackets are progressive and depend on CO<sub>2</sub> emissions; compared to the current level, the tax burden will fall for motor vehicles emitting less than 150g of CO<sub>2</sub> per kilometer and rise for vehicles above this level; for motor vehicles emitting between 150g and 210g of CO<sub>2</sub> per kilometer, which is about half of newly registered vehicles, there is a transitory period, with tax rates between the current ones and those stipulated in the Act, which will be fully enforced on 1 January 2011; due to the additional negative effects of the release of other pollutants, motor vehicles with diesel engines which do not reach emission level Euro 6 are taxed according to a higher rate than comparable motor vehicles with petrol engines; after the end of the period, when a remission of tax is still possible (i.e. after 31 December 2009), motor vehicles releasing up to 110 g CO<sub>2</sub> are to be taxed at a very low rate (0.5 per cent for petrol-fuelled motor vehicles and 1 per cent for diesel vehicles).

### **23. Russia: GAZ Group To Build New Diesel Plant**

Billionaire Oleg Deripaska's heavily indebted GAZ Group is set to receive some \$180.2 million in government funds to build a new plant to produce diesel engines. It's a fresh effort by the Russian government to prop up the country's battered auto industry.

Earlier this month, GAZ Group also received a \$642 million state guarantee on loans, the largest so far by the Russian government to a private company. The loan guarantee was to enable the automaker to undertake necessary restructuring of its debts, which has topped \$1.35 billion, with numerous lenders including the state-controlled Sberbank, its biggest creditor.

Sberbank, along with GAZ and the Canadian auto parts maker Magna are top bidders for General Motors' German unit, Opel.

The Yaroslavl auto-diesel plant, the first of its kind in Russia, will produce 4.0-to-6.6-liter medium-size diesel engines, which are needed to power the GAZ Group line of passenger buses and trucks including Valdai, Gazon, Ural and Tiger.

Some of the engines are to be reserved for heavy-duty construction machinery and equipment while about 40 percent of the plant's 40,000 to 50,000 projected annual output would be sold in the local market to plants building large tractors and harvesters.

Construction at the plant, located 155 miles northeast of Moscow, is expected to be completed within six months, with the first diesel engines hitting the market as early as the first quarter of 2010, the company's press service said.

The Yaroslavl auto-diesel plant was initially projected to cost about \$440 million and churn out 100,000 engine units annually. During a visit to Yaroslavl in December, Prime Minister Vladimir Putin promised that the government would allocate 10.7 billion rubles (\$344 million) of the \$440 million needed by the plant to boost production capacity to 100,000 units per year. But as the

financial crisis worsened, triggering sluggish sales, the auto-diesel project was scaled down by half to reduce the capital outlay on the project and preserve the crisis-hit automaker.

The new GAZ diesel engines are very similar in power and characteristics to those being produced by American Cummins in a joint venture with KamAZ, the local Daily Kommersant reported. KamAZ has also been pushing for state funds for its project, which was planned to produce 20,000 units annually but could now be scaled down due to the economic downturn, the paper said, citing factory sources.

Analysts said KamAZ would require as much as \$42 million to modify its new engines for local use. Meanwhile, AvtoVAZ, the country's largest automaker, said it may stop car production for a month starting August 3 because of slumping demand, Kommersant reported, citing Nikolai Karagin, the head of the plant's labor union. AvtoVAZ has declared a number of production stoppages in recent months as the crisis hit domestic car sales harder, causing slowdown in production. In November, the automaker announced plans to halt operations between December 29 and January 16, and again in February, productions were halted as the company failed to settle with suppliers of auto parts. The present suspension is aimed at cutting the carmaker's inventory in half, Kommersant reported.

#### **24. EU Ministers Adopt Tire Requirements to Better Fuel Efficiency, Lower Noise**

On June 23<sup>rd</sup>, Ministers from European Union member states formally adopted a regulation that will improve vehicle fuel efficiency, and thus environmental performance, through introduction of requirements for tires, tire pressure monitoring systems, and gear shift indicators. Under the revised rules, all new passenger car types introduced in the European Union starting in November 2012 must be fitted with low rolling-resistance tires and systems that tell drivers when tire pressures fall below optimal levels. Gear shift indicators—devices telling drivers the most fuel-efficient point at which to change gear—also must be included in new vehicle types from November 2012.

New models and makes of other vehicles, such as vans and trucks, must conform to the requirements starting in November 2013. The legislation will extend to all new vehicles—existing as well as new models and makes—in November 2014.

The EU Council said in a statement that the rule changes would reduce road noise. The Council highlighted in particular the fuel savings, and thus the lower carbon dioxide emissions, that could be achieved by use of low rolling-resistance tires.

The regulation was adopted at an EU Council meeting of agriculture ministers. The rules were approved by the European Parliament in March, meaning that the final legislation will enter into force when published in the Official Journal of the European Union.

The legislation will be implemented alongside separate laws on efficiency labeling of tires, which were approved by the European Parliament in April, but on which the EU Council has yet to agree.

#### **25. Scotland Seeks Public Input on Targets For Use of Low Carbon Vehicles by 2020**

Less than a week after pushing through climate change legislation, the Scottish government on June 29<sup>th</sup> launched a call for public comment, or consultation, on proposed targets for the use of

low carbon vehicles. The consultation proposes that by 2020, 95 percent of all new vehicles in Scotland will be low carbon and the public sector fleet will be exclusively low carbon.

"Emissions from transport have been increasing in recent years and a major uptake of low carbon vehicle technologies is required to reverse this trend," Climate Change Minister Stewart Stevenson said in a statement announcing the consultation.

The consultation document does not define "low carbon vehicle" by a measure of tailpipe emissions, given the differences in purpose and performance between a small car and a heavy goods vehicle. Instead, the document said it looks at the "full life cycle" of emissions, including whether vehicles are powered by alternative fuels or technologies and whether they are electric vehicles, plug-in hybrids, hybrids, stop-start/micro hybrids, or hydrogen-powered vehicles.

The European Union's long-term target is for new car tailpipe carbon dioxide emissions to average 95 grams per kilometer by 2020, the consultation document said.

The consultation period ends Oct. 2.

Under its new Climate Change Act, Scotland is required to reduce its greenhouse gas emissions by at least 42 percent compared with 1990 levels by 2020, higher than the 34 percent target mandated by parallel legislation passed last year by the United Kingdom, of which Scotland is part.

## **26. Car Makers Appear To Be Losing Fight Against EU R134a Ban**

Auto makers look set to fail in their attempts to delay an agreed 2011 European ban on climate-damaging chemicals in the air conditioners of new car models, a letter from the EU's industry chief shows. Automakers say they will need to invest an extra 40-200 Euros (35-172 pounds) per vehicle to meet the refrigerant standards, which would be difficult to pass on to consumers in the current tough economic climate.

The car sector's campaign has aroused strong opposition from environmentalists and suppliers of greener engineering systems.

The European Union decided in 2006 that from 2011 it would ban the use of fluorinated chemicals, such as the industry standard known as R134a, which have a powerful climate-warming effect when released into the atmosphere. The EU closed a legal loophole in April after learning that car makers were planning to use it to avoid the ban for new car models until 2017.

But car industry lobby group ACEA said auto manufacturers still needed two to three extra years.

European Industry Commissioner Guenter Verheugen appeared to rule that out in a letter seen by the press recently. "I would like to assure you of my commitment to ensure that the objectives of the legislation on mobile air conditioning systems are fulfilled," he wrote in response to a question posed in a European Parliament debate by British member Chris Davies. Verheugen sent supporting documents showing any delay would undermine the spirit of the legislation.

The emerging market for greener refrigerants pits industry giant Honeywell International with its HFO-1234yf coolant against rival carbon dioxide-based cooling systems such as that of Austria's Obrist Engineering, Germany's Ixetic and U.S.-based Visteon.

## **27. EU Issues Template for National Renewables Plans**

The European Commission has adopted a template for national renewable energy action plans (NREAPS), requiring member states to detail how they intend to reach their national targets for the share of renewables in their energy mix. The action plans are a feature of the new Renewables Directive, which entered into force in June, setting a binding target to source 20% of the EU's energy consumption from renewables by 2020. Member states must now fill in the template with sectoral targets for the share of renewable energy in transport, electricity, heating and cooling, and offer a trajectory for getting there.

The EU executive hopes that the common template will guarantee the completeness of the national plans, while making them comparable with each other and future implementation reports that member states will need to submit every two years.

European Energy Commissioner Andris Piebalgs said the template would help member states to produce a "credible plan which in turn will help the EU to meet its targets on time".

A progress report published in April showed that the EU was falling short of its 12% renewables target for 2020, and the Commission had initiated 61 legal proceedings since 2004.

The 40-page document asks member states to specify what policies they plan to enforce on biomass resources and on implementing sustainability schemes for biofuels. National action plans will also have to include details on "enabling measures", such as revision of building codes, information campaigns, support schemes and the planned use of flexibility measures. Member states will also have to state what steps they are taking to cut red tape on administrative procedures and to spell out any "unnecessary obstacles". To further help the integration of renewable electricity into the grid, infrastructure development plans should be reported, including reinforcement of interconnections with neighboring countries.

Each member state will now have until 30 June 2010 to submit its plan to the Commission, which will assess whether it reflects national targets and trajectories. Should the EU executive rule a plan insufficient, it can start infringement proceedings against the member state concerned.

In the scope of the Renewables Directive there is a special 10% target for renewables in transport. The calculation of this target is quite complex. For example:

- electricity used in road transport counts 2.5 times
- biofuels from waste and residues count 2 times

Member States also have to provide a specific trajectory, on how they are going to meet their transport target; however, there are no indicative intermediate targets for the transport target (there are intermediate targets for the overall renewable energy target).

## **28. EU Biodiesel Output up 35 Percent, Capacity Growing**

Production of biodiesel in the European Union rose by more than 35 percent in 2008 and capacity will grow again this year although half the plants are idle due to poor demand, according to the EU producers group. The Brussels-based European Biodiesel Board (EBB) said the European production of biodiesel, by far the main biofuel made in the bloc, had reached 7.76 million tons last year putting the EU's global market share close to 65 percent.

However, the EBB qualified the 2008 rise as "moderate" compared to the jump of 65 percent in 2005 and 54 percent in 2006 but the rise was only at 17 percent in 2007.

"In line with the trend initiated in 2007, the year 2008 saw a relatively small increase in EU biodiesel production, and even a reduction in two major producing Member States, Germany and Austria," the EBB said in a statement.

"This situation has to be understood primarily against the background of unfair international trade competition which has severely affected the profitability of EU biodiesel producers since early 2007," it added. The EU last week endorsed a proposal by the Commission, the 27-member bloc's executive arm, to extend for five years its anti-dumping tariffs against cheap U.S. biodiesel imports. The move was welcomed by the EBB, which had complained that EU producers were being hammered by U.S. subsidies. "This decision will help re-establishing EU producer's legitimate right to operate in a level-playing field," it said.

In addition to a fall in demand mainly linked to strong U.S. competition, EU producers have also suffered from slumping margins as the fall in crude oil prices over the past year was not compensated by a similar drop in vegetable oils prices. Even if the EU will have total biodiesel production capacity of close to 21 million tons this year -- a rise of 31 percent on the year -- the EBB said 2008 and 2009 statistics showed that at least 50 percent of existing plants remain idle.

### **29. Britain Investing \$1.8 Billion in Expanding Electrification of Rail Network**

Britain will invest 1.1 billion pounds (\$1.8 billion) to expand its electrified rail network, taking the overhead lines into Wales for the first time, the government has announced. The project will pay for itself because electrified lines use cheaper equipment than the diesel-powered trains now in use, the government said.

Work will begin immediately on an eight-year project to electrify the mainline from London Paddington to Cardiff and Swansea in Wales, including the branch to Oxford, Transport Secretary Andrew Adonis said.

The second project involves a 30-mile (50 kilometers) line between Manchester and Liverpool.

The electrified lines will offer "faster journey times, more seats, greater reliability, improved air quality and lower carbon emissions than their diesel equivalents, as well as being cheaper to buy, operate and maintain," Adonis said.

Electric lines now account for a third of the route miles on Britain's rail system, placing it well below many European countries. Switzerland's rail lines are 100 percent electrified, while France and Germany are above 50 percent.

## **NORTH AMERICA**

### **30. Vehicle Emissions Rule Sent to White House for Review**

On August 25<sup>th</sup>, the U.S. EPA and the Transportation Department sent draft rules to the White House for review that would impose first-ever federal greenhouse gas standards at the tailpipe and boost car and light truck efficiency standards for model years 2012-2016. The actions follow the administration's May announcement of plans for a joint vehicle fuel-efficiency and emissions policy. The administration plans to boost corporate average fuel economy standards to reach 35.5 miles per gallon in 2016, which is faster than required under a 2007 law that would increase CAFE standards to 35 mpg by 2020.

EPA is planning a carbon dioxide limit under the plan -- which will apply to passenger cars, light-duty trucks and medium-duty passenger vehicles -- that would reach an average of 250 grams per mile per vehicle in 2016. Meeting the CO<sub>2</sub> limits will almost entirely come from making more efficient autos, although improvements to air conditioning systems can also play a role.

While it is not clear when the joint rulemaking will be formally proposed, the agencies likely need to complete the efficiency rules by March 31, 2010, to meet the statutory requirement that CAFE standards be completed 18 months before the next model year begins. Model years begin October 1<sup>st</sup>.

EPA's vehicle emissions rules can go into effect only if the agency has finalized its proposed "endangerment" finding, released in April that greenhouse gas emissions endanger human health and welfare. The finding is a response to a landmark 2007 Supreme Court decision that paved the way for Clean Air Act regulation of greenhouse gas emissions if EPA reaches this conclusion.

On May 19, 2009, challenging parties, automakers, California, and the federal government reached agreement on a series of actions that would resolve these current and potential future disputes over the standards through model year 2016. In summary, the U. S. Environmental Protection Agency and the U. S. Department of Transportation agreed to adopt a federal program to reduce greenhouse gases and improve fuel economy, respectively, from passenger vehicles, to achieve equivalent or greater greenhouse gas benefits as the Pavley regulations for the 2012 – 2016 model years. Manufacturers agreed to ultimately drop current, and forego similar future legal challenges, including challenging a waiver grant, which occurred June 30, 2009. For its part, California committed to: (1) revise its standards to allow manufacturers to demonstrate compliance with the fleet average greenhouse gas emission standard by "pooling" California and Section 177 State vehicle sales; (2) revise its standards for 2012-16 model year vehicles such that compliance with EPA-adopted greenhouse gas standards would serve as compliance with California's standards; and (3) revise its standards as necessary to allow manufacturers to use emission data from the federal Corporate Average Fuel Economy (CAFE) program to demonstrate compliance with the Pavley regulations.

California has proposed amendments to the Pavley regulations to address the first and third commitments made by California. Amendments to the regulations that will be needed to implement the second commitment are scheduled for presentation to the Board for consideration in December of this year.

The EPA vehicle proposal suggests that EPA is nearing a final "endangerment" finding that global warming emissions threaten health and the environment. EPA is also poised to send over its separate first-time proposal to establish a threshold for requiring GHG limits in certain air permits, while facing tight deadlines for decisions on a slew of other climate-related policies.

While EPA rushes to propose and finalize its three key climate policies, the agency could at any time move on several pending petitions from states officials, environmentalists and others urging the agency to issue GHG rules for aircraft, marine vessels, nonroad vehicles and other sources.

EPA Administrator Lisa Jackson in a recent memo on an air permit challenge acknowledged that once the GHG vehicle rules are issued then the air act requires the agency to issue a rule setting a threshold for when prevention of significant deterioration (PSD) permits must include GHG controls. PSD permits would be required for GHGs because GHG emissions would be defined as regulated under the air act but not criteria pollutants regulated under national ambient air quality standards. The permits would require best available control technology to reduce GHGs.

### **31. EPA Approves California Auto Emissions Standard**

The Obama administration has approved California's long-standing bid to set its own tough standards for vehicle emissions, a decision in tune with a national plan to boost fuel efficiency and reduce greenhouse gases linked to climate change. These standards are immediately effective for California and for 13 other states and Washington D.C., which have adopted the same standards, officials at the Environmental Protection Agency said.

By granting this request, the Environmental Protection Agency said it recognized California's need for a tight emissions program that included limits on climate-warming gases.

National standards match California's goal for cuts in greenhouse gas emissions by 2016. The EPA waiver allows the state to enforce standards for 2009-2011, before the federal targets take effect, but manufacturers should have little difficulty making the goals.

California also has a host of other vehicle regulations, from car windows that reflect more sun to cut air conditioning loads to checks on tire pressure.

In a brief statement, EPA said this decision marked a return to the "traditional legal interpretation of the Clean Air Act," an apparent swipe at the Bush administration, which balked at granting this waiver and at imposing any mandatory economy-wide limits on climate-warming emissions.

The announcement came just four days after legislation aimed at curbing climate change was narrowly approved by the House of Representatives, and more than a month after Obama ordered the struggling auto industry to cut emissions and improve gas mileage on May 19.

"This decision puts the law and science first. After review of the scientific findings, and another comprehensive round of public engagement, I have decided this is the appropriate course under the law," EPA Administrator Lisa Jackson said in a statement.

California first requested the normally routine Clean Air Act waiver from EPA in 2005. The request was denied by the Bush administration in 2008. Shortly after taking office in January, Obama directed EPA to revisit the denial.

Gov. Arnold Schwarzenegger of California hailed the EPA decision: "After being asleep at the wheel for over two decades, the federal government has finally stepped up and granted

California its nation-leading tailpipe emissions waiver." Schwarzenegger said this would spur his state's emerging green economy, create new jobs and "bring Californians the cars they want while reducing greenhouse gas emissions."

Governors from the other affected states offered similar plaudits.

### **32. EPA Proposes Stronger Air Quality Standards for Nitrogen Dioxide**

For the first time in more than 35 years, EPA has proposed to strengthen the nation's nitrogen dioxide (NO<sub>2</sub>) air quality standard that protects public health. The proposed changes reflect the latest science on the health effects of exposure to NO<sub>2</sub>, which is formed by emissions from cars, trucks, buses, power plants, and industrial facilities and can lead to respiratory disease.

"We're updating these standards to build on the latest scientific data and meet changing health protection needs," said EPA Administrator Lisa P. Jackson. "In addition to limiting annual average concentrations, we're preventing high NO<sub>2</sub> levels for shorter periods of time and adding stronger monitoring in areas near roadways, where the highest levels of NO<sub>2</sub> are often found. This will fill gaps in the current standard and provide important additional protections where they are needed most."

EPA's proposed revisions apply to the primary NO<sub>2</sub> standard and would:

- establish, for the first time, a one-hour NO<sub>2</sub> standard at a level between 80 – 100 parts per billion (ppb),
- retain the current annual average NO<sub>2</sub> standard of 53 ppb,
- add NO<sub>2</sub> monitoring within 50 meters of major roads in cities with at least 350,000 residents, and
- Continue monitoring "area-wide" NO<sub>2</sub> concentrations in cities with at least 1 million residents.

If EPA set the hourly standard at the upper end of the proposed range, 100 ppb, only one city, Chicago, would likely be in nonattainment based on existing monitoring information. A number of other cities -- LA, Riverside, Phoenix, Buffalo, Denver, NYC, New Jersey, would be brought in at the lower end of the proposed range, 80 ppb.

These proposed standards and additional monitoring requirements would protect public health by reducing people's exposure to high, short-term concentrations of NO<sub>2</sub>, which generally occur near roadways. The proposal would also ensure that area-wide NO<sub>2</sub> concentrations remain below levels that can cause public health problems.

Current scientific evidence links short-term NO<sub>2</sub> exposures, ranging from 30 minutes to 24 hours, with increased respiratory effects, especially in people with asthma. These effects can lead to increased visits to emergency departments and hospital admissions for respiratory illnesses, particularly in at-risk populations such as children, the elderly, and asthmatics.

EPA first set standards for NO<sub>2</sub> in 1971, establishing both a primary standard to protect health and a secondary standard to protect the public welfare at 53 ppb, averaged annually. Annual average NO<sub>2</sub> concentrations have decreased by more than 40 percent since 1980. All areas in the United States are well below the current (1971) NO<sub>2</sub> standards with annual averages ranging from approximately 10 – 20 ppb.



### **33. EPA Can Enforce Stringent Air Pollution Standards, Federal Appeals Court Says**

A federal court has given the U.S. EPA the OK to enforce more stringent standards to reduce fine particle pollution or soot. The U.S. Court of Appeals for the District of Columbia Circuit rejected nearly all challenges to the new EPA standards brought by nine cities and counties, 10 power industry groups and three states.

It affects more than 200 counties nationwide, primarily in California and the industrial Midwest.

Soot is comprised of microscopic particles released from smokestacks, wood-burning stoves and automobiles that contribute to haze and can get into the lungs and cause lung and heart problems.

The new standard is designed to protect the public from exposure to air pollution particles that are 2.5 microns or smaller -- about four times the diameter of a human hair.

### **34. EPA Advisors Urge Agency To Revisit Diesel Risk Studies, Monitoring**

EPA's environmental justice advisors are urging the agency to quickly revisit its 2002 assessment of the risks posed by diesel exhaust, a move that would help the agency better quantify cancer risks nationwide since a recent air toxics study precluded consideration of the health effects of diesel particulate matter (PM) due to insufficient data.

Developing a risk value would also allow EPA and states to evaluate the negative health effects of ports and freeways on nearby communities.

A just-released report by a special panel of the National Environmental Justice Advisory Committee (NEJAC) examining the impacts of goods movement outlines a host of new initiatives in addition to the risk assessment that the panel says EPA should undertake to mitigate the health effects of diesel emissions on environmental justice communities, including increased monitoring, an inventory of potentially impacted communities, new rules to drive cleaner engines and incentives to finance an engine fleet modernization effort.

The NEJAC panel released its final report at the July 21 full committee meeting. The report is the first from NEJAC under the Obama administration and comes amid EPA Administrator Lisa Jackson's appearance before the panel, where she reiterated her commitment to place environmental justice at the forefront of agency decision-making.

"Environmentalism doesn't come in any shape or color," Jackson said at the meeting, adding that environmental justice is a "force multiplier," and that in order to fulfill its obligations to protect human health and the environment, the agency demands a "robust environmental justice program."

The call for a new diesel risk assessment appears to have broken a logjam in the panel over how to address diesel emissions, allowing panelists to sidestep a thorny debate over whether to call for stricter emissions standards. Instead, panelists called for the agency to re-investigate its health risk assessment for diesel exhaust, pursuant to the agency's own recommendation that it do so when it issued its current risk assessment study in 2002. The report also says more recent research suggests that the agency should reconsider developing an exposure value for diesel exhaust that considers health risks besides cancer.

“Considering research that has occurred in the interim, and evaluating the need for further research, EPA should . . . reconsider adopting a unit risk value for diesel exhaust,” the report reads. “In its scientific review, EPA should consider other health outcomes from diesel emissions, including cardiovascular and respiratory illnesses.”

The report also calls for increased local monitoring because central site monitors do not adequately reflect the higher levels of exposure that communities face in proximity to goods movement. In addition, fine particle measurements do not fully reflect the levels of diesel emissions to which residents are exposed, the report says.

The study further suggests that health impact assessments (HIAs) should be conducted prior to the construction of any new or expanding major transportation hubs that might be covered under the National Environmental Policy Act (NEPA), citing the existing practice of some EPA regional offices to require HIAs for certain “ports and freeway expansion projects.” HIAs measure the impact of a given project on a number of variables, including air and noise pollution and other quality-of-life impacts like limited access to parks.

The recommendations come as EPA has recently acknowledged that it lacks sufficient data to adequately quantify the risk of exposure to diesel exhaust. EPA says the latest version of its National Air Toxics Assessment (NATA) -- for 2002 data released June 24 -- very likely understates average cancer risks from directly inhaling air toxics in the United States because the data exclude the effects of diesel PM, which is among the most dangerous source of pollutants. EPA says in its NATA fact sheet that it does not have sufficient data to develop a quantitative estimate of the carcinogenic potency for diesel PM, although the agency “has concluded that diesel exhaust is among the substances that may pose the greatest risk.”

The NEJAC goods movement report also suggests that the agency take on the task of developing an inventory of communities nationwide that are or could be adversely impacted by goods movement by port and rail, thus creating a tool to identify impacted areas and develop better policies to mitigate those impacts.

“EPA should establish . . . a list of the largest ports and rail yards in the United States, and complete the analysis of demographics near port and rail facilities that was begun in conjunction with the 2007 Locomotive and Marine Engine Rule,” the report reads. “This will allow EPA to better understand the goods movement locations where significant environmental justice concerns may exist, even though community residents may not have raised concerns.”

Coordination with other federal agencies is also necessary, the report says, in order to fund and undertake research projects that can fill in gaps in a report by the Health Effects Institute published in May that studied traffic-related emissions exposures. Those gaps include exposure to coarse, fine and ultrafine particulate matter; toxicological studies; epidemiological studies on affected communities; and cumulative impact studies related to goods movement activities.

The report suggests EPA develop a “three-way funding partnership with” the National Institutes of Health and the Department of Transportation and should “include community-driven research and participation, including outreach and education.”

### **35. Navistar Cites CARB Letter in Challenge Against SCR**

The selective catalytic reduction process that most engine manufacturers will use to comply with 2010 federal diesel emission standards could emit toxic byproducts, the California Air Resources Board's top researcher wrote in a recent letter filed in federal court by Navistar Inc. Navistar, which is suing the U.S. Environmental Protection Agency in federal appeals court, filed the letter on July 30<sup>th</sup> and said it bolsters the truck maker's claim that EPA could be endangering public health by skipping the federal rule-making process in its approval of SCR.

Written to "alert" a Boston nonprofit organization planning tests on 2010 engines, the letter said that SCR technology represents a "large departure from conventional emission controls by introducing a liquid additive containing an organic form of nitrogen."

Navistar has asked the court to determine whether EPA violated federal rulemaking requirements by issuing a guidance memorandum on SCR. It said the letter helps show that "skipping the rigors of rulemaking means EPA and CARB have put the public at risk by allowing SCR on the highway now, when it may turn out that the cure is worse than the disease."

The June 12<sup>th</sup> letter, written by Bart Croes, chief of CARB research, to the Health Effects Institute, said that a comprehensive literature search showed that the "primary concern is the release of organonitrogen compounds, many of which are carcinogenic or toxic in other ways."

"Some toxic air contaminants that have been identified with SCR technology include hydrogen cyanide, cyanic acid, nitromethane, hydrazine, acrylonitrile, acrylamide, acetonitrile, and acetamide," Croes wrote in his letter. "It is hoped that any exotic substances emitted from SCR technology will be at levels insignificant to exposure health effects."

"Although we are encouraged by findings to date, which suggest that the technology can deliver significant reductions of many species of toxicological relevance, this work has also documented the increase in some emissions such as some metals, nitrous oxide and nanoparticles," CARB's letter said.

SCR systems reduce NO<sub>x</sub> in the aftertreatment by mixing the exhaust output with diesel exhaust fluid, a blend of pure urea and demineralized water, through a catalyst that converts NO<sub>x</sub> into harmless nitrogen and water vapor.

Navistar, Warrenville, Ill., manufacturer of International trucks, is the only engine maker planning to use exhaust gas recirculation to meet EPA's 2010 emission standard. The manufacturers using SCR include independent truck engine manufacturer Cummins Inc.; Daimler Trucks North America and its engine subsidiary, Detroit Diesel Corp.; Volvo Group America and Volvo subsidiary Mack Trucks.

Daniel Greenbaum, president of the Health Effects Institute, said the letter was sent for a study of emissions and the safety of new advanced engine systems and fuels. "In that context, we're taking input ideas from a variety of the sponsors who are involved in the project, CARB being one of them," Greenbaum said. The CARB letter suggests that a number of chemicals be added to the 700 chemicals that HEI already plans to test on the 2010 engines to evaluate for potential health effects.

### **36. Idaho Commissioners Propose Trial Emissions-Testing Program To Get Data**

Pressured to curb vehicle emissions under a new state law, Canyon County commissioners have proposed implementing a voluntary emissions-testing program as a one-year pilot program

with cash incentives to encourage testing. The proposal is intended to meet the requirements of a new state law requiring local governments in airsheds approaching federal pollution limits — in this case, for ozone — to take action. The law requires DEQ to evaluate whether the proposed alternatives target vehicle emissions and would reduce ozone precursors as much as regulators estimate a mandatory testing program would. If DEQ finds that requirement is not met, the law requires the agency to create a testing program without local input.

“Canyon County cares about the Treasure Valley’s air, and we are determined to make a difference for the entire airshed with this voluntary program and its incentives and actually remove the vehicles that are causing emissions problems,” commission Chairman David Ferdinand said.

The Commissioners sent a letter to Department of Environmental Quality Director Toni Hardesty outlining their proposal, which includes setting aside \$50,000 in the county’s 2010 budget to help low-income residents repair their vehicles if needed to meet emission standards. They also propose an incentive program that would put some of the proceeds from testing fees into a fund to support a drawing for \$5,000 cash cards. Every time a Canyon County vehicle was tested, the owner’s name would be noted, and at the end of the year several names would be drawn as winners of \$5,000 cash cards. The number of names drawn would be determined by how many cars were tested.

“Once this program is up and running, we will have an accurate idea of what percentage of vehicles registered in Canyon County do not meet emissions standards and will use this quantifiable data as we revisit the issue and determine whether a permanent vehicle emissions testing program would be beneficial,” commissioners said in the letter.

Canyon County residents have traditionally resisted the idea of mandatory emissions testing, which has been the policy in neighboring Ada County for many years.

“We hope within a year that we can go back to the Legislature and ask that they reconsider the law,” Commissioner Kathy Alder said. “We need monitoring that covers the entire area and not just one spot. The law also needs to consider other types of emissions and not just vehicles, which cause the same problems but are not addressed in this legislation.”

Nampa and Caldwell have drafted letters expressing support for the county’s approach to the issue and stressing measures that have already been taken such as public outreach efforts and implementation of burn ordinances and no-idle policies.

Under the county’s proposal, voluntary testing would be administered for \$20 at certified new vehicle dealerships. Of that \$20, part would go to the dealer, part would go to a “hardship repair fund” and part would enter a pool of prize money for annual drawings.

DEQ modeling estimates a mandatory testing program would reduce nitrous oxides and volatile organic compounds, which react with sunlight to create ozone, by 114 tons and 138 tons respectively. Alternatives proposed by Canyon County and its incorporated cities must target vehicle emissions and demonstrably be able to match those numbers to meet the requirements of state law.

Canyon County’s letter argues that although the law specifically targets vehicle emissions, other measures to curb ozone pollution should not be ignored.

The county and local cities have shifted some workers to four-day weeks, provided free training sessions to help local businesses cut their emissions and encouraged local fueling stations to install vapor recovery equipment, among other voluntary and educational measures.

The letter also proposes instructing police to more aggressively pull over and ticket vehicles that are obviously heavy polluters. Offenders would pay a fine, which would be rescinded if they tested their vehicle and completed and necessary maintenance, it states.

The debate over local emission testing has often been contentious, with a dedicated group of vocal critics questioning the scientific basis for the state law and whether emission testing works.

If DEQ rejects the proposed alternatives, the agency could operate a testing program itself, partner with Ada County's existing program or hire a private contractor to operate a program.

Exemptions in the law for vehicles model-year 1980 or older or 2003 or newer would mean a testing program would apply to only 119,346 of a total 182,176 vehicles registered in Canyon County. That number would be further reduced by exemptions for diesel, hybrid and electric vehicles; farm equipment; and vehicles used solely for agriculture.

Nampa, the largest city in the County, doesn't want an auto emissions testing program. The city council voted unanimously to present an alternative to the testing to DEQ. Right now the city is working with local businesses to help clear the air such as vapor recovery at fuel stations and no-idling policies for city vehicles. Alternatives include working with DEQ and other local governments to create a testing program, provide an acceptable alternative targeting vehicle emissions or do nothing and let DEQ establish a program with no input from local officials.

### **37. Idaho Newspaper Says Emission Tests Delay Hurts Air Quality**

Recently, the Nampa and Caldwell city councils voted against adopting a local vehicle emissions testing program. Instead, the cities want to pursue alternatives with the state's Department of Environmental Quality. The editorial position of the Idaho Statesman, which is an unsigned opinion expressing the consensus of the Statesman's editorial board, disagreed with that position.

According to the editorial, "a Valleywide emissions testing program isn't some boondoggle to ding motorists for \$20 every two years. Nor is it a sneaky ruse to generate dollars for a public awareness effort. It is a central component to a comprehensive air quality campaign. These tests target the tailpipe emissions that, as the Air Quality Council put it 29 months ago, "contribute significantly" to the Valley's air pollution problems.

Lawmakers agreed in 2008. That's why they passed a law requiring an inspection program for all vehicles. If the DEQ follows the letter of the law - as it should - it will not settle for incremental steps that apply only to city workers, and not the thousands of people who commute every weekday morning from Canyon County."

The editors further noted that downwind of Canyon County, emissions testing has been the law in most of Ada County for 25 years.

A yellow air quality alert was in effect in the Treasure Valley Friday. The culprit, as is typical in midsummer, was ozone. Same old unhealthy air, to match the same old delays.

### **38. Portland Parking Officers Reap Millions with Unregistered Car Tickets**

The good news for Portland clean air lovers, according to a new city audit, is that parking enforcement officers are doing their job and ticketing unregistered automobiles. That means more money for the parking bureau and the potential for cleaner air.

Every vehicle made after 1974 in the Portland area needs to pass an emissions test to be registered by the state. Testing is required every two years for most cars. In 2002, a state law made it harder for car owners to use temporary permits to bypass emissions testing.

Auditors, in their first review of the question, found enforcement officers were checking tags and ticketing otherwise properly parked vehicles for registration violations. Vehicles that fail the inspection produce, on average, four times the amount of air pollution than vehicles that pass, auditor's report said.

The not-so-good news is that the parking fines -- \$40 for failing to display registration in Portland -- are too low, said Auditor LaVonne Griffin-Valade. "This may create an incentive for individuals to violate the vehicle registration law, or to view noncompliance as low risk." Multnomah County Circuit Court is considering an increase to \$60, which still would be lower than the \$90 maximum allowed for a class D violation.

The city splits fines with the Circuit Court. In fiscal 2008, the city's share of money from fines was \$3.8 million, or 3 percent of the Transportation Bureau's operating fund.

The most frequent parking violations in 2008:

- Overtime meter: 118,180
- Expired or failure to display registration: 13,140
- Loading zone: 12,761
- Overtime parking: 11,266
- No front or rear plate: 9,689

### **39. Report Critical of North Carolina Auto Inspection Programs**

A new report has found that there is little or no evidence that North Carolina's auto safety inspection program is effective and it's difficult to gauge whether the auto emissions program does any good for the environment. The report by the state's Program Evaluation Division suggests that given improvements in seat belts, air bags and other safety features and the fact that only a small percentage of cars fail the tests, a safety inspection may no longer make sense. It recommends that lawmakers reevaluate both programs and either repeal the safety inspection program or at least exempt newer vehicles.

The report also criticizes state oversight of the programs.

The Joint Legislative Program Evaluation Oversight Committee asked the Program Evaluation Division to study the programs.

North Carolinians face two types of inspections: a safety inspection of various mechanical systems required by state law in all 100 counties for vehicles less than 35 years old; and a diagnostic emissions inspection to ensure proper functioning of pollution controls for all 1996

and newer model year vehicles. Only vehicles registered in 48 counties are subject to the emissions inspection.

North Carolinians spend \$141 million annually on inspections. It costs the Division of Motor Vehicles (DMV) and the Division of Air Quality \$40.8 million to administer both inspection programs.

Out of the state's total 6.3 million inspections, 1.9 million are safety-only and 4.4 million are emissions inspections. Failed inspections accounted for only 5 percent of all inspections overall. Vehicles failing the safety inspection were most likely to have defective tires (26%), stoplights (20%), windshield wipers (20%), license plate lights (15%) or steering mechanisms (14%), according to the report.

Among the 33 states with an emissions inspection program, 21 states exempt at least current model year vehicles from inspection; 10 states exempt at least vehicles from the three newest model years. North Carolina only exempts current model year vehicles from its inspection programs.

The researchers looked at whether the safety and emissions inspection programs are identifying mechanical defects and requiring their repair to keep unsafe cars from operating on North Carolina roadways, thereby reducing loss of life and property damage; and controlling the pollutants from mobile source emissions.

North Carolina's crash data from the Division of Motor Vehicles (DMV) shows the number of cases in which a vehicle's mechanical condition may have contributed to an accident was only 1 percent of all crashes statewide. "Furthermore, because law enforcement personnel are not mechanics and receive a minimal amount of training in compiling and reporting accident data, it is unlikely a true assessment of how many accidents result from mechanical defects is possible," the report says.

As for the emissions program, the researchers did find that in 2007—a year marked by severe drought and record-breaking heat— North Carolina violated ozone level on 66 days, compared to 101 "bad ozone" days a decade ago. However, the report says it is "not clear how much of the improvement can be attributed to the mobile emissions inspection program."

The report criticizes a lack of thoroughness and uniformity in current auto inspections from inspection state to inspection station. While a complete inspection should take between 15 and 30 minutes, the researchers found, on average, inspections fail to meet this standard and there is "a wide fluctuation in inspection duration." "Given the average inspection lasted between five and six minutes, it is questionable how thorough an inspection the average consumer is receiving," the report says.

The auditors found that technicians cheated on the inspections, sometimes omitting several required steps. During one of the observations, the technician told the customer that even if there was something wrong with the customer's vehicle, he would still pass it because this customer is a "regular."

Older vehicles are more likely to fail safety and emissions inspections. For safety inspections, vehicles from model year 1981 to 2001 had a higher failure rate than the overall safety failure rate (3.3%), whereas vehicles from model year 2002 and newer had lower failure rates. Similar results were found for emissions inspections. Vehicles from model year 1996 to 2001 had a

higher failure rate than the overall emissions failure rate (2.6%), whereas failure rates for vehicles from model year 2002 to 2007 were lower. "These findings indicate greater emphasis should be placed on monitoring the safety components and emissions functioning of older vehicles," the report says.

The report recommends that because newer vehicles (model years 2002-2007) were found to be less likely to fail inspection, "it may be unnecessary to require them to undergo annual safety and emissions inspections."

If the state repealed the safety inspection program, it would lose \$2 million in fees. But citizens could save as much as \$33 million in inspection related costs a year, according to the report.

Exempting older vehicles (three newest model years) from a safety inspection would affect about 15 percent of the state's car owners and cost the state only \$143,000 in fees. The analysis suggests that this exemption would not reduce the inspection program effectiveness.

It also recommends exempting newer vehicles from the emissions test since they are less likely to fail. If the state limited emissions inspections to older vehicles, there would be a \$6.3 million reduction in fees collected.

The report alleges lax oversight of the inspections by the state DMV and urges lawmakers to require DMV to come up with an improvement plan.

#### **40. North Carolina To Enforce Vehicle Inspection Law**

Most drivers in North Carolina will no longer be able to renew their vehicle registration if they're overdue an inspection. The state Division of Motor Vehicles will now begin enforcing a law that originally took effect on November 1<sup>st</sup>, said Assistant DMV Director Tracy Keel. It's part of the state's e-sticker program, which eliminated windshield decals.

But the DMV received complaints about enforcing a requirement involving people who moved into the state, or those who bought cars registered in other states. Keel said some new residents were inconvenienced by having to pass a safety and emissions inspection before their registration trip to the DMV. Under a modification to the law signed by Gov. Bev Perdue this month, new residents can register a vehicle without getting an inspection. But they won't be able to renew their registration after 12 months without the inspection.

As part of the e-sticker program, emissions and safety results are transmitted from the inspection station to a central state computer. DMV offices will be hooked up to the computer so clerks know whether a vehicle has been inspected when an owner tries to register it, according to Keel.

About 500,000 vehicles are registered for the first time in North Carolina every year. There are about 6 million registered vehicles in the state.

The ultimate goal is to raise the state's 80 percent compliance rate for inspections.

Motorists who live in rural counties have been able to avoid inspections involving emissions testing, Keel said. Emissions-testing equipment at inspection stations is monitored from DMV headquarters to track which vehicles pass or fail.



To help with compliance, inspection and renewal deadlines will be synchronized for all vehicle owners in the state, Keel said. After the process is completed in a year or two, owners won't have to get their vehicles inspected and registered at different times of the year.

Military personnel, as well as students and people who work out of state for extended periods, may still renew their registrations by mail.

They are exempt from the vehicle inspection requirement for up to a year.

#### **41. Bill To Weaken North Carolina Program Defeated**

North Carolina Tire Dealers & Retreaders Association (NCTDRA) Executive Director Reece Hester announced that proposed North Carolina Senate Bill 849, which would have done away with vehicle safety inspections and cut emission testing fees almost in half, has been defeated. "There were a lot more compelling reasons to keep the program in place than not," he says.

Fifty counties out of 100 in North Carolina charge \$30 for emission testing. The bill would have reduced the fee to \$16.40, says Hester, who notes that the bill was proposed following "a poor report on the DMV Inspection program" by an evaluation oversight committee.

Hester spoke on behalf of the NCTDRA at the Senate Commerce Committee meeting representing the inspection station owners of the state, including a large number of tire dealers.

"Had this bill passed, we, and the state, would have seen a mass exodus of dealers getting out of the inspection business. No business people just want to do emissions that are required by the federal government. Customers with bald tires, improper tail lights, windshield wipers, tinting, etc, would just pass right through our shops creating unsafe road travel for the motoring public.

#### **42. New Penalties in the Works for Tailpipe Testing in Utah**

County health departments have, since the beginning of the state's emissions-testing program more than two decades ago, been in charge of setting penalties for testing stations that bungle the job. But the Legislative Administrative Rules Review Committee thinks it might be time to rein in the locals by capping the penalties that counties with tailpipe-testing programs can mete out. Members have agreed unanimously to draft a bill to impose that limit.

The proposed regulation would apply to service stations and vehicle inspection sites licensed by health departments to check if vehicles are emitting too much pollution.

Only Utah, Salt Lake, Davis and Weber counties have the programs now. But changes in federal law mean that Cache, Box Elder and Tooele counties likely will look at emissions testing as a way to help reduce air pollution.

The legislative committee decided the state regulation should be changed after hearing the stories of two Weber County emissions-testing shops that were fined by the health department. Both Craig Butters, owner of SPS American Car Care Center in Roy, and Dave Hanline, of Woodruff Auto Service Inc. in Ogden, told the panel they have been nearly run out of business by the Weber-Morgan Health Department's heavy-handed enforcement. The two small business owners said they have gone to court to fight fines against them.

Their attorney, Joe Chambers, noted that penalties for violations can exceed \$10,000, which is equal to the fine that can be assessed in a murder or rape case. He suggested lower penalties and said \$1,000, comparable to the fine in a drunken-driving case, might be appropriate.

Testing shops also can be shut down for what are considered serious violations, such as substituting one car to get a successful emissions test, and stripped of its testing license forever if it has three violations within two years.

Chris Allred, of the Weber County Attorney's Office, and Health Department Director Gary House disputed some of the representations made by Hanline and Butters, but said their remarks had to be limited because of the litigation over the penalties against the two businesses.

Allred urged the legislators to hear first from other shops that do emissions testing -- many of which have never had a violation -- and the other counties that are affected.

"I think you need to hear from unbiased parties before we go down this path," he said.

#### **43. Ford Plug-In Cars Will Link with Power Grids; Looks to Electric Vehicles**

Ford Motor Co. said that it has developed technology that will help consumers manage the recharging of plug-in electric cars - by allowing the car to communicate with the electric grid so the owner can program when and how the car is recharged.

While General Motors Co. continues to be in the spotlight for its plans to introduce its extended range Chevrolet Volt next year, Ford's plug-in hybrid plans, announced earlier this year, have received less attention. Ford plans to introduce an electric version of its Transit Connect commercial van next year, as well as an electric Focus compact car in 2011. Ford also plans to introduce a plug-in hybrid electric vehicle and next-generation hybrid electric vehicle in 2012.

Ford said that electric vehicles are an important element of the company's strategy for improving fuel economy and reducing CO2 emissions. But he emphasized that developing the cars is just one part of what's necessary to prepare the nation for electric vehicles.

"We are well on our way to delivering the vehicles, but for widespread adoption the infrastructure to support the technology needs to be in place and we need to ensure that the national electric grid can support increased electric demand," Nancy Gioia, Ford's director, sustainable mobility technologies, said in a statement.

#### **44. GM Weighs Revamp Of Pickups, SUVs For Improved Fuel Economy**

A year after shelving the project, General Motors is reviving plans to revamp its range of full-size trucks, with a focus on improved fuel economy. Trucks and SUVs had been GM's most profitable U.S. business segment, but industry sales collapsed last summer in the wake of record gasoline prices. Amid a flurry of product launches aimed at reversing market share declines, GM is weighing options on the best way to refresh a truck line that was last overhauled in 2006. Any truck revamp will focus heavily on improving fuel economy, said Bob Lutz, GM's vice chairman and chief marketing officer.

Sales of SUV and pick-up trucks have seesawed as a proportion of total industry sales over the past year, partly in response to fuel prices.

Speaking to reporters at an event to show off GM's new U.S. vehicle lineup, where fuel-efficient vehicles like the tiny Chevrolet Aveo and efficient Chevy Equinox crossover took center stage, Lutz said virtually all development dollars spent on trucks will go toward improving fuel mileage.

The shift in focus is a sharp turnaround from just a couple of years ago when companies raced to top each other based on the size and hauling capacity of their trucks. But volatile fuel prices scared many consumers off the hefty vehicles, while the sinking economy put pricey pickups and SUVs out of reach for more and more Americans.

Tougher federal fuel economy and emissions regulations and a growing green movement have forced auto companies to shift the focus from building brawn to delivering better fuel mileage.

Full-size trucks and SUVs accounted for more than 18% of U.S. auto sales at their peak in 2005. This year, the share is down to 11%, according to Edmunds data. GM, Ford and Chrysler dealers remain largely overstocked in both full-size trucks and SUVs, according to Edmunds. But those that do sell generally go for anywhere from \$30,000 to \$50,000, while cars like the Chevrolet Cobalt and Ford Focus can go for half that. But GM and its Detroit-based rivals can't easily abandon trucks, as profit margins are generally in the thousands of dollars beyond those of passenger cars.

GM's pickup truck line is now the most dated of Detroit's auto makers, although it has tweaked options and added some hybrids to the lineup. Ford reportedly has no plans to revamp its pickup truck portfolio other than adding more fuel-efficient technology such as its turbo-charged direct injection EcoBoost technologies. EcoBoost allows engines to produce more power while improving fuel efficiency. The company completely refreshed the F-150 lineup when it introduced the 2009 model late last year. The truck was given more interior features and a stronger, lighter frame to help in improving fuel performance.

Chrysler also redesigned its Dodge pickup truck last year plowing more money into the interior of the vehicle.

#### **45. Minister Sees 4% Decline in Mexico's Oil Output In 2010**

Oil production by Mexico's state-owned Petroleos Mexicanos (Pemex) will average 2.5 million b/d in 2010, down 4% from levels in this year's first half and down 5.7% from previous estimates, according to Energy Secretary Georgina Kessel. Given the decline, Kessel said it is "very important" that the energy sector supports Pemex in expanding capacity, referring to proposed legislation by President Felipe Calderon that is aimed at opening Pemex to private investment and partnerships.

Kessel's remarks on production figures followed earlier statements by Pemex officials, who said that the decrease to 2.5 million b/d was a "preliminary estimate" by Pemex Chief Executive Officer Jesus Reyes Heróles in remarks published by Mexico's Reforma newspaper.

They said Pemex, which has an oil production goal of 2.65 million b/d for 2009, actually saw output fall by 7.8% to 2.561 million b/d in July compared to the same month in 2008.

They said 58.1% of Pemex's July production was heavy crude, 31.5% light crude, and the remainder super-light crude. They said 76.8% of its production came from marine regions, while 19.4% came from the southern region, and the rest from the north.

The amount of oil available for exports has been reduced by the decreased production figures as well as by increased domestic demand. Exports dropped by 14.8% to 1.2 million b/d during the first half, compared with 1.4 million b/d in first-half 2008.

Regardless of the exact figures, Pemex's reduced output is largely due to declining production at the aging Cantarell field, which saw a 35% decrease year-on-year in the first 7 months of 2009. According to analyst IHS Global Insight, Cantarell field reached peak production of more than 2.1 million b/d in 2004, but its output has since plummeted "precipitously" to just 588,000 b/d in July 2009.

Pemex hopes to raise its overall oil production by seeking contractors to drill 200 oil wells in the country's southern district, with drilling slated scheduled to start in early October and last for 3 years.

On July 30, Pemex said it would keep to its target of nearly \$20 billion in capital expenditures for 2009 despite the current oil price slump. In 2008, Pemex's total investments reached \$18 billion, up from just \$5.1 billion in 1998. Last year's boost in spending clearly has not stabilized production, however, and analysts reportedly remain skeptical of the company's spending plans for 2009.

#### **46. Pemex Settles On New Refinery Site; To Upgrade Another**

Mexico's Petroleos Mexicanos (Pemex) said it has settled on a site at Tula in Hidalgo State to construct a \$9-billion refinery, and will modernize another facility at Salamanca in nearby Guanajuato state for \$3 billion. According to Pemex Chief Executive Officer Jesus Reyes Heroles, Hidalgo was the first of the two states to acquire the 700 hectares the firm needed for the refinery, ending a contest between the two over which would host the new facility.

The contest began shortly after mid-April when Pemex announced plans to build the refinery in Tula while simultaneously carrying out a reconfiguration of the Salamanca refinery in Guanajuato state.

But Hidalgo failed to produce the needed 700 hectares within 100 days of the original announcement, and Pemex then said the new refinery would go to whichever state acquired the land first, while the other state would have its existing refinery reconfigured. According to Heroles, the Hidalgo government was the first of the two states to complete "all the necessary requirements to guarantee legal certainty on land ownership that the state company requires."

The 300,000 b/d facility to be built in Tula is expected to come on stream in 2015, while the expansion of the Guanajuato facility will be ready by yearend 2014.

Reyes said it will cost \$673 million less for Pemex to build the refinery in Tula than in Salamanca, largely because of lower costs for pipelines and transport. Detailing figures, Reyes said that a total of \$859 million will be invested in pipelines for the Tula refinery, compared with \$1.28 billion if the Salamanca site had been chosen.

Reyes said Tula was chosen also because it can use 70,000 b/d of residual fuels produced at existing refineries in the area, compared with just 50,000 b/d at the Guanajuato facility.

#### **47. Auto, Ethanol Industries Prepare for Battle over Harkin's FFV Mandate**

The auto industry is preparing a major lobbying push seeking to defeat legislation introduced by Senate Agriculture Committee Chairman Tom Harkin (D-IA) that would require automakers to produce flex-fuel vehicles (FFVs) that can run on high-grade ethanol fuel blends, while ethanol lobbyists supporting the bill say the measure could be attached to climate legislation and sweeten the deal for skeptical mid-western senators.

After successfully defeating a similar proposal in the House, an auto industry source acknowledges that defeating Harkin's proposal "could be more of a challenge" in the Senate because of the chamber's larger proportion of corn-state lawmakers who want to ensure that ethanol producers have a robust market for the fuel.

On August 6<sup>th</sup>, Harkin and Sen. Richard Lugar (R-IN) introduced S. 1627, The Consumer Fuels and Vehicles Choice Act, which would mandate that auto manufacturers produce FFVs for 50 percent of their vehicles by 2011. The bill would increase that to 90 percent by 2013. The legislation would also mandate that gas stations install a certain amount of ethanol pumps and authorizes billions of dollars in incentives to install the pumps.

#### **48. U.S. Grants \$300 Million for Alternative Fuel Vehicles**

The U.S. Energy Department will award nearly \$300 million to a clean cities program to help communities buy alternative-fuel vehicles, Vice President Joe Biden and Energy Secretary Steven Chu have announced. The funding from the U.S. government's economic stimulus package is designed to encourage states and cities to reduce dependence on oil by helping pay for more than 9,000 alternative-fuel and energy-efficient vehicles, the Energy Department said. It will also establish 542 fueling and recharging stations for the vehicles, the department said.

One project will complete a 700-mile regional liquid natural gas (LNG) fueling corridor connecting infrastructure in Southern California and LNG fuel stations being developed in Utah. The corridor will be along one of the nation's busiest trucking routes.

Overall, the department estimated the funding will help the clean cities program save about 38 million gallons of petroleum annually.

Chu said the vehicles will mostly be American made, providing a boost to the lagging U.S. auto and manufacturing industries.

#### **49. Battery Coalition, GM Will Soon Float Vehicle CO<sub>2</sub> Allowances Proposal**

An advanced battery coalition that includes automotive giant General Motors (GM) this fall will circulate proposed legislative language that would modify the House bill's cap-and-trade system by establishing a cash-for-clunkers-like program under which consumers would receive carbon credits if they purchase all-electric, hybrid-electric, or plug-in electric vehicles, thereby lowering the cost of such cars and helping to build a market, according to coalition sources.

In a coalition policy memo the group argues that H.R. 2454 falls short in its provisions intended to accelerate the creation of an advanced vehicles market. In response, the coalition will propose changes to the Senate climate bill that would allocate "consumer allowances" through a vehicle CO<sub>2</sub> allowance program that the group believes would create the market conditions

needed for automakers to continue manufacturing and promoting electric vehicles. The Senate is using the House bill as a starting point in drafting its own bill.

The Battery Electric Vehicle Coalition (BEVC) “believes that a set-aside pool of CO<sub>2</sub> allowances for BEV [battery electric vehicle] purchasers will be more effective in spurring production than the demonstration programs, retooling grants, and the other indirect incentives contained in the House cap-and-trade bill,” according to the memo. BEVC says the Waxman-Markey bill’s programs are commendable, but only “nibble at the margins of the fundamental problem,” which is the comparatively high cost of the vehicles.

Unless the cost problem is effectively addressed, auto manufacturers will be cautious in ramping up BEV production, says the memo. According to the group, for now BEVs will cost much more than internal combustion engine vehicles powered by fossil fuels. Without the CO<sub>2</sub> allowances, BEVs and other advanced vehicles will remain “niche applications” and not achieve deeper market penetration, says the memo.

The BEVC proposal could be framed as a much more aggressive version of the popular cash-for-clunkers program. Results from that program have spurred GM to re-open production lines and hire back manufacturing staff to produce more BEVs. The BEVC estimates the proposed cost reduction for consumers would be \$3,200 for each vehicle purchased, especially in the early years of the cap-and-trade program. But, if the cost savings were combined with tax incentives available for vehicle purchases -- such as the \$7,500 tax incentive for plug-in hybrid vehicles under the 2008 economic stabilization bill -- the costs would be significantly lower and make BEVs and advanced electric vehicles competitive with fossil fuel vehicles.

#### **50. NYC Tests Hybrid Garbage Trucks, EVs**

The New York City Sanitation Department will add several hybrid electric diesel collection trucks to its fleet. New York City Mayor Michael R. Bloomberg announced the additions as part of his PlaNYC to reduce the city’s overall carbon emissions in the next two decades.

Three new hybrid refuse collection trucks will soon be picking up residential garbage in the city, and a hybrid rack truck, designed for heavy duty snow removal, will see its debut this winter. The vehicles are intended to decrease overall truck emissions, fuel consumption, and noise as they hit the streets to aid in collecting the more than 11,000 tons of garbage and recycling gathered in NYC every day.

One of the collection trucks is a Mack TerraPro Low Entry model and the other two are from the Crane Carrier Corporation. The rack truck is a Kenworth T370 diesel-electric hybrid truck.

The Mayor announced two other developments this week in his city’s effort to use alternative fuel vehicles: the New York City Street Conditions Observation Unit (SCOUT) plans to field test ten all-electric MINI E vehicles, and Bloomberg’s administration is launching a formal study of the electric vehicle market in New York City.

The MINI E vehicles are on loan from BMW group, and the SCOUT Inspectors will provide feedback to BMW regarding the efficiency of the cars. Some 450 MINI E vehicles, which travel about 100 miles on a single charge, are currently part of a year-long field study across the U.S.

#### **51. DOE Raises Diesel Price Forecast for 2010**

The Department of Energy held its diesel price forecast for 2009 steady at \$2.46 a gallon, but bumped its projection for next year by a nickel from a previous forecast. Trucking's main fuel will average \$2.84 in 2010, DOE said in its monthly short-term energy outlook — up slightly from the \$2.79 it forecast last month.

In its latest weekly pump-price survey, DOE said the national average price of diesel was \$2.625, the highest price since late November. Diesel averaged \$3.80 last year, peaking on July 14, 2008, at a record \$4.764 a gallon.

Gasoline will average \$2.34 this year, down slightly from the \$2.36 predicted last month, DOE said. The most recent weekly survey showed a 9-cent increase to \$2.647. This year's prices are well below last year's \$3.26 average, a record. The single-week record high for gas was \$4.114 a gallon, set on July 7, 2008.

DOE also lowered its forecast for crude oil, saying it will average \$59.94 a barrel, down slightly from the \$60.35 it projected last month. The 2010 forecast was unchanged at \$72.42. Oil averaged \$99.57 per barrel last year and set a New York Mercantile Exchange closing-price record of \$145.29 last July.

## **52. Activists Cite Clunkers Data to Push Vehicle Efficiency Fee-Bate Bill**

Environmentalists are arguing that data on the Cash for Clunkers program indicating a growing consumer interest in fuel-efficient vehicles suggest that the time is ripe for Congress to enact legislation recently introduced by Senate energy committee Chair Jeff Bingaman (D-NM) and three co-sponsors that would establish both incentives for consumers to purchase fuel efficient cars and penalties for companies that manufacture gas-guzzling vehicles.

Co-sponsors of the legislation -- whose fee-bate incentives mechanism has already been debated in a number of states -- include Sens. Olympia Snowe (R-ME), Richard Lugar (R-IN) and John Kerry (D-MA).

On August 6<sup>th</sup>, the senators introduced S. 1620, The Efficient Vehicle Leadership Act of 2009, which gives consumers a rebate for purchasing vehicles that are above the corporate average fuel economy (CAFE) standard and imposes a fee on manufacturers that build vehicles below the CAFE standard. The rebates would kick in for model year 2011 cars, but the fees wouldn't come into effect until model year 2013, effectively giving manufacturers some breathing room to consider the fees as they plan for production.

The rebates and fees would be incorporated into the tax code and would eventually replace a number of other incentives and penalties for purchasing vehicles. The bill has been referred to the Senate Finance Committee.

The Senate Energy & Natural Resources Committee estimates that a consumer who buys a car like the Honda Civic or the Ford Focus, both of which get good mileage, would receive a \$1,000 rebate. The hybrid Toyota Prius would be eligible for a \$4,000 rebate while the plug-in hybrid Chevrolet Volt could get a rebate worth nearly \$8,000.

On the disincentives side, a Hummer H3, for example, would face a \$2,500 fee.

## **53. States and Cities Using Stimulus Money To Clean Up Diesels**

Summarized below are just a few of the many examples where funding is being used to clean up existing diesels.

a. Oakland Port Program

Air quality regulators are taking steps to reduce so-called diesel particulates in a neighborhood where increasing cases of asthma, chronic lung disease and cancer have sounded the alarm about the long-term health effects of heavy industry. Representatives from the Bay Area Air Quality Management District, U.S. Environmental Protection Agency, California Air Resources Board and the Port of Oakland have announced a \$22 million program designed to replace and retrofit about 1,000 of the 2,000 or so diesel trucks that service the port.

"We have a lot of unhealthy air caused by the operation of the port and the highways surrounding the West Oakland area," said Damian Breen, state grants program manager at the Bay Area air district. "This is part of the district's attempts to address those problems."

About 800 trucks will be outfitted with specially designed particulate filters and 200 more trucks will be replaced. Officials say the project should cut diesel truck emissions by about 85 percent at the port. By Jan. 1, state regulations require that certain high-polluting trucks be banned from the port.

For decades, the fates of the 25,000 or so residents of West Oakland have been closely tied to the waterfront's multiple uses: U.S. Navy base, ship building and the daily comings and goings of untold numbers of cargo containers. But in recent years, researchers have found such operations exact a high price. In fact, the Bay Area Air Quality Management District has found cancer rates in West Oakland three times that of the region.

b. New England Truck Rebates

The Environmental Protection Agency (EPA) has awarded approximately \$1.1 million in grant monies to Cascade Sierra Solutions for a project that will provide rebates to New England-based truck owners who install fuel-saving and emissions reduction technology. Dubbed, the "Great SmartWay Rebate Program," the project was developed to achieve significant reductions in diesel emissions by providing a rebate incentive to truck owners to install up to three pieces of fuel-saving and emissions reduction equipment per truck, and up to 188 pieces per fleet.

According to Cascade Sierra, the equipment choices may include: idle reduction devices, aerodynamic fairings, reduced rolling resistance tire/wheel sets, efficient transport refrigeration units and exhaust system controls. The non-profit organization anticipates subsidizing over 1800 upgrades to Class 8 diesel trucks and trailers. All equipment will be EPA and/or California Air Resource Board (CARB) certified. This project is consistent with EPA's SmartWay Transport Partnership, which promotes energy efficiency and emissions reduction technology and strategies within and across freight modes, including trucking.

Funds are provided under the American Reinvestment and Recovery Act (ARRA) of 2009, National Clean Diesel Funding Assistance Program. Under this funding competition, EPA Region 1 alone (which includes the New England states) received over 30 grant applications requesting \$35.8 million to help fund clean diesel emissions projects. The awards announced were chosen to both maximize economic impact and emissions reductions.



"Investing in Clean Diesel projects through the Recovery Act is a down payment on protecting health, improving air quality, helping the economy and creating jobs in our communities," said Ira Leighton, acting regional administrator of EPA's New England office. "New England has some of the highest rates of asthma in the country. By reducing diesel emissions - especially in urban areas - we are helping thousands of our neighbors to breathe easier."

According to the EPA, pollution from diesel engines is a widespread problem across New England and it significantly contributes to air pollution, especially in urban areas. EPA New England is working to advance cleaner diesel engines, promote pollution control technology, prevent unnecessary idling and ultimately, "make the black puff of smoke that can come from these engines an image of the past."

#### c. Salem to Retrofit Diesel Engines

Federal stimulus money will help the city of Salem retrofit diesel engines in its fleet to reduce emissions. Salem is sharing the \$1.6 million grant with the city of Portland and Multnomah County. Salem's share is about \$255,000.

The money will pay for the installation of particulate filters and oxidation catalysts on 28 of the city's diesel-powered vehicles. The city has 126 diesel-powered pieces of equipment.

"The diesel particulate filters are primarily devised to reduce the amount of particulate matter that goes into the air," said Don Thomson, Salem's fleet and warehouse superintendent. "If you were to look at an old fire truck and a new fire truck with the filter, you would see black smoke coming out of the old one and nothing out of the new one. It takes that dark particulate matter out."

Thomson estimates that the retrofits will reduce particulate matter by 80.2 percent, hydrocarbons by 86.9 percent and carbon monoxide by 86.7 percent.

The project will help Salem meet some of its objectives under its environmental action plan, completed in January.

The money is provided under the American Reinvestment and Recovery Act of 2009 National Clean Diesel Funding Assistance Program.

### **54. EPA Reconsidering Lead-Monitoring Plans**

The EPA has announced that it is reconsidering plans to beef up its airborne lead monitoring network in response to a petition from environmental and health groups. In May 2008, the U.S. Environmental Protection Agency tightened limits on airborne lead by a factor of 10 and announced an expansion of its shrinking surveillance network to cover 259 power plants, smelters and other facilities emitting half a ton of lead per year. Such a monitoring program was deemed necessary to ensure that all communities meet the EPA's stricter standards.

But less than two days before the final rule was to be announced on October 17, the White House Office of Management and Budget pressured EPA to reduce its plans to include only facilities that emitting a ton or more of lead per year.

In January, the National Resources Defense Council, Physicians for Social Responsibility and other groups petitioned the EPA to reconsider that decision. In their petition, they wrote, "The

decision on the source-oriented monitoring threshold represents a triumph of politics over science—at the expense of public health—and should be reconsidered.”

Lead can cause kidney, heart and even brain damage, particularly in young children. Removing lead from gasoline reduced lead emissions by 87 percent, but thousands of facilities still spew the metal into the air and water.

### **55. Ontario Rebates Aim To Spark Electric Car Sales**

The province of Ontario has moved to reduce the sticker shock of plug-in hybrid and battery-electric vehicles by offering rebates of between C\$4,000 (\$3,570) and C\$10,000, starting July 1, 2010. Ontario Premier Dalton McGuinty said the aim was to have one out of every 20 vehicles in Canada's most populous province to be electrically powered by 2020.

"This will be the most attractive rebate, certainly in North America," McGuinty said at a press conference. "It may be the most attractive rebate ... in the world."

Buyers of electric cars will also get special green license plates that will allow them to use carpool lanes, even if there is only one person in the vehicle, as well as access to public charging facilities and parking at Ontario government and GO Transit commuter lots.

The government also committed to adding 500 electric vehicles to its public service fleet.

The size of the rebate will depend on the vehicle's battery capacity. Plug-ins can be more environmentally friendly than regular gasoline-electric hybrids as they can run purely on electricity, but the need for bigger batteries makes them more costly.

McGuinty made the announcement while standing in front of a Chevrolet Volt, a plug-in electric hybrid that General Motors Corp plans to roll out by late 2010. The Volt is expected to cost US\$40,000, with the large, lithium ion battery making up a good chunk of the cost.

California-based company Better Place is partnering with Ontario to build the public charging facilities. It also plans to develop a more extensive infrastructure network for electric vehicles in the province and will be opening an electric car demonstration center in Toronto in about a year.

All the major auto manufacturers plan to introduce some form of plug-in hybrid or battery-electric vehicle over the coming years.

### **56. Electric Cars Could Dominate U.S. Roads in 2030 Under Battery Ownership Plan**

Electric car sales could jump to 86 percent of U.S. light vehicle sales in 2030 if consumers don't have to buy batteries themselves, according to a new University of California, Berkeley study. The company Better Place and emerging rivals plan to offer pay-per-mile plans, similar to cell phone minutes. A family would buy a car but Better Place would own the battery, offer charging stations, and swap out batteries as needed to extend the driving range.

The cost of building charging systems will be more than \$320 billion over the next couple of decades, although health-related savings due to less vehicle pollution could be \$210 billion, according to the study by economist Thomas Becker. The main benefit to drivers would be cars with price tags and operating costs similar to or less than gasoline models.

Renault-Nissan is making cars for the Better Place project. Better Place has said its system would be cheaper than using gasoline. The Berkeley analysis predicted the per-mile cost of making and charging batteries, including the cost of building a charging system, would be similar to or sharply less than a gasoline car, depending largely on whether prices of petrol rise.

### **57. AT&T Accepts Keys to All-Electric Cargo Truck**

AT&T has accepted the keys to its new all-electric cargo truck. AT&T, along with three other companies, received one of six trucks delivered by Smith Electric on Capitol Hill - the first in a series of next-generation, all-electric commercial vehicles entering service across the United States. The vehicle, known as the Smith Newton, is the world's largest electric battery-powered truck and the first commercial all-electric truck to achieve new vehicle emissions certification in California. Acceptance of the vehicle comes on the heels of AT&T's announcement in March of a 10-year, \$565 million commitment to deploy more than 15,000 alternative fuel vehicles in its fleet.

"AT&T is committed to minimizing dependence on imported sources of fuel and exploring new automotive technologies to reduce our environmental impact," said Jerome Webber, Vice President of Fleet Operations. "This type of truck can help us accomplish both by further decreasing our emissions and increasing our fuel savings."

The Smith Newton provides AT&T with a new alternative fuel option to trial, in that the truck does not directly release greenhouse gas emissions, runs without noise or vibration and stores electric energy during stopping through regenerative braking. AT&T will use the truck primarily to transport cargo to various AT&T locations within its service territory.

The Center for Automotive Research (CAR) in Ann Arbor, Mich., estimates the new vehicles will save 49 million gallons of gasoline, reduce the country's need for imported oil by one million barrels and reduce carbon emissions by 211,000 metric tons over the 10-year deployment period. That is equivalent to removing the emissions from more than 38,600 traditional passenger vehicles for a year.

The trial of the Smith Newton truck is consistent with AT&T's overall business strategy to test and assess a mix of technologies that may be right for its service needs. This strategy began with the deployment of four electric hybrid passenger vehicles in late 2007 and 105 alternative-fuel vehicles in more than 30 U.S. cities in 2008. Through these successful pilot programs, AT&T learned that a mix of solutions is right for its fleet and that multiple technologies can help reduce operating costs over time, while effectively reducing its fuel consumption and impact on the environment.

AT&T will assess the repair and maintenance costs associated with an electric battery vehicle, maximum and average mile range between charges, energy costs to operate an all electric vehicle, acceleration and performance of the truck and driver feedback on the overall performance.

In addition to deploying the Smith Newton vehicle, AT&T expects to spend an estimated \$350 million to purchase about 8,000 compressed natural gas (CNG) vehicles over the next five years. AT&T's investment represents the largest U.S. corporate commitment to CNG vehicles to date. CAR estimates that this will support or create more than 1,000 jobs for each of the five year CNG deployment

AT&T will also invest about \$215 million to replace retiring gasoline-powered passenger vehicles in its fleet with alternative-fuel models. AT&T expects to replace 7,100 passenger cars over the next 10 years. The alternative-fuel vehicles will be used by employees in a variety of diverse work functions across AT&T's operations. They also are expected to offer up to a 39 percent improvement in fuel economy and to reduce greenhouse gas emissions by up to 29 percent over traditional gasoline-powered passenger vehicles.

In addition to taking steps to make its fleet more efficient, AT&T is committed to helping its customers make their commercial fleets more efficient via a portfolio of fleet management products and services. Using AT&T's nationwide mobile broadband network and GPS partner solutions, AT&T provides fleet managers with the ability to actively manage their vehicles, increase efficiency and reduce fuel and insurance costs. Nearly all of AT&T's own technician vehicles are equipped with similar GPS capabilities, which have provided increased visibility into business operations and allowed AT&T to uncover opportunities to improve efficiency and reduce costs.

### **58. General Motors' Fuel-Cell Work May Be In Danger**

General Motors, a leader in development of hydrogen fuel-cell vehicles, may have to curtail its cutting-edge work unless it gets another \$50 million to \$70 million from the government, GM's outgoing research chief warns. GM just emerged from a painful bankruptcy restructuring in which it cut 1,100 dealers; shed Pontiac, Hummer and Saturn; and lost thousands more jobs. Yet, through it all, GM maintained its hydrogen research program pretty much intact, even though fuel-cell vehicles are still years away from going on sale.

"The program has not slowed down at all," says Larry Burns, GM's retiring vice president of research. "The issue is, going forward, do we have sufficient money to operate at that rate?"

Trying to seek federal research dollars, directly or indirectly, comes at a sensitive time for GM. As of last month, the automaker had either accepted or been approved for \$49.4 billion in government bailout funds, Automotive News reported. It has not had direct grants from the government for its hydrogen program.

Now, General Motors is in talks with "government and private entities" about grants or partnerships in hydrogen vehicle research, confirms GM spokesman Alan Adler.

Under Burns, GM has become known for its fuel-cell work. "They have done so much original, groundbreaking work in this area," says Catherine Dunwoody, executive director of the California Fuel Cell Partnership.

Burns, 58, says he decided to retire to give the new GM fresh research leadership under Alan Taub, 54, who, he says, will continue with the same direction. Besides creating fuel-cell prototypes, GM is conducting a field test of 115 Chevrolet Equinox hydrogen SUVs.

But fuel cells are costly, few fueling stations exist, and mass acceptance is considered years away.

Energy Secretary Steven Chu cut \$100 million from the \$168 million hydrogen research budget to focus instead on battery electric cars, which show more short-term promise. There are moves in Congress to restore hydrogen funding.

Burns says GM must continue hydrogen funding to stay ahead of Japanese, South Korean and German automakers that have their own programs. "The design we're working on right now would just knock your socks off," he says. But to maintain leadership, "It has put us in a position where we are going to have to rely on the federal government."

### **59. Port Of Wilmington Switching To Biodiesel**

The Port of Wilmington is installing a new fuel-handling system as it makes the switch to biodiesel, the N.C. State Ports Authority has announced. The Ports Authority has been working for several years to reduce its environmental footprint.

In July 2007, as part of an effort to reduce pollution, the Ports Authority began using ultra-low sulfur diesel (USLD) as its primary diesel fuel to operate cargo-unloading machinery – three years before federal requirements. Now it is switching to biodiesel – a blend of 20 percent bio-product and 80 percent USLD. It's a change the authority said is expected to cut emissions of particulate matter, hydrocarbons, carbon monoxide, carbon dioxide and sulfur dioxide as much as 20 percent.

The new fuel system systems in Wilmington and the Port of Morehead City will replace existing diesel storage tanks and systems that are approaching the end of their useful life, ports spokeswoman Karen Fox said.

The existing equipment will be sold through the state as surplus property, she added.

The Ports Authority said two biodiesel tanks – holding 20,000 and 10,000 gallons of fuel – will be installed at the Port of Wilmington by Jones and Frank Corp. of Raleigh. One 10,000-gallon tank will be installed at Morehead City.

A N.C. Clean Air grant is funding \$104,000 of the \$126,000 cost, with Ports Authority revenues paying for the balance, the ports said in a statement.

### **60. Automakers Worry About More Ethanol In U.S. Gasoline**

Major automakers asked the U.S. Environmental Protection Agency not to approve higher blends of ethanol in gasoline until the agency has adequate test results showing the fuel would not damage vehicles. Ethanol is now approved to make up 10 percent of U.S. gasoline in cars and trucks. Ethanol producers want the government to allow higher ethanol blend levels up to 15 percent, or E15, as more ethanol will be required each year under federal law.

However, the Alliance of Automobile Manufacturers said increasing the blend rate to beyond 10 percent ethanol, or E10, would affect vehicle emissions, performance and durability. "We urge EPA to delay any decision on blends higher than E10 for the existing fleet until adequate testing results are available," the group said in a comment letter sent to the agency.

The trade group represents 11 car and light truck manufacturers including BMW Group, Chrysler, Ford, General Motors, Jaguar Land Rover, Mazda, Mercedes-Benz, Mitsubishi Motors, Porsche, Toyota and Volkswagen.

The group said because the EPA has never allowed automakers to use gasoline blends with more than 10 percent ethanol, companies have never had a reason to design, test or warrant vehicles for the U.S. market that use higher ethanol blends. "EPA lacks sufficient data to make a

sound-science based judgment about E15 (or any gasoline-ethanol blend between E10 and E15)," the group said.

Growth Energy, the association of U.S. ethanol producers which requested the higher blend, said its position is supported by science. "Multiple studies by government agencies and academic institutions, conducted on more than 100 vehicles, 85 engine types and 33 fuel dispensing units all conclude that E15 has no adverse impact on an engine's performance, maintenance or emissions," Growth Energy CEO Tom Buis said in a statement.

Congress required 9 billion gallons (34 billion liters) of ethanol and other biofuels to be blended into gasoline last year. The amount will rise annually toward 36 billion gallons a year in 2022.

The EPA has until December 1 to decide whether to allow a higher ethanol blend beyond the current E10 level.

### **61. AAA Also Asks EPA to Reject Petition to Increase Ethanol in Gasoline**

AAA, the nation's largest automobile club, is calling for the Environmental Protection Agency (EPA) to reject a petition that would increase the permissible content of ethanol blended in gasoline to 15 percent, or E15, from the currently allowed 10 percent, commonly known as E10.

"While AAA supports the integration of alternative fuels into the nation's fuel supply, additional data is needed on the potential impact associated with the use of E15 gasoline over time on the country's vehicle fleet," said AAA Vice President of Public Affairs Kathleen Marvaso. "Therefore, AAA is opposed to increasing the ethanol content in gasoline to 15 percent without unbiased, objective research first proving that E15 will not damage engine systems and component parts, compromise vehicle performance and fuel efficiency, or increase vehicle emissions."

After reviewing the petition, AAA identified the following areas of concern:

- Potential negative impact on vehicle exhaust emissions - There are substantial concerns about increased NOx output that is likely to result from increased cylinder temperatures generated by leaner air/fuel ratios under certain operating conditions.
- Degradation of engine operability in cold start-up conditions - Most vehicle systems operate from factory calibrated parameters until the vehicle engine and exhaust systems reach a temperature sufficient to support full feedback operation. The increased oxygen content of E15 could cause a stalling or stumbling condition before the engine reaches the minimum temperatures needed to support feedback. Engine system reprogramming could mitigate the issue, but would not be applicable to all vehicles and would be a major cause of inconvenience and cost to vehicle owners whose vehicles are capable of being reprogrammed.
- The potential to cause catastrophic engine damage - Modern fuel systems are designed to flow sufficient fuel to the engine within the vehicle's design parameters. AAA believes there could be the potential for damage to some engines (specifically, high output naturally aspirated and forced induction engines). AAA does not believe this would be a widespread problem but for those impacted, the damage would be significant.
- System component damage - The increase in ethanol would reduce the lubricity of the fuel and could noticeably increase the wear on key fuel system parts including the fuel pump and fuel injector seats. This potential side effect is most insidious since it could take years to realize the full extent of damage.

- Older vehicles are not designed to run on ethanol and would unquestionably experience poor drivability and reduced engine reliability - These vehicles do not use an oxygen sensor to monitor exhaust oxygen content and would undeniably run lean. This affects drivability and increases NOx emissions. Some of these vehicles are collector cars, but many are owned by Americans who can't afford a newer vehicle. E10 has been a problem for these motorists and E15 would make it worse.
- Catalytic converters could be impacted by the increased temperatures caused by the higher alcohol content in the fuel - This could shorten the expected life of a converter and increase emissions far beyond any saved by the use of increased alcohol in the fuel. Shortening the life of a catalytic converter would create serious economic consequences for those affected and could increase overall emissions.
- Vehicle warranty and service agreement issues - The potential for significant vehicle warranty and service agreement issues as a consequence of damage incurred due to use of E15 fuel.
- E15 will reduce the fuel efficiency of the vehicles in which it is used - The lower fuel economy combined with depressed residual value will substantially increase the costs associated with owning and operating a vehicle.

## **62. EPA Extends Comment Period On Biofuel Standard**

The Environmental Protection Agency is extending the comment period on a draft rule that aims to cut greenhouse gases emitted by biofuels. The proposed changes to the 2007 U.S. Renewable Fuel Standard attempt to make production of corn-based ethanol more efficient and increase output of advanced biofuels. The comment period on the rule, also known as RFS2, will now end on September 25 instead of July 27.

"With the 60-day comment period extension, EPA seeks to provide the public adequate time to provide meaningful comment while finalizing and implementing the standards in a timely manner," the agency said.

The draft rule would measure any carbon dioxide emissions from "indirect land use changes." Many corn ethanol producers strongly oppose these measurements, saying that land use estimates are untested and vary widely.

The climate bill recently passed by the House of Representatives included an amendment that would prohibit the EPA from implementing this rule for five years during a study of indirect land use change. Under this bill, the EPA rule could then take effect only if three federal agencies agree and Congress could intervene to block a rule.

The current renewable standard required 9 billion gallons of renewable fuels such as ethanol to be blended into the nation's gasoline supply last year. The mandate, rising annually, will reach 36 billion gallons in 2022.

## **63. NAS Lists Energy Policy Options For Near-Term GHG Reductions**

A major study by the National Academy of Sciences on the regulatory and technological barriers to ensuring adequate energy resources finds that deploying existing energy efficiency technologies is the best and cheapest way to lower greenhouse gas (GHG) emissions and reduce consumption in the near-term. The report also recommends a range, or "portfolio", of energy options for achieving significant GHG reductions over the next several decades,

including the use of existing fossil fuels with carbon capture and storage, an expansion of renewables and biomass fuels, as well as advanced nuclear technologies.

The study, the last in a series of five, will likely influence the climate change debate in the Senate, which is set to heat up after the August recess.

The report was conducted by the America's Energy Future project initiated by the academy's National Research Council. The project was developed in 2007 in an effort to inform congressional efforts on developing energy and climate policies. The project is sponsored by the Department of Energy, BP America and Dow Chemical Company Foundation, among others.

The report makes eight "key findings," including:

- -"First, with a sustained national commitment, the United States could obtain substantial energy-efficiency improvements, new sources of energy, and reductions in greenhouse gas emissions through the accelerated deployment of existing and emerging energy-supply and end-use technologies."
- -"Second, the deployment of existing energy-efficiency technologies is the nearest-term and lowest-cost option for moderating our nation's demand for energy, especially over the next decade."
- -"Third, the United States has many promising options for obtaining new supplies of electricity and changing its supply mix during the next two to three decades, especially if carbon capture and storage and evolutionary nuclear technologies can be deployed at required scales. "
- -"Fourth, expansion and modernization of the nation's electrical transmission and distribution systems (i.e., the power grid) are urgently needed."
- -"Fifth, petroleum will continue to be an indispensable transportation fuel during the time periods considered in this report."
- -"Sixth, substantial reductions in greenhouse gas emissions from the electricity sector are achievable over the next two to three decades through a portfolio approach involving the widespread deployment of energy efficiency technologies; renewable energy; coal, natural gas, and biomass with carbon capture and storage; and nuclear technologies."
- -"Seventh, to enable accelerated deployments of new energy technologies starting around 2020, and to ensure that innovative ideas continue to be explored, the public and private sectors will need to perform extensive research, development, and demonstration over the next decade."
- -"Eighth, a number of current barriers are likely to delay or even prevent the accelerated deployment of the energy-supply and end-use technologies described in this report. Policy and regulatory actions, as well as other incentives, will be required to overcome these barriers."

#### **64. Report Says Compact Development, Mass Transit Can Reduce GHG Emissions**

Policies that encourage mass transit use, compact development and reduced driving can significantly curb greenhouse gas emissions, according to a new report. "Moving Cooler: An Analysis of Transportation Strategies for Reducing Greenhouse Gas Emissions," published by the Urban Land Institute, recommends a combination of land use and transportation strategies.



Even with cleaner fuels and more efficient cars, greenhouse gas emissions from the transportation sector are expected to grow or stay even in coming decades. That's because Americans are also forecast to drive more, offsetting effects of cleaner fuels and auto efficiency.

The approaches that contribute most to greenhouse gas reductions are: local and regional regulations that increase the cost of single occupancy vehicle travel; regulations that reduce and enforce speed limits; educational efforts that encourage "eco-driving" behavior; smart growth strategies that reduce travel distances; and multimodal strategies that expand options for travel.

Key findings include:

- Maximum implementation of the complete portfolio of the six strategy bundles outlined in the report - except for road-use pricing (e.g., congestion pricing, pay-as-you-drive insurance, vehicle miles traveled) -- could achieve transportation GHG reductions of up to 24 percent annually by 2050.
- With the addition of pricing strategies, annual GHG reductions of up to 47 percent could be achieved by 2050.
- Innovations in vehicle and fuel technology will have a substantial impact on GHGs, but these gains will largely be offset by increases in travel along with growth in the U.S. population.
- Transportation agencies and other decision makers could create effective combinations of transportation strategies that provide high-quality transportation services, while achieving meaningful GHG reductions.
- Additional investment in highway capacity and bottleneck relief could result in GHG reductions through 2030 and a negligible increase in GHGs through 2050.
- Higher levels of investment in public transportation and highways have returns of two or three times to one in terms of benefits in relation to the costs of these strategies.

Transportation contributes roughly 28 percent of the total U.S. GHGs and transportation emissions have been growing faster than those of other sectors. Between 1990 and 2006, growth in U.S. transportation GHG emissions represented almost one-half (47 percent) of the increase in total U.S. GHGs. If the American Clean Energy and Security Act (H.R. 2454), which the U.S. House of Representatives passed last month becomes law, U.S. GHGs would need to be reduced 17 percent below 2005 levels by 2020 and 83 percent by 2050.

Prepared by Cambridge Systematics, Inc. based in Cambridge, Mass., Moving Cooler was commissioned by a diverse group of stakeholders representing environmental action groups, transportation experts, industry, federal agencies, trade associations, and leading foundations. They include the: American Public Transportation Association, Environmental Defense Fund, Environmental Protection Agency, Federal Highway Administration, Federal Transit Administration, Intelligent Transportation Society of America, Kresge Foundation, Natural Resources Defense Council, Rockefeller Brothers Fund, Rockefeller Foundation, Shell, Surdna Foundation, Funders Network for Smart Growth, and the Urban Land Institute.

## ASIA-PACIFIC

### **65. Hong Kong Seeks Views on Air Quality Objectives Review**

The Hong Kong Environment Bureau has launched a four-month public consultation on the air quality objectives review, and has proposed measures to achieve the new goals. Secretary for

the Environment Edward Yau noted that Hong Kong's current air quality objectives have been in place since 1987. They need to be updated to enhance public health protection and improve air quality, he said.

The bureau suggested adopting targets in stages with reference to the World Health Organization's October 2006 guidelines. Mr. Yau added achieving the WHO guidelines' targets will be taken as a long-term goal.

The Government commissioned in mid-2007 a consultancy study to review the air quality goals for setting new standards for ambient air pollutant levels. The proposed new objectives are to adopt the WHO concentration targets for seven pollutants.

The proposals are:

- adopting the WHO air quality guidelines' concentration targets for sulfur dioxide (10 minute), nitrogen dioxide (one hour and annual), carbon monoxide (one hour and eight hour) and lead (annual);
- adopting WHO interim target two concentration targets for respirable suspended particulates (PM 10) (24 hour and annual); and,
- adopting WHO interim target one concentration targets for sulfur dioxide (24 hour) and fine suspended particulates (PM 2.5) (24 hour and annual), and the interim target for ozone (eight hour).

To help achieve the proposed new goals the review recommended implementing measures in emission capping and control, transport management, infrastructure development and planning, and energy efficiency.

Measures under consideration include:

- Raising the natural gas ratio in local electricity generation to 50%, together with extra emission abatement measures, early retirement of aged and heavily-polluting vehicles, and earlier replacement of Euro III commercial diesel vehicles with models meeting the latest Euro standards.
- There can be wider use of hybrid and electric vehicles or other environmentally-friendly cars with similar performance, and ultra-low-sulfur diesel and selective catalytic reduction for local cars.
- Electrification of aviation ground support equipment, emission control for off-road vehicles and equipment, and tightening control of volatile organic compounds are also proposed.
- On transport management, the bureau suggested implementing low-emission zones, car-free zones and pedestrianisation schemes, and rationalizing bus routes. The rail network can be expanded, while a cycling network to major public transport hubs can be established.
- To achieve energy efficiency the city can implement building energy codes and make them mandatory, and set energy-efficiency standards for domestic electrical appliances. Hong Kong can adopt light-emitting diode or equivalent alternatives for traffic signals and street lighting, enhance tree planting and roof-top greening, and implement a district cooling system for the Kai Tak development.

With these control measures the city can expect to avoid 4,200 hospital admissions attributable to air pollution a year and the population's average life expectancy will increase by a month.

The economic benefits to society, mainly due to public-health improvement and energy costs savings, will be \$1.228 billion a year, substantially higher than the estimated economic costs of \$596 million.

"We fully appreciate the community's desire to improve our air quality as soon as possible. The proposed measures, however, will have different degrees of impact on the general public. Our way of living may also need adjustment," Mr. Yau said, citing possible rises in power tariffs and bus fares as examples.

"We therefore have to seek the views of the public on the package of measures for reducing emissions, the price the community is willing to pay, and the pace at which the control measures should be taken forward, such that the community can work together for attaining the new air quality objectives."

#### **66. Hong Kong Air Pollution Worsens But China Blamed Less: report**

Urban pollution in Hong Kong has jumped six fold in the past four years, but experts say local vehicles are more to blame than smog blown in from southern China's manufacturing belts, a newspaper has reported. In recent years, Hong Kong's image as a financial hub has suffered from poor air quality, with its iconic harbor shrouded in thick smog at times. Officials have often blamed pollutants blown in from China's industrial heartlands in the neighboring Pearl River Delta and Guangdong province.

But the closure of scores of Delta factories during the global financial crisis and efforts to clean up Guangdong power plants by installing sulfur scrubbers are seen to have diminished this effect, with the levels of pollutants above street level in Hong Kong found to have fallen by more than half in recent years.

Down on street level however, an analysis of air pollution at three roadside monitoring stations in urban Hong Kong found a six fold increase in "health-threatening pollution levels" in the first half of this year compared with the same period in 2005, the South China Morning Post reported.

Experts attributed most of the rise to local traffic clogging up Hong Kong's congested roads, rather than contaminated air carried from southern China, the paper reported. "It is undeniably a local pollution problem at street level. All we need is a lot more and urgent measures to address vehicular pollution to protect public health," Alexis Lau, an expert at the University of Science and Technology, was quoted as saying.

Hong Kong's Environmental Protection Department, however, blamed regional air pollution from China, saying key pollutants emitted by motor vehicles had in fact fallen, the paper reported.

To ease the region's longstanding pollution woes, the Guangdong and Hong Kong governments agreed in 2002 to implement emission reduction targets by 2010, including cuts of 40 percent for sulfur dioxide emissions, though green groups remain skeptical such goals will be met.

#### **67. Recent Developments in China**

a. Beijing Has Best Air Quality in Nine Years, Xinhua News Reports

Beijing's air quality in the first half of 2009 was the best in nine years, the official Xinhua News Agency reported, citing an environmental protection official. The Chinese capital had 146 "blue sky days" during the first six months of this year, 23 more days than the first half of 2008, Xinhua reported, citing Du Shaozhong, deputy chief of the city's environmental protection bureau. Beijing had 25 "blue sky days" in June, the report said.

Air quality improved after the city phased out 55,000 heavy polluting vehicles and because of the after effects of measures taken during the Olympics last year, Xinhua said.

China is considering new air quality regulations as it looks to build on its success clearing Beijing's skies during the Olympics, according to environmental official.

"We can see that there are many areas we still have to work hard on," Du Shaozhong told journalists on a tour of one of the city's air quality monitoring stations. "One important area is not ceasing to strengthen laws and regulations; we must use the law to combat pollution. This is something for the local as well as central government," he added.

Du declined to comment directly on reports that the government was mulling tighter air pollution standards, but a colleague reportedly confirmed that changes might be on the cards. "At the national level they have plans to do the revision, but because it is the national level it is not our work," said one environmental bureau official who declined to be named, adding that she did not know of any timeline for the change.

China has been criticized for not including two key pollutants in its air quality index -- ozone and fine particulate matter (PM 2.5) that scientists say damages the lungs and may also be able to seep into the bloodstream. But Beijing monitoring center chief Yu Jianhua hinted they might appear in new standards. "When it comes to ozone and PM 2.5, from what I understand the country is currently positively researching pollution standards, and I hope this is the future trend of our control and monitoring activities," he said, when asked about revisions.

b. Chinese Minister Refutes Air Quality Survey

China's environment minister shot down claims that Beijing's air quality test results during the 2008 Olympics were inaccurate and blamed the allegations on the media's subsequent exaggeration of the capital's pollution. Zhou pointed his finger at, but did not name, an embassy in Beijing that made assumptions that the air quality results for last summer's Olympic Games were inaccurate. He said the embassy had installed its own air quality monitoring equipment for measuring PM 2.5 (particles less than 2.5 microns).

Although Zhou refused to specify the embassy, his remarks have come after many media reports on the US embassy's monitoring in Beijing. The US embassy sends regular Twitter postings about the pollution levels based on its findings. It releases air quality data that differs widely from those released by the capital's environmental protection bureau.

Zhou said China was highly responsible for its air quality monitoring during the Games.

Zhu Tong, an environment professor with the Peking University, who participated in Beijing's Olympic air quality panel, said hundreds of experts from both China and abroad have made a

systematic analysis on the data gathered from the capital's monitoring systems. "They (the experts) have ensured the accuracy of the data during the Games," Zhu said.

#### c. Shanghai To Employ Odd-Even Plate System To Limit Jams

The 2010 Shanghai World Expo will adopt the odd-even system of number plates used in last year's Beijing Olympics to ease traffic congestion during the extravaganza. Under the system, privately owned cars with odd and even number plates will be allowed on roads on alternative days in downtown areas on both sides of the Huangpu River.

The rule would be effective for at least the first week following the opening of World Expo on May 1, according to Shanghai Daily.

With the six-month Expo expected to attract an average of 400,000 visitors every day, city officials said easing traffic pressure was a vital task, right up there with security. Officials said the duration of the odd-even plate plan will depend on how it works initially.

"There will also be a great demand for parking places during the event," said Huang Rong, director of the Shanghai Urban and Rural Construction and Transport Commission, the local transport authority. "We are now making all efforts to work out solutions to ease the problem." Huang said the commission was holding talks with the city sports bureau to see if some downtown stadiums could offer free parking for some Expo visitors.

Meanwhile, with most of the Expo-related tunnel, Metro and road projects completed or due to open early next year, the traffic authority said it would conduct a two-week trial run, covering roads, trains and ferries, in areas around the Expo site beginning on April 14. It said it would closely monitor traffic flow during the trial and ensure up to 400,000 visitors use the routes on some days.

Huang said all construction operations would be banned inside the central area of the city throughout the Expo period.

While this would mean a pleasing change in downtown areas disturbed by noise, dust and traffic jams, migrant workers may face reduced job opportunities after next May. Huang said construction authorities would open projects in outer areas to create more vacancies for affected migrants.

#### d. UNEP Praises China's Green Efforts in Expo Preparation

Shanghai, the host city of Expo 2010, will offer a glimpse of a greener future, Achim Steiner, Under Secretary General of the United Nations, said during a recent visit. China's green efforts were highly spoken of in the "UNEP Environmental Assessment Expo 2010 Shanghai China" which was unveiled 256 days before the opening of Shanghai World Expo.

"Shanghai has in the last ten years taken the Expo as a driver and taken a significant increase in efforts and progress in environmental policy and pollution," said Steiner, who also serves as the executive director of the United Nations Environment Programme (UNEP). The experience of Shanghai in handling environmental issues provided valuable examples and lessons for other cities in China and worldwide, he added.

The assessment report covers nine areas including air quality, transportation, energy, solid waste, water and public participation.

- From 1997 to 2008, Shanghai had upgraded 5,975 coal-boilers to use cleaner energy, such as natural gas, creating a "coal-free zone" of 666 square kilometers.
- Between 2005 and June 2009, Shanghai installed flue gas desulphurization devices for all the coal-fired power units with a total capacity of more than 10 million kilowatts.
- Meanwhile, small and insufficient coal-fired plants with a total capacity of 695,000 kilowatts had been shut down, including the Nanshi Power Plant, located inside the Expo site.

The Expo will be held from May 1 to Oct. 31, 2010. Shanghai had an average of 63 days with "excellent" air quality during the same periods from 2006 to 2008. In 2008, the city enjoyed 328 days of "excellent" or "good" air quality, among which 101 days had "excellent" air quality, up by 68 percent compared with five years ago.

The air quality ranking in China's mainland is based on the Air Pollution Index (API), which is decided by the level of five atmospheric pollutants, including CO, SO<sub>2</sub>, NO<sub>2</sub>, PM<sub>10</sub> and ozone. With an API ranging from 0-50, the air quality is considered "excellent" and 51-100, "good".

Shanghai is expected to build a 400-km subway system before the Expo opens. Shanghai has developed one of the largest subway systems in just 12 years while the same length took London 100 years, Steiner noted.

The report points out the need to tackle the nitrification of the river system and suggests that regional cooperation is the key. It also calls for a comprehensive waste reduction strategy.

The report acknowledges an incremental green investment made by Shanghai since it bid for holding the event in 2000. In 2009, the city has invested 42 billion Yuan (6.15 billion U.S. dollars), tripling that of 2000. The green efforts will not only benefit 70 million visitors of the Expo but also leaves a green legacy to the 20 million Shanghai citizens.

#### e. Number of Smog Days in China's Guangdong Province Going Down

A requirement that power plants install technology to reduce nitrous oxide and sulfur dioxide emissions is among several new regulations that may have helped the Guangdong provincial capital of Guangzhou reduce its number of "smog days" in the first half of 2009. Guangzhou saw 49 "smog days" from January through June, down from 96 in the first half of 2008, official statistics showed. Smog days are those where airborne particles (PM<sub>10</sub>) are greater than 65 micrograms per cubic meter, according to the Chinese Meteorological Administration. Days when particulate levels are lower are considered "blue sky days."

Other possible contributors to the improving air quality include the economic downturn in this heavily export-oriented and manufacturing region, as well as a transition to municipal buses that run on natural gas.

The "Prevention and Control of Atmospheric Pollution in the Pearl River Delta Area" regulation, issued by the Guangdong provincial government on March 30<sup>th</sup>, requires power plant operators to equip their facilities with technology to reduce nitrous oxide and sulfur dioxide emissions.

The Guangzhou municipal government issued three additional notices June 12 to help control volatile organic compound (VOC) emissions, to restrict heavily polluting vehicles from certain areas, and to give subsidies to individuals and businesses working to meet the Pearl River Delta emission-reducing regulations.

The notice to control VOC emissions applies to petroleum processing, rubber processing, and production of leather shoes, furniture, paper, autos, and electronics, as well as the construction industry. Petroleum facilities and refineries must recycle organic exhaust and must be equipped with oil-vapor recovery systems. Automatic spraying must be done in closed areas; dry cleaning agents must be kept in closed areas; paints used in construction must have certified Chinese environmental labels, according to the notices.

A special fund will offer subsidies for compliance. The deadline to comply is September 10, 2010.

The notice on subsidies for implementing pollutant emissions-reducing measures states that all enterprises that have coal-, oil-, or biofuels-burning boilers must control nitrous oxide emissions. Those with nitrous oxide emissions over 200 metric tons per year must add denitration technology to reduce those emissions by September 30, 2010. A special fund has been established to subsidize these measures. Power generation facilities that add the technology will be given an attractive price for their power.

To further cut pollution, Guangzhou announced in early July that it would soon move 123 heavily polluting facilities—including 91 this year—to industrial bases outside the urban area. Authorities have said 32 chemical plants will be moved or ordered to halt production by the end of 2009.

A total of 295 heavily polluting businesses are expected to be moved in three phases by 2015. It is unclear who will pay for the relocation.

Guangdong authorities have pledged to spend 600 million Yuan (\$87.7 million) to help improve air quality before the 16th Asian Games are held in Guangzhou in November 2010. Authorities have said they expect another 1.8 billion Yuan (\$263 million) to be spent by the private sector in improving air quality over the next year.

Xie said an air quality early warning system should be in place before the games begin. Certain enterprises will be required to slow or to halt production if the air quality reaches a level harmful to athletes and spectators.

A drill to deal with heavy air pollution is set for November, although no details were announced. November is usually one of the worst months for air quality in Guangdong, according to experts.

#### f. Guangzhou To Ensure Better Air Quality For Asian Games

The local environmental protection authority has pledged to ensure better air quality during the 16th Asian Games next year by spending up to 600 million Yuan to tackle the problem of air pollution, Yang Liu, deputy director of Guangzhou environmental protection bureau, told China Daily.

The plan also calls for another 1.8 billion Yuan to be raised from the private sector.

"We have set a goal to ensure as many as 361 days of better air quality next year," Yang said.

Yang said days of better air quality in the city improved a bit in the first five months of this year, with 37 fewer days of haze and dust than in the same period of 2008. Dusty, hazy days dropped from 142 in 2004 to 110 last year due to tightened environmental measures, the authority said.

"But the task of ensuring better air quality during the Games next year remains tough," he said.

To fight the problem, as many as 32 chemical plants will be removed or ordered to stop production by the end of this year. "Industrial discharges like carbon and sulfur dioxide are major contributors to air pollution," the environmental specialist said. All heating plants in the city have been told to strictly carry out efforts to reduce nitrous and sulfur oxides, Yang said.

Sulfur dioxide emissions have been reduced from 185,000 tons in 2004 to 99,900 tons in 2008, sources with the local environmental protection bureau said.

Eight large factories in Guangzhou, including the Guangzhou branch of Sinopec and the Guangzhou Paper Group, were ordered last year to finish installation of sulfur scrubbers by 2010.

In addition, 91 cement plants with lower production capacity have been closed in the city in the last three years.

"We will also strengthen efforts to cut cooking smoke discharged by restaurants as it also plays an important role in polluting urban air," Yang said. Last year, the local industrial and commercial bureau shut down 2,430 restaurants that failed to meet cooking discharge standards.

In meeting with Guangzhou Mayor Zhang Guangning, Zheng Guoguang, director of the China Meteorological Administration, said the authority will require moves to improve Guangzhou's air quality during the Games. "We will introduce some measures that were used during the Beijing Olympic Games," Zheng said.

Zheng added that the meteorological authority would hold an experimental drill in November to see how much air quality can be improved.

The Asian Games scheduled for November 12<sup>th</sup> to 27<sup>th</sup> next year will come a time of year that is "relatively bad" for air quality in Guangzhou, said Cheng Guanrong, deputy director of the Guangdong provincial environmental protection authority. "But we will do our best to improve the air quality. Special measures will only be introduced during the Games if the air proves bad ahead of their opening," Chen said.

Chen added the provincial authority has begun a province-wide scheme to battle air pollution, aiming to build a comprehensive protective system in the Pearl River Delta region. Sources in the local government said the provincial capital Guangzhou has teamed with neighboring cities Foshan, Dongguan, Zhongshan and Shenzhen to establish a coordinated system to improve air quality.

Foshan, Dongguan and Shanwei will co-host the 16th Asian Games.



A recent study by Peking University and the Guangzhou Environmental Protection Bureau showed that 20 to 40 percent of air pollutants in Guangzhou are from some neighboring cities.

#### g. China Subsidy Policy To Spur Commercial Vehicle Market

The government's subsidy plan for trade-in vehicles is expected to spur stagnant commercial vehicles sales in the following months, just as favorable taxation and subsidy policies for rural consumers boosted passenger vehicle sales in the first half, according to analysts. Consumers will receive a subsidy of between 3,000 and 6,000 Yuan per vehicle to replace passenger cars, vans, and trucks that do not meet the country's emission standards, or for those vehicles that have been on road for 8 to 12 years, according to the new policy just released by the Ministry of Commerce.

The total trade-in subsidy, mainly targeting light commercial vehicles, is likely to cost the government around 5 billion Yuan.

The policy will apply to all vehicles traded in between this June and May 31, 2010. And, vehicles owners will be able to apply for the subsidy payout between Aug 1 and June 30, 2010.

"The policy will help sales of light trucks, vans and minibuses. China's infrastructure sector too is in need of a large number of light commercial vehicles," said Luo Lei, vice-secretary-general of China Automobile Dealers Association.

"Moreover, the move will further drive domestic consumption and improve energy efficiency," said Zhao Ying, a researcher at the Institute of Industrial Economics under the Chinese Academy of Social Sciences. "It's a good idea that a relatively small fund would draw in huge automobile consumption."

According to a forecast by China Automotive Technology and Research Center, the trade-in policy will add at least 300,000 commercial vehicles to whole-year sales.

The country will scrap 2.7 million vehicles this year; the petrol consumption of old vehicles is 5 to 10 percent higher than new ones, the Ministry of Commerce said.

In the first six months, China sold 4.5 million passenger cars, a 25.6-percent increase from a year ago, as the government's tax reduction and subsidy spurred small car sales, according to China Association of Automobile Manufacturers. However, commercial vehicle sales saw a 0.52 percent drop year-on-year in the first half due to the effect of the financial crisis.

#### h. Sino-US Diesel Engine JV Ready To Gear Up

Diesel engine manufacturing has slowed in other parts of the world but has speeded up in China, thanks to a joint Sino-American venture. Manufacturing of diesel engines began in June at facilities operated by US-based Cummins Inc. and Beijing-based Beiqi Foton Motor Co, Ltd as part of a 50/50 joint venture called Beijing Foton Cummins Engine Company Limited, or BFCEC.

BFCEC is expected to manufacture more than 400,000 engines a year to be used primarily in Beiqi Foton's light-duty commercial trucks, as well as for other vehicles and construction and industrial equipment.

The partnership between the 90-year-old US company, the world's largest independent engine maker, and a 13-year-old Chinese industry is expected to boost business for both.

BFCEC, a partnership formed in March 2008, is the largest overseas engine project of Cummins Inc with a total investment of 2.7 billion Yuan. Cummins executives said confidence in the China market inspired the partnership.

In 2008, global sales for Cummins totaled \$14.34 billion, including \$2.3 billion in sales to China - up 33 percent from 2007, the company reported.

"China is one of the most important markets, besides the North American market, and also the fastest-developing market," said Wang Hongjie, vice president of Cummins (China) Investment Company Ltd. Wang said that despite what he called "this short-term economic challenge," China remains of "core importance" to the American company's development strategies.

Beiqi Foton executives said the joint venture already is receiving orders for engines. "The launch into production for this project means one of the largest joint venture diesel engine projects also has generated a powerful new competitive force," said Wang Ning, general manager for Beiqi Foton. Beiqi Foton is China's largest commercial vehicle manufacturer, maintaining its top domestic market position for the past 11 years.

China's overall vehicle sales volumes exceeded 1 million during each of the past three years (through May 2009), making China the world's largest automotive sales market.

However, China's automotive export industry lags behind other countries.

Zhang Xiyong, executive deputy general manager for Foton Motor Group, said automakers who want to expand foreign markets are focusing on more advanced engines. "To create a more energy-saving and environmentally friendly engine is the most pressing task for China's auto makers that want to grow internationally," Zhang said. "The top-notch 2.8-liter and 3.8-liter light-duty diesel engines made by Foton Cummins will make it possible to exceed current environmental requirements. These engines will help Foton to move into new international markets," Zhang said.

Beiqi Foton estimates that its vehicle sales will reach 800,000 to 1 million units a year by 2010, with 20 percent of those future sales expected to come from overseas markets.

#### i. China Cuts Gasoline, Diesel Prices Because of Public Concern

China, the world's second-biggest energy user, cut gasoline and diesel prices by at least 3.3 percent after three increases since March triggered public concern that fuel costs are too high. Pump prices for 90 octane gasoline will be set at a maximum of 5.7 Yuan (\$0.83) a liter, or about \$3.14 a gallon, in Beijing, the National Development and Reform Commission said in a statement on its Web site. Prices were adjusted to reflect the decline in global crude prices.

The price cut, the second this year, will help to lower costs for manufacturers as China targets 8 percent economic growth this year to generate jobs and maintain social stability. The government's third increase on June 30 sparked "widespread public debate," according to the official Xinhua News Agency, after China's gasoline prices exceeded those in the U.S., the world's largest oil user.

The Chinese government controls prices under a mechanism that takes into account crude-oil costs, taxes and a profit for refiners, including China Petroleum & Chemical Corp. and PetroChina Co., the nation's biggest fuel producers. China may adjust fuel prices when crude-oil costs change more than 4 percent over 22 working days, the reform commission said in May.

The gasoline price charged by refiners will fall by 3.3 percent to 6,510 Yuan a ton, or 70 U.S. cents a liter and the diesel price will drop by 3.7 percent to 5,770 Yuan a ton, the National Development and Reform Commission said. Jet fuel prices will be reduced by 5.5 percent to 4,770 Yuan a ton. The price of gasoline in Beijing, set at \$3.14 a gallon, compares with an average of \$2.49 a gallon in the U.S.

About 94.3 percent of more than 260,000 people surveyed by Chinese Web portal sina.com thought fuel prices are too high, Xinhua said on July 1. The reform commission said in a statement on July 14<sup>th</sup> that the public have a "misconception" about the government's fuel-pricing mechanism. Fuel prices have been raised by "no more than 25 percent" since mid-January, compared with a 70 percent gain in global oil prices during the period, the commission said in the statement.

#### j. China Implements Rules for Quality, Management of Alternative Energy Vehicles

New rules designed to improve the technical specifications and environmental quality of alternative energy vehicles sold in China took effect July 1, according to the Ministry of Industry and Information Technology (MIIT). The "Management Rules on New-Energy Vehicle Production Enterprises and Production Admittance" will continue through the end of 2010 and then will be revised further, the ministry said.

Vehicles falling under the management rules include hybrids, all-electric automobiles, hydrogen fuel cell and lithium ion battery vehicles, as well as vehicles "using other new energies," according to a copy of the MIIT regulations. The MIIT rules cover the research, development, and production phases for alternative energy vehicles and call for a "New-Energy Vehicles Expert Association" to be formed to oversee the technical specifications of the regulations.

The rules require automobile manufacturers to apply for permission to produce alternative energy vehicles. Manufacturers must prove that they can produce such vehicles of a consistent quality, show that they can service the vehicles and provide components after-sale, and meet specific technical requirements. The technical requirements were not defined in the document, although it is thought the association that will be established as part of the regulations will formulate the specifications.

Alternative energy vehicles must also meet social and environmental standards, must undergo testing by a testing organization designated by the MIIT, and must not violate intellectual property rights.

#### k. Chinese Official Urges Early Scrappage of High-Emission Vehicles

A Chinese environmental official has urged hastening the national elimination of high-emission vehicles to help curb urban air pollution. "The automobile emissions have become main sources of air pollution in Chinese large and medium-sized cities," said Li Xinmin, an official with the Ministry of Environmental Protection. "High-emission cars and trucks only make up 28 percent of all automobiles in China, but they are responsible for 75 percent of the pollutant emissions," Li said.

Automobiles which fail to meet the National Emission Standard I are listed as high-emission vehicles in China. The Standard I, equivalent to the Euro I standard, allows an average petrol sedan to emit a maximum of 2.7 grams of carbon monoxide a kilometer among other exhausts, whereas Standard IV requires less than 1 gram of carbon monoxide and 0.08 gram of nitrogen oxide per kilometer.

China introduced Standards I, II and III respectively in 2000, 2005, and 2007. Standard IV is scheduled to be adopted nationwide in 2010. The pollutant amount discharged by a high-emission vehicle is 30 times as much as a Standard IV automobile, according to Li.

"We encourage local governments to increase financial support in eliminating high-emission vehicles, especially in big cities like Beijing and Shanghai. It's good for reducing air pollution and introducing more automobiles of low pollution," Li said.

China had more than 64 million automobiles by the end of 2008, among which 18 million were high-emission vehicles.

Urban air pollution has been a growing concern for governments at all levels as the number of automobiles rises in cities and towns all over the country, and big cities turn to different ways to lower vehicle exhaust emissions.

During the Olympics and Paralympics last year, Beijing limited the use of most vehicles through an odd-even license plate system. The initiative took 45 percent of the cars off the roads and helped keep skies clean. In April, the city implemented a new restriction, also based on license plates, which forces a fifth of privately-owned vehicles off the roads each week day.

#### I. China's Capital Tightens Vehicle Exhaust Controls

China's environment authorities are to ban motor vehicles registered outside Beijing from entering the capital city if they fail to meet exhaust emissions standards. The Ministry of Environmental Protection has announced that from October 1<sup>st</sup>, petrol vehicles would not be allowed to travel along or within Beijing's Sixth Ring Road, the city's outermost highway loop, if their exhaust emissions do not comply with National Emission Standard I. Diesel-driven vehicles must comply with National Emission Standard III or above before they can operate in the same area.

Cui Mingming, an official with the ministry's department of pollution control, said the new rule applied to vehicles registered outside Beijing because many regions have not yet made the standards mandatory. In order to further reduce pollution caused by car exhausts, vehicles entering Beijing must comply with the standards that 3.7 million local vehicles already do, she said.

Beijing became the first Chinese city to enforce Standard IV on newly bought and produced cars on March 1, 2008. Other cities such as Shanghai and Guangzhou are also moving to lower car exhaust emissions in attempts to address growing pollution concerns.

It was still necessary to continue efforts in different parts of China to limit exhaust emissions from both new and used vehicles, Cui said.

The ministry issued a notice early this week, requiring vehicle owners outside Beijing to obtain a clearance certificate from local environment authorities if they did not want to be blocked from entering Beijing. Traffic police are to carry out checks on major highways leading to downtown Beijing from Sept. 1. The ministry also warned car owners and local authorities not to fake the certificate.

m. Chinese Ministry Issues Plan to Save Energy, Reduce Air, Water Pollution

Calling 2009 a “crucial year” for meeting targets, China's Ministry of Environmental Protection (MEP) on August 3<sup>rd</sup> released a “Work Plan for Energy Savings and Emissions Cuts in 2009” and called on government departments at all levels to strengthen efforts to meet the plan's goals. The work plan called for continued support for “10 major energy-saving projects,” including subsidy programs for energy-efficient home appliances and light bulbs and a government program to support clean energy vehicle development in 13 major cities. It called for more strict control and transformation of industries with high energy use and for the “Guiding Catalog for Industrial Structural Adjustment” to be completed. It also advised that smaller, inefficient industries should be closed down, including iron, steel, cement, paper, alloy, and coking plants under certain tonnages.

Governments at all levels should strengthen supervision, management, and evaluation systems, according to the plan. In addition, all levels of government should publish relevant data on air pollutant and water emissions as well as energy use per unit of gross domestic product. Air and water pollution reduction targets and energy savings should be incorporated into the 12th Five-Year Plan (2011–2015), the work plan said.

In addition, the ministry plan said governments should work to continue economic development in line with China's Circular Economy Law, which calls on new businesses to be more energy efficient, to conserve water, to reduce the use of hazardous materials, and to practice recycling. The plan also urged governments to speed up the development of technology, to promote price reforms for natural resources to help reduce waste, and to emphasize energy savings and air and water pollution reductions in key regions, with continued public awareness campaigns about how citizens can save energy.

MEP released the work plan to other government departments on July 19<sup>th</sup> and made it available to the public the first week of August. The ministry's work plan does not have the effect of law, but is intended a general guidance document, giving directing principles to governments at all levels.

On July 23<sup>rd</sup>, MEP announced that China met its air and water pollution reduction targets for 2008. Ministry spokesman Tao Detian said that chemical oxygen demand (COD) in wastewater improved by 4.42 percent, while sulfur dioxide emissions were down 5.95 percent, both compared against 2007 levels. COD is a measure of water quality that looks at the quantity of oxygen used by microorganisms in water. The higher the COD, the poorer the water quality.

Beijing had the largest drop in sulfur dioxide emissions, down 18.8 percent from 2007. Shanghai and Hebei province led in reducing water pollution, with a 9.4 percent reduction in COD. Industry sulfur dioxide emissions decreased 14.5 percent compared with 2007 levels, MEP said.

n. Mandatory National Standards of “Automobile Diesel Fuels” Issued

Standardization Administration of the People's Republic of China (SAC) has updated news that the mandatory national standards of "Automobile diesel fuels", GB 19147-2009, was formally issued on June 12<sup>th</sup> and will be officially in effect on January 1, 2010.

o. PetroChina in Drive to Pump up Refining

PetroChina said it plans to increase its refining capacity by two-thirds by 2017, banking on fuel pricing reforms at home to improve its finances as it bids to become a major global refiner. PetroChina, China's No. 2 refiner after Sinopec, is aiming to raise its annual refining capacity to 200 million tons per year within seven to eight years, in its bid for 40 percent of its home market, President Zhou Jiping told reporters at a media briefing.

He added the company needs such capacity to be more like its global rivals such as Exxon Mobil, BP and Royal Dutch Shell.

"PetroChina's largest contribution to profits comes from our upstream business," Zhou said. "Comparing our major metrics to Exxon Mobil and BP, our disadvantages lie in the ratio and structure of our value chain."

Zhou made his comments as PetroChina posted its best profit in three quarters, as higher fuel prices in China offset the steep slide in crude oil prices. PetroChina grappled with an environment of falling crude prices in the first half, with prices halving from a year ago, prompting international oil majors, including Exxon and Royal Dutch Shell, to cut costs and lower investments.

"We are seeing a number of uncertain factors in front of us," Zhou said. "We aim to have stricter control over investments and do our best to reduce costs."

PetroChina said it would buy a combined \$3.2 billion worth of assets from state-owned parent China National Petroleum Corporation in a bid to boost production. PetroChina said it would buy refinery equipment assets from its branch companies and subordinated entities of its controlling shareholder CNPC for 11.07 billion Yuan (\$1.62 billion), optimizing production of refinery business and to reduce potential competition with CNPC.

PetroChina also said it would pay \$1.19 billion to CNPC for the contractual rights at the oil and gas-rich Amu Darya Right Bank in Turkmenistan and its relevant assets, in a move to enhance overseas natural gas production scale. The Amu Darya project, which is expected to commence operation by the end of 2009, is an offshore natural gas project cooperation between CNPC and the government of Turkmenistan on a product sharing basis.

In addition, PetroChina said it would buy South Oil Exploration and Development, which explores oil and gas in Guangdong, Hainan and Guangxi, from an indirectly owned subsidiary and CNPC for 2.81 billion Yuan (US\$411.4 million).

p. China's Efforts to Cut Greenhouse Emissions Found To Be Effective

China said its efforts to cut greenhouse emission were the best in the world, vowing continued work. "China's energy consumption per-unit GDP has decreased by 10 percent from that in 2005, our target this year is another 5 percent drop," Yu Qingtai, China's top envoy on climate change, told a press briefing in Beijing. Released in 2007, China's National Climate Change Program set a goal of lowering energy consumption per-unit GDP by 20 percent by 2010 from

that of 2005, which Yu said would cut a total of 1.5-billion-ton greenhouse emission, equal to 300 million tons of carbon dioxide every year.

"The figure shows that China's effort to cut greenhouse emissions and its actual effect are second to none," the envoy said.

Stressing China's status as a developing nation at a stage of industrialization and urbanization, Yu said the country was confronted with double challenges of developing the economy and protecting the environment. "China has a population of 150 million who are living on less than two U.S. dollars a day, a poverty standard recently set by the United Nations," Yu said.

With its coal-dominated energy mix, China looked to the renewable energy as a way to cut gas emissions, Yu said. Under China's national program, renewable energy will account for 10 percent in the country's energy total by 2010 and up to 15 percent by 2020. "China has achieved impressive progress in utilizing renewable energy," Yu said, citing the figure of 2008 showing that the country's use of hydropower and solar power ranked first in the world, wind power the fourth.

China's bio-gas users in the countryside, Yu said amounted to 26 million by 2007, which would help reduce the use of 16-million-tons of coal annually and cut 44 million tons of carbon dioxide.

Although the global economic downturn took its toll on China, Yu said the Chinese government didn't waver in its efforts to tackle climate change. Of China's 4-trillion-yuan stimulus package unveiled last year, around 58 billion Yuan was earmarked for climate change projects, Yu said. "The percentage ranked the second worldwide, according to a report by the Hongkong-Shanghai Banking Corporation."

Yu said the Chinese government also advocated the energy-efficient products among the public with an aim to cutting greenhouse emission.

"In a nutshell, China has taken the climate change seriously, set clear goals and acted vigorously," Yu said.

#### q. Report Says China's Carbon Emissions Could Peak in 2030

China's carbon emissions output could peak around 2030 if the government continues to be serious about "strengthened measures" to improve energy efficiency and if it accelerates exploration of renewable energy, a panel of experts says. In 2050 China Energy and CO2 Emissions Report, the panel from the National Development and Reform Commission and the Development Research Center of the State Council, says that with the right policies, emissions growth could slow after 2020, with a peak around 2030.

This is the first time a Chinese think-tank has officially announced when it thinks China's carbon emissions will peak. The international community has closely watched the country's carbon emissions curve because China and the US are the top two carbon emissions countries in the world.

The panel has advised China to invest significantly in low-carbon technology research and development, saying the strategy of developing such technology is "a stone killing two birds". "Only by using advanced low-carbon technologies can China's greenhouse gas emissions peak

around 2030; otherwise, the peak will be delayed and we don't want to see the latter scenario," said Jiang Kejun, a leading economist of the panel.

If the peak happens around 2030, the huge investment in low-carbon technologies could keep China's economy growing at a fast pace and make China a global leader in cutting-edge technologies. "I think China will become a major supplier of nuclear, wind and hydropower technologies and electricity transmission by 2030," Jiang told China Daily. "And that should be a strategic goal for the Chinese government to pursue." If China can achieve these goals, by 2050, its carbon emissions from fossil fuel "could fall to the same emissions levels as in 2005 or even lower", the report said.

The panel told China Daily earlier that the government should pump an average of 1 trillion Yuan (\$146.5 billion) into low-carbon technology development each year until 2050. "The money would be mainly used to introduce technologies that would raise the energy efficiency of end-users in industry, construction and transportation," said Bai Quan, another expert of the panel.

Jiang said the government has been "on the right track" in making policy decisions to develop low-carbon technologies as new economic growth engines while countries worldwide are working on a plan by October to replace the Kyoto Protocol, which is set to expire in 2012.

Recently, the State Council required that all provincial and local governments consider climate change initiatives in their economic and social development policies.

In early June, Premier Wen Jiabao affirmed that China would put in place carbon emissions reduction targets in national development programs. China, thus, would assess its economic performance by how much less carbon it would emit per unit of GDP growth.

Experts believe the decision has major policy implications. They said that once action is taken, China would accelerate the pace of restructuring its energy mix and economic structure, and seek a "green recovery path" out of a worsening financial crisis.

"These are vital decisions and pledges. The implications will largely go beyond China's stated commitment to fight global warming," He Jiankun, deputy head of the State Council's Expert Panel on Climate Change Policy, told China Daily. He said China might consider a reduction in carbon emissions per unit of GDP as early as the start of the 12th Five-Year Plan (2011-15), and that it would decide the career path of bureaucrats by their performance in carbon reduction.

If that were the case, China would enter a new era in terms of climate change policy compared with its 20-percent energy-saving target for the 11th Five-Year Plan (2006-10).

#### r. China Lawmakers Call For Further Action on Climate Change

Chinese legislators said that their country will "strive to control greenhouse gas emissions" and consider new laws to fight climate change, while warning against using the issue to raise trade barriers. The positions were laid out in a resolution passed by the Standing Committee of the National People's Congress, or parliament, adding to a flurry of statements on climate change from China, the world's biggest emitter of human-caused greenhouse gases.



"We must strengthen energy-saving and emissions reduction, striving to control emissions of greenhouse gases," said the resolution, urging more support for wind, solar and other forms of clean energy. China will "draft laws and regulations based on practical circumstances to provide more vigorous legal backing for fighting climate change," said the resolution, which was issued to journalists.

But it also warned wealthy nations not to use the issue of climate change to impose any form of trade protection. Some U.S. lawmakers have said products from China and other big emitters should face possible adjustment measures if these countries' governments do not do more to curtail greenhouse gas emissions in coming years.

The NPC is controlled by the ruling Communist Party, and the Standing Committee is the inner council that meets more often than the annual full parliament session. NPC resolutions are political statements that do not have any binding legal force.

China's emissions of greenhouse gases per person are still much lower than the developed world's per capita average, and Beijing has insisted it will not accept mandatory emissions caps in any new agreement. The current Kyoto Protocol does not demand caps for developing countries.

#### s. Tony Blair Says Global Pact Could Help to Push China to Low-Carbon Economy

China's efforts to build a low-carbon economy would accelerate if world powers agree to a "practical" global climate change pact later this year, according to former British Prime Minister Tony Blair. Blair was speaking ahead of key UN talks in Denmark in December aimed at securing a new global climate change pact to replace the Kyoto Protocol, which expires in 2012.

"What we need is getting a solution in Copenhagen that is practical, realistic and objective," Blair told journalists in Beijing. "If we get an agreement that actually launches the world on a new path, then I think we will find that progress (in China and elsewhere) in developing the science and technology accelerates."

Blair -- who is working with the non-profit Climate Group to try to push for an agreement in Copenhagen -- helped unveil the group's new report entitled "China's Clean Revolution II".

He said China, which is competing with the United States for the title of world's top emitter of greenhouse gases, has made great strides in its efforts to develop clean fuel technology in recent years. The country has become a world leader in electric vehicle production, with homegrown manufacturers aiming to produce 500,000 such cars by 2011, he said. China is Asia's largest wind power generator and ranked fourth in the world.

The world's most populous nation is on track to meet goals to cut energy consumption per unit of gross domestic product by 20 percent from 2006-2010 and is preparing new targets for 2011-2015, the former British leader said.

Blair welcomed a recent report by a government panel of experts that said China's carbon emissions could slow by 2020 and begin to fall in or about 2030, all while the country maintains economic growth, if reduction targets are set.

As a developing nation with low per-capita emissions, China is not required to set emissions cuts under the UN Framework on Climate Change, and it has so far appeared reluctant to accept any formal caps for the future.

t. Qinghai-Tibet Plateau Warming Will Bring Serious Problems, Experts Warn

The Qinghai-Tibet Plateau is growing warmer and experts warn if the trend continues it will cause environmental deterioration and water shortages. "The Qinghai-Tibet Plateau is among the regions worst hit by global warming. In turn, this will have a deleterious effect on global climate and also the livelihood of Asian people," said Qin Dahe, of the Chinese Academy of Sciences (CAS), a former head of the China Meteorological Administration (CMA). He was also the first Chinese person to cross the South Pole.

The Qinghai-Tibet Plateau has 50,000 sq km of glaciers, mainly located in Mt. Kunlun and the Himalayas. In the past ten decades, the glaciers on the plateau have shrunk by 30 percent. Experts predict that glaciers throughout China will shrink by 45 percent from today, if the temperature increases by 2.1 to 4°C at the end of the 21st century.

The temperature in the Tibet Autonomous Region has risen by an average of 0.32 degrees Celsius every 10 years from 1961 to 2008, much higher than China's national warming rates of 0.05 to 0.08 degrees. Tibet's average temperature in July this year was the highest since 1951, according to CMA data. Rain in western and southern Tibet lessened by between 30 to 80 percent compared to the same period in previous years.

"Due to global warming, glaciers on the Qinghai-Tibet Plateau are retreating extensively at a speed faster than in any other part of the world. In the short term, this will cause lakes to expand and bring floods and mudflows. "In the long run, glaciers are vital lifelines for Asian rivers such as the Indus and the Ganges. Once they vanish, water supplies in those regions will in peril," Qin said.

Yao Tandong, one of China's leading glacier experts and director of the Qinghai-Tibet Plateau Research Institute of CAS, echoed Qin's view, saying glaciers on the plateau were accurate archives of past climate change. "Glaciers on the plateau show warming has been abrupt and exceptional. It is warmer now than at any time during the past 2,000 years," Yao said.

The Qinghai-Tibet Plateau is growing warmer and experts warn if the trend continues it will cause environmental deterioration and water shortages. The plateau is world's third largest ice store. So far, about 82 percent of glacier surface on the plateau has retreated and the glacier area itself has decreased by 4.5 percent during the past 20 years.

The Intergovernmental Panel on Climate Change (IPCC), a United Nations body studying global warming, predicted in May that glaciers on the Himalayas (including the Qinghai-Tibet Plateau) could vanish within three decades at present warming rates.

Another huge threat because of warming was the degradation of permafrost, or perennially frozen ground, Qin said. "Permafrost plays a vital role in protecting the ecological environment and hydrological cycles. But it has been breaking down during the past 50 years. Deterioration will eventually destroy ecological balance, cause land desertification and present a series of tough problems," Qin said.

"If vegetation cover on the plateau decreases, consequent absorption of solar radiation will change the intensity of summer monsoons in Asia," Qin said. "This will bring drought to north India and intensify floods in southern China and droughts in the north."

He said construction works in the permafrost region would also face tough challenges caused by rising temperatures and permafrost degradation. "The Qinghai-Tibet railway and highway surfaces may possibly become deformed in the future," Qin said.

But Cheng Guodong, a CAS researcher and a member of the Qinghai-Tibet railway project team, was optimistic about construction work. "After we took measures to cool (to stabilize) the permafrost under the railway, it hasn't melted during the past three years. I believe the railway will be safe over the next 50 years," he said.

#### u. Study: Air Pollution in Eastern China Causes Drought

Over the last five decades, rainfall patterns in eastern China have been changing and air pollution is to blame, according to a study published on August 15<sup>th</sup> in the *Journal of Geophysical Research*.<sup>1</sup> A team of Chinese, American and European researchers used mathematical models and looked at 50 years' worth of data. They were trying to see if there was a causal relationship between air pollution and rainfall. Their results show that overall rainfall has remained the same, but there's been more heavy rain and less nourishing light rain.

Atmospheric scientist Yun Qian at the Pacific Northwest National Laboratory, who led the study, told the Associated Press: "Besides the health effects, acid rain and other problems that pollution creates, this work suggests that reducing air pollution might help ease the drought in north China." Parts of China's wheat-growing northern regions are currently hit by the worst drought since the 1950s.

The research shows that air pollution in eastern China has reduced the amount of light rainfall over the past 50 years and decreased by 23 percent the number of days of light rain in the eastern half of the country. The study links for the first time high levels of pollutants in the air with conditions that prevent the light kind of rainfall critical for agriculture.

Previous work has shown that pollution can interfere with light rain above oceans, so the team suspected pollution might have something to do with the changes over land. Light rain ranges from drizzles to 10 millimeters of accumulation per day and sustains agriculture. (Compared to heavy rain that causes floods, loss of light rain has serious consequences for crops.)

While the light rains have diminished, pollution has increased dramatically in China in the last half of the 20th century. For example, while China's population rose two and a half times in size, the emissions of sulfur from fossil fuel burning outpaced that considerably — rising nine times.

Air pollution contains tiny, unseen particles of gas, water and bits of matter called aerosols. Aerosols — both natural and human-caused (anthropogenic) — do contribute to rainfall patterns, but the researchers needed to determine if pollution was to blame for China's loss of rain and how. To find out, the team charted trends in rainfall from 1956 to 2005 in eastern China, which has 162 weather stations with complete data collected over the entire 50 years.

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<sup>1</sup> Qian et al. Heavy pollution suppresses light rain in China: Observations and modeling. *Journal of Geophysical Research*, 2009; 114D00K02 DOI: 10.1029/2008JD011575

From this data, the team determined that both the north and south regions of eastern China had fewer days of light rain — those getting 10 millimeters per day or less — at the end of the 50 year timespan. The south lost more days — 8.1 days per decade — than the north did, at 6.9 days per decade. However, the drought-rattled north lost a greater percentage of its rainy days, about 25 percent compared to the south's 21 percent.

"No matter how we define light rain, we can see a very significant decrease of light rain over almost every station," said Qian.

To probe what caused the loss of rainfall, the team looked at how much water the atmosphere contained and where the water vapor traveled. Most parts of eastern China saw no significant change in the amount of water held by the atmosphere, even though light rains decreased. In addition, where the atmosphere transported water vapor didn't coincide with light rain frequency. These results suggested that changes in large-scale movement of water could not account for the loss of the precipitation. Some of pollution's aerosols can seed clouds or form raindrops, depending on their size, composition and the conditions in which they find themselves. Because these skills likely contribute to rainfall patterns, the researchers explored the aerosols in more depth.

Cloud droplets form around aerosols, so the team determined the concentration of cloud droplets over China. They found higher concentrations of droplets when more aerosols were present. But more droplets mean that each cloud droplet is smaller, in the same way that filling 10 ice cream cones from a quart of ice cream results in smaller scoops than if the same amount were put in only five cones.

This result suggested that aerosols create smaller water droplets, which in turn have a harder time forming rainclouds. The team verified this with computer models of pristine, moderately polluted or heavily polluted skies. In the most heavily polluted simulation, rain fell at significantly lower frequencies than in the pristine conditions.

An examination of the cloud and rain drops showed that these water drops in polluted cases are up to 50 percent smaller than in clean skies. The smaller size impedes the formation of rain clouds and the falling of rain.

Qian said the next step in their research is to examine new data from the DOE's Atmospheric Radiation Measurement Climate Research Facility in the central eastern Chinese city of Shouxian. The data was collected from April to December of 2008.

"This work is important because modeling studies of individual cases of pollution's effect on convective clouds have shown varying results, depending on the environmental conditions," said coauthor Ruby Leung. "The ARM data collected at Shouxian should provide more detailed measurements of both aerosols and clouds to enable us to quantify the impacts of aerosols on precipitation under different atmospheric and pollution conditions."

The work was supported by the Office of Biological and Environmental Research within the DOE Office of Science under a bilateral agreement on regional climate research with the China Ministry of Science and Technology.

v. GM No. 1 in China on Cheap Minivans Outselling Buick

Detroit-based GM, majority-owned by the U.S. government after emerging from bankruptcy, has boosted auto sales in China 43 percent this year, helped by state subsidies and prices starting at 25,800 Yuan (\$3,800). That's less than 20 percent the cost of a Chevrolet Silverado pickup, GM's best-selling model in the U.S. The company, maker of about one in every two minivans sold in China, has started exporting the 1-liter-engine vehicles to other emerging markets.

GM expects to sell more than 800,000 minivans in China this year, a six-fold increase from 2003, the first full year of production for SAIC-GM-Wuling Automobile Co. The carmaker opened the venture, based in the southwestern city of Liuzhou, after seeing a market for cheap, multipurpose vehicles, GM China President Kevin Wale said. "In China, people use cars for small business and at the same time for family transportation," he said. "In the U.S., they are generally into comfort and rarely buy a passenger car with a commercial utilization."

GM no longer makes minivans in the U.S., focusing instead on crossover and sport-utility vehicles. Minivans account for about 4 percent of vehicle sales in the U.S. this year, according to Woodcliff Lake, New Jersey-based Autodata Corp. Sport utility vehicles make up 28 percent.

The Wuling Sunshine, the best-selling minivan in China, has a wheelbase of 2.5 meters (98 inches). That's 50 centimeters (20 inches) shorter than the \$26,805 Honda Motor Co. Odyssey, the most popular in the U.S. The 2010 Odyssey gets 17 miles to the gallon in city driving. The Sunshine gets 47 mpg, Wuling said.

Wuling's three plants can make a total of 900,000 vehicles a year. Its 48 percent share of the Chinese minivan market is double that of its nearest rival, Sichuan province-based Chongqing Changan Automobile Co. That domination keeps Ford Motor Co., which makes sedans with Changan, and Volkswagen AG, the largest overseas carmaker in China, out of the nation's fastest-growing auto segment. Minivan sales jumped 60 percent in the first seven months to 1.09 million, almost double the growth rate for the overall passenger-vehicle market, according to the China Association of Automobile Manufacturers. Total vehicle sales, including trucks and buses, rose 23 percent as China surpassed the U.S. to become the world's biggest auto market. GM's total U.S. sales have fallen 38 percent through July.

Minivans likely have margins as low as 1,000 Yuan (\$150) each, Zeng said. GM shares Wuling's profit because it only owns 34 percent. Shanghai government-controlled SAIC Motor Corp., China's biggest domestic automaker, holds 50.1 percent, and Liuzhou Wuling Motors Co., based in southern China's Guangxi region, owns the rest.

Earlier this month, GM also started shipping Wuling minivans to South America, the Middle East and North Africa, where it will sell them as Chevrolets. The automaker is looking for new overseas markets after first-half sales in North America fell about 40 percent, forcing its predecessor to shutter businesses and enter bankruptcy.

The carmaker, which sold its first vehicle in China in the 1920s, also builds passenger cars in the country through Shanghai General Motors Co. That venture, equally owned with SAIC Motor, boosted sales 26 percent in the first seven months to 345,332, led by demand for the Buick Excelle, the nation's No. 2 selling passenger car. Hyundai Motor Co.'s Elantra Yuedong tops the rankings, with Volkswagen's Jetta in third.

GM's Asia-Pacific sales increased 22 percent in the first half, the only region to show an increase. All of its operations outside of North America are run from Shanghai by Nick Reilly, who was promoted from Asia-Pacific chief on Aug. 1.

w. Enova Supplies Hybrid Drive Systems to First Auto Works

Enova Systems, a production company in the alternative energy industry and a developer of proprietary electric, hybrid and fuel cell digital power management systems, recently confirmed that it has delivered seventy pre-transmission hybrid drive systems to First Auto Works. FAW has ordered an additional one hundred-fifty hybrid drive systems for delivery in 2009.

Enova Systems and First Auto Works have executed an agreement to supply a further eight hundred pre-transmission hybrid drive systems in 2010.

The Enova drive system will be integrated and branded under the name of Jiefang. The Jiefang 12 meter hybrid bus can carry 103 passengers and travel at a maximum speed of 85 kilometers an hour. The bus meets Euro III emission standards. It will consume only 30 liters of fuel every 100 kilometers and discharge 20 percent less emissions.

China is offering subsidies in 13 trial cities, including Beijing, Shanghai, Changchun, Dalian and Shenzhen. Each energy-saving or new energy vehicle used in public services attracts a subsidy of up to 600,000 Yuan, according to a the policy jointly issued by Ministry of Science and Technology and Ministry of Finance.

x. China Auto Trend 4: Investment in New Energy Vehicles & Related Infrastructure

Several macroeconomic and sociopolitical challenges are directly linked with the automotive industry: the redistribution of global economic power, energy dependence, global trade balance and environmental concerns. The rapid rise of the Asian economies – especially China – is sending shock waves through a system that was already out of balance in many of these areas. The global economic crisis presents the world with a compelling case for change, and truly transformational changes often occur during times of crisis. The economic crisis is a triggering event that freezes debate on whether change is needed and creates opportunities for collaboration between government and industry. Such collaboration is essential for the successful transition from the conventional internal combustion engine (ICE) to new energy vehicle (NEV) technology.

The balance of global economic power has been shifting eastward to places like India and particularly China. Most of the recent growth in the world's auto industry has been in the Asia-Pacific region, and more than half of that growth over the next decade is forecasted to come from China. Since 2003 China's vehicle market has more than doubled in size from 4.56 million units to 9.67 million units in 2008. In this time period, the passenger vehicle (extract the buses, trucks and other commercial vehicles) share has grown from 50% to over 60%.

Given the recent economic downturn, the China government undertook a series of focused stimulus actions designed to help achieve a GDP target of 8%. Through the first half of 2009, these measures already had a dramatic impact on the automotive market as Chinese consumers – many of whom were first time buyers – took advantage of tax and other incentives that were made available. For the first half of 2009, China surpassed the U.S. in total car sales, posting sales of 6.1 million units against 4.8 million vehicles sold in the U.S. from January through June.

China's rapid automotive growth is expected to continue. The market is forecast to account for more than half of the Asia-Pacific market expansion over the next decade, with over 6% annual

growth through 2018. As China's auto market continues to grow, pollution significantly increases while China's self-sufficiency rate of crude oil continues to decrease. To encourage the use of more fuel-efficient and less polluting vehicles, the central government's 2009 stimulus plan included objectives for increasing the proportion of smaller vehicles in the China market. Related initiatives include a 50% reduction in the sales tax for under 1.6-liter vehicles, additional taxes on larger vehicles, and a relaxation of restrictions on small cars. The government's stated objective as part of the plan is to achieve a market share target of 40% for 1.5-liter engine vehicles and below, and a share of 15% for vehicles with engines at or smaller than 1.0-liter. Overall affordability as well as the shift toward consumer versus institutional sales will also continue to support the development of smaller vehicles.

As the size of the auto market inexorably expands, China will play an increasingly key role in the development of new automotive technologies. China's emergence as the leading automotive market in terms of sales has several implications. While most attention has been paid to relative sales performance of the foreign and domestic companies, what is arguably of more long-term significance is the impact of China's market expansion on energy consumption and environment. Ten years ago, Beijing, Xi'an, Shenyang, Shanghai and Guangzhou were already listed among the Top 10 cities with the worst air pollution. The massive growth of the automotive market only adds to the problem. Additionally, China imports two-thirds of its oil, and its ever-increasing thirst has had a dramatic impact on global energy prices. No doubt, China has a clear and compelling need to reinvent the propulsion technology of the automobile.

To address this, China's stimulus measures are targeting initiatives to increase energy efficiency and reduce greenhouse gas emissions by reducing energy intensity, increasing the share of renewable energy used, implementing tough auto emissions standards, and adding investments for clean energy. China's Minister of Science and Technology, Mr. Wan Gang – a former automotive development engineer for Audi – has recently unveiled a plan to support the development of what China calls "New Energy Vehicles" (NEVs). The Ministry of Science and Technology, working with the Ministry of Finance and the National Development and Reform Commission, is sponsoring an ambitious plan to promote the use of NEVs initially targeting 13 pilot cities, which include Beijing, Shanghai, Chongqing, Changchun, Dalian, Hangzhou, Jinan, Wuhan, Shenzhen, Hefei, Changsha, Kunming, and Nanchang. The plan includes support for the development of energy-saving technology for use in government fleets, including buses, postal, and sanitation vehicles. The plan targets the deployment of 60,000 energy saving vehicles in China by 2012.

Both universities and vehicle manufacturers have already responded to the government initiatives. For example, Tsinghua University has established an alternative powertrain research lab. Chinese auto brands are participating in NEV development (some with foreign partners) and have included plans in their long-term strategies. Developments include the following:

- \* SAIC: Invested RMB 2 billion for NEV development
- \* Chang 'An: Established NEV JV and plans first hybrid car for 2009
- \* FAW / DFM: Have hybrid buses in pilot operation
- \* Chery: Introduced plans for the hybrid car A5 and electric car S18
- \* BYD: Introduced plans for the F3DM dual-mode electric car

Replacing internal combustion engines with other technologies- such as hybrid electric, full electric, hydrogen powered vehicles or clean diesel - requires collaboration between business and government to develop the infrastructure in tandem with development of the technology. The economics of the product itself and ultimate market acceptance is very much dependent on

the availability of the infrastructure to recharge or replenish the fuel. It's not realistic to expect a company to reinvent the technological underpinnings of the automobile unless there is a concurrent development and investment in the infrastructure to support that new technology vehicle. This is especially true in today's weakened global economy.

As the largest automotive market, and because the China government has the capacity and willingness to invest in the infrastructure for alternative propulsion, the technology will eventually come to the market. What makes the development of alternative propulsion technology particularly challenging is not simply the vehicle itself - but the need for invention of the infrastructure for delivering renewable sources of electricity and installation of battery charging/replacement stations.

As the largest car market, and the place with the largest need for alternative energy solutions, we can expect to see China place a heavy emphasis on development of the electric vehicle (EV) infrastructure. The country that leads the development of this infrastructure will undoubtedly lead in attracting the investment in development of the technologies that plug in to that infrastructure.

Consumer acceptance of new energy vehicles is yet another challenge. While the infrastructure investments already described will help tip the scales in favor of new energy vehicles, consumers must also be convinced that the price and performance of the new energy vehicle can in fact meet their expectations. As a national priority, we can expect the China government to help by offering incentives for the retail consumer to purchase new energy vehicles. Chinese consumers have less experience with gasoline-powered cars, and are already accustomed to short distance, low-speed commuting – conditions very favorable for electric cars.

The China government's willingness to invest in the infrastructure to support alternative propulsion technology will ultimately help drive market acceptance. This is where China has the opportunity to take the lead, and that will drive investment in new technology. It takes a combination of business and government working together to make such a transformational change possible – and nowhere in the world is there a closer link between business and government than in China.

Full report at <http://www.glgroup.com/News/China-Auto-Trend-4--Investment-in-New-Energy-Vehicles--Related-Infrastructure-42690.html>

## **68. Recent Developments in India**

### **a. Government Says India's Land and Air Getting More Polluted**

About 45 per cent of India's land is degraded, air pollution is increasing in all its cities, it is losing its rare plants and animals more rapidly than before and about one-third of its urban population now lives in slums, says the State of Environment Report India 2009 brought out by the government.

The third official report on the state of India's environment, published after a gap of eight years was released by Minister of State for Environment and Forests Jairam Ramesh in New Delhi.

The report, prepared by NGO Development Alternatives under the aegis of the ministry, says 45 per cent of India's land area is degraded due to erosion, soil acidity, alkalinity and salinity, waterlogging and wind erosion. It says the prime causes of land degradation are deforestation,



unsustainable farming, mining and excessive groundwater extraction. On the bright side, the report shows how over two-thirds of the degraded 147 million hectares can be regenerated quite easily, and points out that India's forest cover is gradually increasing. Ramesh said it would be unrealistic to expect that India's area under forests would go above the current 21 per cent, given the competing demands for land. "Our plan is to have all this 21 per cent as high and medium density forests within the next 10 years," he said. Currently, only two per cent of India is under high density forest cover, while medium density forests cover about 10 per cent of the land.

Presenting the salient features of the report to the media, Development Alternatives President (Development Enterprises) George C Varughese said one of its most worrisome findings was that the level of respirable suspended particulate matter -- the small pieces of soot and dust that get inside the lungs -- had gone up in all the 50 cities across India studied by the All India Institute of Medical Sciences and the Central Pollution Control Board. "In these 50 cities, with their population of 110 million, the public health damage costs due to this was estimated at Rs 15,000 crore<sup>2</sup> in 2004," Varughese said.

The main causes of urban air pollution were vehicles and factories, he pointed out, appealing for a major boost to public transport.

Ironically, the air around Delhi's Town Hall—which houses the capital city's mayor and 271 other lawmakers—is the most polluted in the country. It recorded an annual average of 82 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) of nitrogen oxide ( $\text{NO}_2$ ), above the Central Pollution Control Board's permissible limit of 60  $\mu\text{g}/\text{m}^3$ . For the whole of Delhi, the report said,  $\text{NO}_2$  levels have risen 33 percent between 2000 and 2008, from 36 to 48  $\mu\text{g}/\text{m}^3$ . It blamed Delhi's burgeoning vehicle population.

"Unbelievably, 17 per cent of India's cars run in Delhi alone. The vehicle stock is expected to quadruple by 2020," the report said.

While India still had some cushion when it came to water use, this scarce resource would have to be managed very carefully, the report says. It identifies lack of proper pricing of water for domestic usage, poor sanitation, unregulated extraction of groundwater by industry, discharge of toxic and organic wastewater by factories, inefficient irrigation and overuse of chemical fertilizers and pesticides as the main causes of water problems in the country.

While India remains one of the world's 17 "megadiverse" countries in terms of the number of species it houses, 10 per cent of its wild flora and fauna are on the threatened list, Varughese pointed out. The main causes, according to the report, were habitat destruction, poaching, invasive species, overexploitation, pollution and climate change.

The report points out that while India contributes only about five per cent of the world's greenhouse gas emissions that are leading to climate change, about 700 million Indians directly face the threat of global warming today, as it affects farming, makes droughts, floods and storms more frequent and more severe and is raising the sea level.

In the section on urbanization, the report points out that 20 to 40 per cent of people living in cities are in slums. Varughese said there were good projects to upgrade their lives and improve the environment at the same time, but the problem was that most of the money from schemes

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<sup>2</sup> 10 million

like the Jawaharlal Nehru National Urban Renewal Mission was taken away by the big cities, "while the major problem is in about 4,000 small and medium towns".

On the subject of energy security, the report said that though India has significant oil reserves, it is "relatively poor" in terms of oil and gas resources.

#### b. India Plans Green Overhaul

India is planning a radical overhaul of its environmental regulation to improve long neglected standards of compliance as it scrambles to protect fast degrading natural resources. According to Jairam Ramesh, environment minister, the Congress party-led government plans to set up an Environmental Protection Agency, modeled on that of the US, which would ensure that standards were implemented and monitored.

It has also sought parliamentary approval for the creation of other new environmental institutions including "green courts" aimed at resolving cases long stuck in the existing, overburdened judicial system.

Mr. Ramesh said India urgently needed to boost the transparency of the state's environmental protection duties. He described his own ministry as being widely regarded in the past as an "ATM ministry", or source of free-flowing and largely meaningless funds.

The new tribunals, which have received cabinet approval, would have the authority to address all issues concerning forestry and the environment. They would have civil powers allowing them to impose fines and short jail sentences. "We should have done this 25 years ago," said Mr. Ramesh of measures to improve an overstretched legal system struggling to cope with the demands of one of the world's fastest growing large economies and its rapid urbanization.

Leading business people, including Tarun Das, mentor of the Confederation of Indian Industry, have applauded Mr. Ramesh as India's first serious-minded environment minister. Previously, environmental clearance of business projects was largely viewed as "rubber stamping". Protection was a low priority; few projects were ever rejected on environmental grounds.

Since taking a cabinet post in the new government two months ago, Mr. Ramesh has brought great vigor to the environment portfolio - openly defying the US over proposed carbon-emissions cuts and proposing that gas-guzzling SUVs should be banned in India. He also announced and in no uncertain terms that BEE will be responsible for issuing fuel economy standards which will be enforced under the Central Motor Vehicles Act; it will be in kilometers/liter and mandatory.

#### c. Calcutta Moves to Clear Air Pollution

An estimated 60,000 buses, motorized rickshaws and taxis are being cleared off the streets of Calcutta as part of a bid by city authorities to combat longstanding pollution concerns. Authorities enforced a deadline for retiring commercial vehicles older than 15 years, and air-quality readings showed an almost immediate improvement. Officials are encouraging replacement transport to be powered by natural gas.

#### d. Toyota Mulls Diesel Small Car for India

The world's largest carmaker, Toyota, is evaluating options to introduce a diesel version of its small car to be launched in the Indian market by 2011. "We are keenly studying the diesel option for the small car to be launched by 2011. It will depend on the market and the government regulations regarding diesel engines," Toyota Kirloskar Motor (TKM) deputy managing director (marketing) Sandeep Singh said. He, however, declined to give any timeframe to launch the diesel version of the 'strategic' small car in the country.

Toyota Kirloskar Motor -- the Indian joint venture of the Japanese carmaker with the Kirloskar Group -- is investing Rs 3,200 crore (Rs 32 billion) in setting up a second plant in Bangalore to roll out the small car in the country.

Singh said the company is also evaluating options to launch a diesel version of its premium sedan Corolla Altis.

Asked about the Indian operations amidst the Japanese parent incurring losses of over \$ 800 million for the April-June quarter, TKM Managing Director Hiroshi Nakagawa said: "Our margins are under pressure, but so far we have been able to remain profitable. We expect to make marginal profits in this year as well."

e. Hyundai to Introduce 1.1 Liter Diesel i10 in India

India's third largest car maker, Hyundai Motor India Ltd, is looking to build a diesel engine plant in the country. The auto maker has reportedly got an in-principle approval from its parent in South Korea.

The firm is likely to invest at least Rs500 crore to build a factory that would have an installed capacity to produce around 100,000 engines, according to press reports. The capacity may be expanded later. Hyundai Motor India declined to comment on the matter.

The company is likely to introduce a diesel variant of its i10 hatchback model in the next eight-12 months and likely to import the engine to start with and eventually look at localizing the 1.1-litre diesel engine. It also reportedly plans to localize the 1.4-litre diesel engine for i20 model, which is currently being imported. Localization of these engines is likely to bring down the cost of the cars by almost 15-20%.

f. Petrol, Diesel Losses Flare Up in India As Refiners Keep Fingers Crossed

On August 1, the annual projected losses for the troika of Indian Oil, Hindustan Petroleum Corporation and Bharat Petroleum Corporation were Rs 32,000 crore. Today, they are nearly Rs 43,000 crore thanks largely to diesel and petrol slipping deeper into the red with losses of Rs 2.33 and Rs 4.40 a liter respectively, compared to 39 paise<sup>3</sup> and Rs 1.73/liter in the beginning of this month.

On the other hand, cooking gas (LPG) and kerosene losses have remained flat at Rs 159 a cylinder and Rs 16 a liter. There is no telling, though, which way LPG is heading with one school of thought insistent that prices are set to fall in the coming weeks. However, winter is only a few months away in Europe and the US which could translate into a price spiral.

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<sup>3</sup> One-hundredth of a rupee

From the public sector refiners' point of view, there is reason to be worried especially about diesel. The losses could have jumped six-fold from last fortnight and will, in any case, be compensated by Oil and Natural Gas Corporation with a little help from Oil India and GAIL (India). The bigger fear, though, is that with the threat of power cuts looming large in many parts of the country, there will be a tendency to use more diesels for generator sets. Oil industry sources say that consumption has seen a marked increase in the last two months, especially in the eastern and central regions. Also, the drought could lead to a shortfall of hydro power which, in turn, will result in resorting to diesel.

Should losses on diesel touch Rs 10/liter in the coming months, even ONGC will have a tough time making good the losses to the refiners. In this case, the Centre will have to step into the picture and issue oil bonds which are due, in any case, to make good LPG and kerosene losses for this fiscal.

Petrol, likewise, has seen a sharp spurt in losses over the last fortnight but this is still not a "worry area" yet because consumption will not go out of control as in the case of diesel.

"Both are essentially transport fuels but diesel being more affordable is diverted to other applications and this aggravates the problem," sources reportedly said.

The Centre will also be loathe to increase diesel prices because of its inherent ability to stoke inflation at a time when food prices are getting out of control and customers are increasingly finding it hard-pressed to balance their household budgets.

#### g. India HPCL to Start Euro III Diesel Early Next Yr

India's Hindustan Petroleum Corp (HPCL) will start producing Euro III diesel, a superior quality fuel, from its Mumbai and Vizag refineries by early next year, Chairman and Managing Director Arun Balakrishnan has announced. The company has started producing Euro III quality petrol at its Mumbai refinery and hopes to start producing it at its Vizag refinery soon, Balakrishnan said.

"Our refinery upgrade projects for producing cleaner fuel are on track," he told the company's annual meeting of shareholders.

He said Euro IV quality petrol would be available at both the refineries by the end of the year.

The Euro IV specifications are being enforced from April 2010 in 11 big cities that currently sell Euro III fuels. The rest of the country, where fuels of lower standards are sold, will upgrade to Euro III.

Balakrishnan said a new fluid catalytic cracker unit at the Mumbai refinery would be complete by the middle of next year.

### **69. All Second-Hand Cars Imported Into New Zealand to Be Emissions-Tested**

The Government is going ahead with a new emissions-testing rule for imported second-hand vehicles, despite the opposition of used-car importers. The Vehicle Exhaust Emissions Rule has been phasing in since May last year, but some used-car importers wanted its implementation delayed in an attempt to boost flagging car sales. The Government has decided, however, that from January all second-hand imported diesel cars will have to meet a new standard designed to improve air quality - as will all second-hand imported petrol cars from 2012.

The new standard does not affect vehicles already in New Zealand or those imported brand-new.

The Motor Industry Association has welcomed the Government's decision but some used-car importers say it will keep older vehicles on the road for longer, by making replacement vehicles harder to afford.

One importer says the price of used diesel vehicles has already been pushed too high. Wellington importer Tony Jackson says the drive to cut emissions has priced out many trades people wanting an affordable older vehicle.

Meanwhile, the Government has scrapped plans for a regulated vehicle fuel economy standard, which was proposed by the previous government. Transport Minister Steven Joyce says the potential benefits of the scheme would have been outweighed by the costs to motorists. While specific details were never confirmed, the scheme would have seen importers of less fuel-efficient vehicles having to buy credits, while more fuel-efficient vehicles got credits. Mr. Joyce says the scheme would have added significant extra costs that would ultimately have been passed on to motorists. He says current trends suggest people are already choosing smaller, more fuel-efficient cars without any direct intervention by the Government.

From January 2010, used diesel vehicles will need to meet a standard known as Japan 05 for harmful exhaust emissions. Used vehicle importers had called for the implementation of this standard to be delayed to improve flagging sales.

## **70. New Zealand Lags Behind on Emissions, Safety Data**

The Australian Government is considering recommendations to base registration costs for all cars on environmental performance, but this type of policy would be unworkable in New Zealand under current motor vehicle regulations. "It would be unworkable in the future, too," says Motor Industry Association CEO Perry Kerr, "unless a whole new Motor Vehicle Registry is developed.

"But this is unlikely - we have been told that it would cost anything between \$60 to \$90 million to replace the existing system and that there is no money to do this, in spite of a compelling case that it needs to be done."

The MVR lists all the vehicles registered in New Zealand: make, model, engine, number of doors and so on. But updating it with information like CO2 exhaust emissions and safety equipment is said to be cost-prohibitive and a drain on resources.

"The MVR is constrained by the number of details about a vehicle or model that can be collected," says Kerr. "Currently the only safety feature on which information is [held] is compliance with frontal impact standard, added in the late 1990s or early 2000s.

"It is now virtually impossible to change or add information to the MVR. As an example, when the motor industry had a problem with the year of manufacture of vehicles and wanted to submit the notation 'not available', or something similar, the quoted cost ran over \$1 million. "The MVR therefore has no information on emissions, safety equipment or features such as crash ratings.

"Fuel economy figures have only been collected since 2005/06 - so you would be lucky to have 15 per cent of vehicles with fuel data."

The Green Vehicle Guide rates new Australian vehicles based on greenhouse and air pollution emissions. The rating is calculated using data provided by carmakers from testing the vehicle against Australian standards. The Australian Government is basing new tax incentives on fuel efficiency, especially in the luxury sector. BMW Australia has just launched the 3-Series 330d, the sixth new BMW diesel to attract a dispensation from the luxury car tax because it uses less than 7 liters of fuel per 100km.

Cars costing more than A\$53,710 (\$66,632) in Australia attract a 33 per cent luxury tax. But those that meet the new fuel standard aren't taxed as much. For example, the 330d costs A\$87,250 against A\$97,900 for the diesel Mercedes-Benz C320 CDI, which uses 7.4litres/100km.

But the recommendations to the Australian Government suggest the charges be based on the Green Vehicle Guide, which penalizes diesel cars in its ratings because they emit more NOx (oxides of nitrogen) and particulate matter.

BMW argues the guide's rating system, which awards one to five stars based on CO2 emissions, fuel efficiency and air pollution, lumps too many cars in the same category.

### **71. Toyota to Buy Batteries for Hybrids from Sanyo**

Toyota Motor Corp will buy hybrid-car batteries from Sanyo Electric Co, a source familiar with the matter said, as the automaker struggles to meet growing demand for the fuel-sipping vehicles due to a shortage of battery supply. Toyota now procures its batteries from Panasonic EV Energy Co, a joint venture with Panasonic Corp. Panasonic plans to take control of Sanyo and is awaiting regulatory approval.

Demand for gasoline-electric vehicles has surged in Japan, helped by tax breaks and subsidies under a government initiative to promote fuel-efficient automobiles, but Toyota has said production of its hybrids is being held back by a supply bottleneck for batteries.

Its Prius hybrid was Japan's best-selling car in July for a second straight month, but customers placing orders have to wait about eight months before delivery.

Toyota also said this week it had received about 10,000 orders for the Lexus HS250h sedan, the premium brand's first dedicated hybrid car, in its first month of sale in Japan. It aims to sell an average 500 units a month.

Toyota, the world's biggest automaker, will first use Sanyo's lithium-ion batteries from around 2011, said the source, who confirmed a report in the Nikkei business daily. Toyota will first procure about 10,000 battery units per year from Sanyo, the world's biggest rechargeable battery maker, according to reports. Toyota aims to sell at least 1 million hybrid vehicles a year in the early 2010s.

Panasonic EV Energy has said it plans to double battery production capacity to around 1 million units a year by the middle of 2010.

Sanyo, which has a battery tie-up with Volkswagen AG, told Reuters in June that it had secured customers for its lithium-ion batteries in the United States, Japan and Europe as it seeks a 25 percent share in the global market for auto-use rechargeable batteries by 2015. Other battery

makers such as Toshiba Corp and the joint venture between Nissan Motor Co and NEC Corp are also looking to supply their batteries to a broad customer base to bring costs down.

## **72. Mitsubishi Heavy to Make lithium-Ion Batteries**

Mitsubishi Heavy Industries Ltd, Japan's biggest heavy-machinery maker, has announced that it plans to start mass-production of industrial-use lithium-ion batteries in late 2012. Demand for heavy-duty, rechargeable lithium-ion batteries, which can be used in buses and wind power generators, is growing fast amid environmental concerns.

Mitsubishi Heavy said the company is also interested in a scheme planned by Better Place, a California-based company building a global network of charging stations for the electric car industry.

Mitsubishi Heavy, which is also expanding capacity in its nuclear power business, said it would spend 10 billion yen (\$100 million) to build a test plant for the production of lithium-ion batteries for use in products like fork-lift trucks, wind power generation and solar panel systems in 2010. The plant, to be located in the company's Nagasaki shipyard in southern Japan, will have an annual output capacity of 400,000 medium-sized cells. The company said it aims to start operating a mass production plant in late 2012 with an annual output capacity of 1.2 million cells.

Mitsubishi Heavy expects global demand for heavy-machinery use lithium-ion batteries to more than double to around \$30 billion by 2015.

Producers of car-use lithium-ion batteries include Hitachi Ltd, Toshiba Corp, GS Yuasa and U.S.-based A123 Systems.

## **73. Southeast Asia Braces for More Haze**

Indonesia appeared to bat away offers from other Southeast Asian countries to help stop haze pollution, leaving the region facing worsening skies as a result of a brewing El Nino weather pattern. Worried about the potential impact, environment ministers of the region met in Singapore to discuss ways to mitigate the haze, which cost over \$9 billion in damage to the region's tourism, transport and farming during an El Nino weather pattern in 1997/98.

"Recognizing the situation will be drier than normal, the ministers now agree that: 'Let us prepare for the worst, do what we can,'" Singapore Environment Minister Yaacob Ibrahim told a news conference after the one-day meeting in the city-state. Singapore, Malaysia, Brunei and Thailand offered help to Jakarta to combat outbreaks of fire, but gave no details of concrete funding or measures such as providing fire-fighters.

Ministers and senior officials from the five countries agreed to ban all open burning and to suspend permits for burning in fire-prone areas, but the region's track record in combating fires that lead to international pollution has been weak. Regional grouping ASEAN has a policy of non-interference in its members' domestic affairs and is seen by some as a talking shop.

Forest fires are a regular occurrence during the dry season in Indonesian regions such as Sumatra and Borneo, but the situation has been aggravated in recent decades as farmers, paper and palm oil plantation firms start fires to clear land.

The result is smog-like haze in cities such as Singapore, Kuala Lumpur and Thailand's Hat Yai, reducing visibility and increasing health problems. The ministers said Indonesia had made progress in the past three years to reduce fires.

Indonesian environmental groups said the government of President-elect Yudhoyono should put forest protection at the top of its agenda, ahead of an international meeting in Copenhagen in December to agree action against climate change. "Every day more precious forest and peatland is being destroyed, burned and cleared by climate and forest criminals ... leading to an exponential increase in greenhouse gas emissions that is causing climate change," Greenpeace said in a statement.

#### **74. Thailand Newspaper Decries High Cost of Diesel Subsidy**

Prime Minister Abhisit Vejjajiva has made a disappointing and ultimately bad decision in meddling with the market to subsidize diesel fuel according to an editorial in the Bangkok Post. He ignored the advice of his own energy minister, as well as many conservation experts and economists to order a cut of two baht in the price of the fuel. That subsidy is to be across the board and without restrictions. That is, anyone using diesel fuel is to get a subsidy from fellow taxpayers. The prime minister has ordered the price cut equally, whether for pleasure driving, work or essential transport. This sends a terrible signal to virtually all sectors of the nation said the Post.

The prime minister wobbled briefly late last week on the question of fuel prices. He said he would not allow diesel to rise above 35 baht a liter, then amended that to 30 baht. But then, with prices nowhere near that threshold, Mr. Abhisit cut the diesel price anyhow.

He has given scant justification for this populist move said the Post. While he was clearly concerned that world oil prices were above \$70 a barrel and slowly rising, consumer prices at the pump were far steadier. When Mr. Abhisit mentioned his concern that prices would rise above 35 baht a liter of diesel, the actual cost was 26.09 baht at the pumps of PTT, the nation's largest diesel seller.

The only public backer of Mr. Abhisit's diesel price cut was Finance Minister Korn Chatikavanij. Mr. Korn did not address the public on the issue. But he is a strong supporter of so-called "stimulus spending" to fight the recession. He has been the minister most consistently committed to racking up huge national debts in an effort to kick-start the economy or at least to ameliorate the worst of the economic downturn. In a perverse way, having the government and its Oil Fund absorb a two-baht loss on every liter of diesel will promote public spending, and give many consumers a little more money in their pockets.

There are, however, no truly good arguments in favor of Mr. Abhisit's plan, apart from populist politicking. There are, in fact, two vital reasons to let the market rule. The first is that lower fuel prices encourage more driving - just as Mr. Korn says. Yet having more vehicles on the road, or having vehicles on the roads for longer periods, is a huge snub to the conservation of resources, of fossil fuel and of the money already needed to import foreign oil into Thailand, the single biggest overseas expense.

In addition, it is also a fact that as the economy recovers around the world, it is inevitable that fuel prices will rise. Neither the government nor its Oil Fund is in any position to subsidize fuel prices in general, the way the government has now decided to proceed. The public will have to



adapt to rising oil prices once again, simply because taxpayers cannot afford to subsidize such expenditures.

A strong case can be made for the government to subsidize certain necessary activities involving fuel - for trains and long-distances buses, for example, and for farm vehicles and fishing boats. Even those subsidies would be subject to cheating and black marketing. But the Oil Fund should be used as intended. That is to ease any "oil shocks" from sudden price rises, and to help the public cope with rising prices. It is not meant to subsidize long-distance holiday driving by half the pick-up truck owners.

Mr. Abhisit should reconsider this unreasonable subsidy, and apply the Oil Fund in a more useful manner, to benefit the country instead of all of the owners of diesel vehicles, said the Post.

### **75. Japan Unveils Plan to Cut GHG Emissions 80 Percent by Mid-Century**

Japan could reduce its greenhouse gas emissions more than 80 percent from 2005 levels by 2050 if it replaces all existing motor vehicles with electric and other more environmentally friendly cars, boosts solar power generation to 120 times current levels, increases energy efficiency in all buildings and houses, and uses more nuclear power, according to a road map released on August 14<sup>th</sup> by the Ministry of the Environment.

Japan must become more aggressive in reducing its emissions, the road map said, citing the recent pledge by the Group of Eight leaders, meeting July 8–10 in L'Aquila, Italy, to achieve an 80 percent emissions cut by 2050. "Japan also needs to achieve an 80 percent reduction," Environment Minister Tetsuo Saito said in the document.

With more efficiency and a mix of renewable energy, including increased use of solar, hydro, nuclear, and biomass power, as well as other types, Japan can reduce its greenhouse gas emissions more than 80 percent by 2050, the road map said. Such changes can reduce current energy consumption by 40 percent.

Details called for increasing solar power generation by a factor of 20 by 2020 and by 120 times by 2050. It also called for storing all carbon dioxide emitted from thermal power stations with carbon capture and storage technology by 2050. Other recommendations include converting all steel mills to use the hydrogen recycling furnace method by 2050; replacing 50 percent of new vehicle sales with electric and fuel cell vehicles by 2020 and all new vehicle sales by 2050; converting 20 percent of Japanese homes to high-insulation structures by 2020, and 100 percent of them by 2050; and converting 30 percent of home water heating to heat-pump type by 2020, and all of them by 2050.

The road map was released with Minister Saito's name on it, a rather unusual method in Japan. Although ministry officials and politicians did not comment on the timing of the road map's release, the ministry issued the document just prior to the August 30<sup>th</sup> elections for the House of Representatives (Shugiin), in which the ruling Liberal Democratic Party is expected to lose its grip on power for the first time in years. The LDP and Komeito party held a two-thirds majority in the lower house until Prime Minister Taro Aso dissolved the chamber on July 21<sup>st</sup> and called for national elections. Saito is a Komeito party member.

The election result is expected to influence Japan's approach to the U.N. climate change summit in Copenhagen in December. To date, the LDP-Komeito coalition, which runs the

Japanese government, has been lukewarm to greenhouse gas emissions reductions. In June, Aso announced a midterm target to cut emissions 15 percent from 2005 levels by 2020, an 8 percent reduction from the Kyoto Protocol benchmark year of 1990. Katsuya Okada, secretary-general of the main opposition party, the Democratic Party of Japan (DPJ), has called the midterm target "totally inadequate." In its election manifesto released in late July, the DPJ pledged to reduce Japan's greenhouse gas emissions 25 percent by 2020 from 1990 levels by promoting solar power generation and a plethora of energy conservation policies.

#### **76. Japanese Firms to Develop Hydrogen Fueling Stations**

Thirteen top Japanese energy suppliers will join forces to develop hydrogen filling stations for fuel cell vehicles, the companies said on August 4<sup>th</sup>. In a joint announcement, the companies said they hope to launch a pilot program for the filling stations in 2011, followed by full commercial distribution in 2015. The 13 companies include Nippon Oil, Tokyo Gas, Osaka Gas, Japan Energy, and other leading oil and gas wholesaler-retailers. They have formed a research and development group called the Hydrogen Supply/Utilization Technology Research Association, the announcement said. The association plans to prepare hydrogen station specifications and locations. It also will manufacture, ship, and transport hydrogen; will build and maintain stations; and will sell stations to end-users. The association also will operate fuel cell vehicles, the announcement said. A Nippon Oil official declined to comment on the size of the project, but he did not deny that it would cost upward of 100 billion yen (\$1.03 billion). Automakers Toyota and Honda both currently offer fuel cell vehicles for lease in Japan and the United States, but the numbers are very small due to the limited number of hydrogen fuel stations and the high price of hydrogen fuel.

#### **77. South Korea to Cut Greenhouse Gas Emissions in Variety of Ways**

On July 6<sup>th</sup>, the presidential Green Growth Committee unveiled a package of environmental, industrial, and energy security programs to put South Korea on the leading edge of global efforts to curtail greenhouse gas emissions. The committee, inaugurated in February to promote a broad agenda of sustainable development, said South Korea would spend a total of 107 trillion won (\$84 billion) to implement a new five-year plan for 2009-2013.

Under the plan, South Korea will set midterm and long-term greenhouse gas emissions reduction targets later this year and start implementing gradual reductions next year. South Korea is not covered by the Kyoto Protocol's reduction obligations. A market for carbon emissions trading will be launched in 2012.

Already a nuclear energy powerhouse with 20 nuclear power plants locally in operation, South Korea will start exporting nuclear power by 2012 by localizing advanced nuclear power technology currently monopolized by Westinghouse Electric Co. of the United States, according to the five-year plan.

The plan's industrial focus also targets LEDs (light emitting diodes), solar cells, hybrid cars, and other emerging technologies with the aim of gaining a significant global market share.

A "green certificate" program will be introduced to make it clear what technologies, projects, and companies are "green," and new tax incentives will be offered to investors putting money into a green industry, the committee said.

Fuel Efficiency Standards Set

Apart from the five-year plan, the committee issued a reform outline of South Korea's automotive fuel efficiency regulation based on recommendations from the Ministry of Knowledge Economy and the Ministry of Environment. (See story below.)

The Green Growth Committee is composed of Cabinet ministers and outside experts operating under the Office of the President and is presided over by the president. The planned measures would be implemented by enacting the Basic Law on Low-Carbon Green Growth now pending in the National Assembly and amending existing laws if necessary.

### **78. South Korea to Toughen Fuel Efficiency Rules**

The South Korean government has announced a national program to reduce carbon emissions and raise fuel-economy of new cars starting in 2012 in an effort to combat global warming and energy shortage problems. The plan will require passenger cars and mini vans with less than 10 passenger seats to run an average of 17 kilometers per liter by 2015 or produce less than 140 grams per kilometer of CO<sub>2</sub> Equivalent emissions (including N<sub>2</sub>O, CH<sub>4</sub>, and HFCs), officials said. The requirement will be enforced gradually, starting with 2012 vehicle models - 30% the first year, 60% in 2013, 80% in 2014 and 100% in 2015.

The national program would allow savings of 15 million barrels of oil and reduce 8 million tons of carbon emissions by 2015, the officials said.

"To effectively cut down carbon emissions in the face of climate change and energy crisis, the role of the transportation is important," an official said. The transportation sector accounts for 19.3 percent of the nation's energy consumption and is responsible for 17 percent of carbon emissions in Korea.

Starting in 2012, carmakers would be required to secure registrations from government authorities after testing the fuel-economy or the amount of carbon emissions of new cars from designated private institutions. As of 2012 or 2013, the government will impose penalties for carmakers that fail to fulfill one of the two sets of requirements. (Some in the government want to require both standards.) Ministries will introduce detailed plans within the year, officials added.

The government will offer additional incentives for carmakers developing cars emitting less than 50 grams per kilometer. Automakers will also be able to trade carbon credits with other manufacturers -- those who have failed to abide by the new regulations, officials said.

Seoul also plans to offer various tax incentives for green car buyers and subsidies for automakers' green initiatives. The government also plans to set new auto tax rules based on fuel-economy and carbon emissions. Currently, the country's auto tax is based on a car's engine capacity.

These new developments are part of the government's latest attempt to match other countries' green initiatives. The regulations will assist local industry to develop green technologies on cars and to meet the stricter standards being adopted in more advanced countries, officials said. The South Korean carmakers are coming under pressure from their major export destinations - Europe and America - to make changes to these laws. About 820,000 vehicles or 31 percent of the total production were transported to European countries while 770,000 were sold to North

American markets. Korea is the fifth-largest carmaker in the world. The country exports more than 70 percent of its vehicles overseas.

Currently the average output ranges from 170 to 200 grams per kilometer for conventional cars.

### **79. Hyundai To Invest \$3 Billion In Green Projects By 2013**

Hyundai Motor Group, the world's No.5 automaker, has announced that it would invest \$3.3 billion in green projects to meet the government's stricter fuel efficiency and emission requirements, joining a recent series of eco-friendly investments by South Korean firms. Hyundai, which includes the country's two largest car makers -- Hyundai Motor Co and Kia Motors Corp -- plans to spend 4.1 trillion won (\$3.28 billion) to develop environmentally friendly cars and reduce carbon dioxide emissions by 2013, the company said in a statement.

Of the total, 2.2 trillion won will go to developing hybrid cars and 1.4 trillion won to improving the fuel efficiency of engines. The remainder will be spent on energy facilities to cut emissions. Hyundai's announcement came after Samsung Electronics Co Ltd earlier this week unveiled a plan to invest 5.4 trillion won in green research and development and facilities.

Over the next five years South Korea will invest 107 trillion won, or 2 percent of its annual gross domestic product (GDP), in environment-related sectors, the government said in early July.

The government also said separately it would raise 2 trillion won for "green industries" from the private sector.

### **80. South Korea to Choose From Three Targets for GHG Emissions Cuts by 2020**

On August 4<sup>th</sup>, South Korea's Presidential Committee on Green Growth said that the country will set a 2020 greenhouse gas emissions goal by the end of this year based on one of three scenarios calling for reductions of 21, 27, and 30 percent from emissions levels under a business-as-usual benchmark. Under business-as-usual, which assumes no policy intervention, South Korea's greenhouse gas emissions would increase 37 percent from 594 million tons of carbon dioxide equivalent in 2005 to 813 million tons in 2020.

In effect then, the committee's three scenarios represent an 8 percent increase, no change, and a 4 percent cut, respectively, from South Korea's 2005 emissions levels. The most ambitious reduction target would involve more aggressive efforts than the other two options, including mandatory use of high-energy-efficiency products.

Once a final target is selected, it will be the first time South Korea has come up with a specific reduction target. The country ratified the Kyoto Protocol but does not have a binding emissions reduction target for the protocol's 2008–2012 commitment period. "This pronouncement of a voluntary midterm reduction target will strengthen the country's negotiating stance" ahead of the 15th Conference of the Parties to the U.N. Framework Convention on Climate Change in December in Copenhagen, the committee said in a statement.

The committee plans to pick one of the three reduction scenarios by then as South Korea's answer to international demands for more participation from emerging economies in curtailing greenhouse gas emissions worldwide. The committee said it would build consensus on which target to choose by hearing opinions from industry groups, civic organizations, and the general

public over the coming months. The decision will be final with no further government action or legislation needed.

“Each of the three targets marks a dramatic departure from the trend of South Korean GHG [greenhouse gas] emissions, which doubled over the 15-year period” from 1990 to 2005, the committee said. It was the fastest pace of growth among the 30 Organization for Economic Cooperation and Development countries, which include some of the world's most industrialized and wealthy nations.

The committee said much of the cost of implementing a reduction target could be offset by emissions trading, a carbon tax, and other support schemes, as well as the economic stimulus effects of fiscal and private-sector investments. The committee has already laid out a five-year “green growth” plan worth 107 trillion won (\$87 billion) for 2009-2013 along with new fuel efficiency standards aimed at reducing greenhouse gas emissions from cars.

Domestically, a national climate change target is intended to help establish priorities among many “green growth” projects planned for the public and private sectors, such as renewable energy and environment-friendly technology development. Son Ok-ju, climate change policy director at the committee, said, “The goal-setting and the subsequent push for voluntary reductions will remove uncertainty for businesses to go ahead and invest in low-carbon green industries.”

### **81. Indonesia Agency Seeks Sweeping CO<sub>2</sub> Emissions Cuts**

An Indonesian environment agency has set out a roadmap for the government to adopt forestry, energy, transport, industrial and agriculture policies that would slash carbon emissions by the world's No. 3 emitter. Indonesia's government-backed National Climate Change Council, or NCCC, said significant cuts in emissions could be made through efforts to conserve forests and peat lands, among its top recommendations in a report published ahead of the key climate change talks in Copenhagen in December.

The Indonesian agency said forestry, agriculture, power, transportation, buildings, and cement account for most of Indonesia's emissions, which it put at 2.3 gigatons (billion tons) of carbon dioxide equivalent in 2005 -- or 10 metric tons per Indonesian -- and forecast would reach 2.8 gigatons in 2020 and 3.6 gigatons by 2030.

But Indonesia could potentially reduce emissions by as much as 2.3 gigatons of carbon dioxide equivalents by 2030, the NCCC said, with the adoption of 150 different programs, in effect bringing the level down to 1.3 gigatons.

Most of the reduction needs to be focused on the forestry, peatland and agriculture sectors, where there is the greatest potential to cut emissions resulting from deforestation, forest fires, drainage of peat lands, and rice cultivation, the NCCC report showed.

It recommended a halt to deforestation coupled with more active reforestation programs, as well as turning forests into carbon sinks, and better water and nutrient management in agriculture.

While Indonesia faces considerable pressure to lift power production and is building new power plants, it needs to ensure the use of clean and renewable energy sources and increased use of clean coal technologies, the NCCC said.

The agency also recommended a shift toward the use of hybrid and electric vehicles, improvements in internal combustion engines, the use of more efficient electrical appliances, efficient lighting and water heating.

"This will provide guidance for the environment ministry and the council to move forward to follow the world's trend to enter a low carbon development growth," environment minister Rachmat Witoelar told reporters at a briefing for the report.

NCCC officials said the study would help the government to revise its environmental policies, develop pilot strategies in the provinces, and decide on its position in the next UN Climate Change Conference meeting in Copenhagen.

Under an emerging U.N. scheme called reduced emissions from deforestation and degradation, or REDD, developing nations can potentially earn billions of dollars by setting aside and rehabilitating their forests. The valuable carbon offsets they earn could be sold to rich nations to help them meet their emissions goals under the scheme that is likely to be part of a broader climate pact from 2013.

## **82. Toyota Reportedly To Launch Hybrid Compact In Japan**

Japan's Toyota Motor Corp plans to launch a hybrid compact for around 1.5 million yen (\$15,760) in Japan in late 2011, broadening its hybrid car line-up, the Asahi newspaper has reported.

Demand for gasoline-electric vehicles has jumped in Japan, helped by government tax breaks and subsidies on cleaner cars, and as Toyota and rival Honda Motor Co have lowered prices on their flagship hybrids -- to as low as 2.05 million yen for Toyota's Prius and 1.89 million yen for Honda's Insight.

Honda's new Insight became the first hybrid to top the monthly ranking of best-selling cars in Japan in April, while Toyota's fully remodeled Prius, which debuted three months after the Insight, was No.1 in May.

Toyota's new hybrid-only compact will use the platform and engine of the Yaris compact, which will be fully remodeled ahead of the new hybrid's launch, and feature a more cost competitive and fuel-efficient hybrid system than that of the Prius, the Asahi said.

Toyota may produce the new hybrid not only in Japan but also in France for sale in Europe, the daily said.

The new Toyota hybrid compact is expected to compete with the hybrid version of Honda's Fit compact, which will debut in Japan next year, the newspaper said.

Toyota will also raise its daily production target in Japan to 13,500 units in September and 13,700 in October nearly double the levels in February-April, as government subsidies in and outside Japan help boost demand, the daily said.

A Toyota spokeswoman said the company could not confirm the report as it reveals product and production plans only through official announcements.

### **83. Electric Bicycles Ride Green Demand In Japan**

Riding the vogue for eco-conscious products, companies ranging from battery to tire to motorcycle makers in Japan are looking to cultivate a market that beats even hybrid cars in green credentials: electric bicycles. Japan's motor-assisted bicycles use a small electric motor and battery pack mounted inconspicuously on the bicycle to propel the rider, constantly adjusting the motor's force to the speed and resistance of the pedaling.

That makes cycling up a hill or while carrying a heavy load a cinch, winning over a growing number of elderly and housewives in Japan. Sales of electric bicycles more than doubled from 2000 to 315,000 last year, as they became more affordable and practical.

The motor switches off automatically once the speed reaches the 24 km/hour (15 mph) legal limit for assisted riding, classifying the vehicles as bicycles, unlike the popular electric bicycles sold in China, which would require a license in Japan.

Yamaha Motor, Japan's No.2 motorcycle brand and top maker of electric bicycles, expects more of a tailwind for the market. Thanks to advances in rechargeable batteries, Yamaha's standard electric bikes have a range of 39 km (24 miles), or 67 km using an optional mode that activates the motor only when desired. That's about double the range of its first model introduced in 1993.

Charging time has shrunk to two hours from 10, with one charge costing around 10 cents. One catch though is that batteries need to be replaced roughly once every two years, and they cost at least \$250 each.

Electric bicycle makers, which also include Panasonic, Sanyo Electric and Bridgestone, also expect a boost from the nationwide road-rule relaxation this month that allows riders to mount two pre-schoolers as long as the bicycle clears stability and other standards.

Sanyo, which supplies batteries for Yamaha's products, has unveiled two new products, including the world's first motor-assisted bicycle with a carbon composite frame geared toward enthusiasts. The price tag: 627,900 yen (\$6,636), versus anywhere from \$800 to \$2,000 for a Yamaha.

Sanyo expects total domestic shipments of motor-assisted bicycles to top 400,000 units in two years, making them a rare bright spot in the static overall bicycle market in Japan.

Sanyo and Yamaha officials said they also anticipate growth in Europe, where bicycle culture is just as pervasive.

### **84. Indonesian Official Eyes Fuel Subsidy Cuts**

Indonesia may cut subsidies for fossil fuels and introduce policies requiring state electricity firm PLN to use renewable energy sources for part of its supply within a year, according to a senior environment official. Ranked the world's third-biggest emitter of greenhouse gases in a 2007 World Bank report, Indonesia is considered a key player in the fight against climate change.

However, it has struggled to attract investment for geothermal, solar and wind energy projects, partly because its fuel subsidy program strains the national budget and makes it difficult for renewable sources of energy to be competitive.

Fuel subsidies, which cost the state billions of dollars, are a particularly sensitive political issue and in the past cuts in subsidies have sparked social unrest. The government raised the price of subsidized fuel in tandem with higher global oil prices in early 2008, but cut them again as oil prices dropped in late 2008 and early 2009, just a few months before parliamentary and presidential elections, which incumbent President Susilo Bambang Yudhoyono won in a landslide.

The head of Indonesia's National Council on Climate Change, Agus Purnomo, told reporters that with elections now out of the way, he expected fossil fuel subsidies would drop to a level where renewable energy producers could compete within a year. He said the fossil fuel subsidy would continue to exist but would be "below the distortion level that discourages renewable energy."

### **85. Fires Cause Air Quality Deterioration Over Malaysia**

The air quality in Malaysia largely deteriorated over the course of a recent day. As of 5pm, only 19 locations in the country registered good air quality while 30 registered moderate air quality, according to the Department of Environment's website.

The air quality in Tanjung Malim was found to be unhealthy, recording an Air Pollution Index (API) reading of 113.

52 hotspots were detected in Sumatra while Borneo and peninsula Malaysia recorded 91 and 2 hotspots respectively.

Among the locations which registered moderate air quality are Batu Muda (75), Cheras (70), Putrajaya (67), Kuala Selangor (78), Port Klang (73), Kemaman (70), Jalan Tasek, Ipoh (78), Balok Baru, Kuantan (71) and Pasir Gudang (72).

Air quality is considered good if the API reading is between 0 and 50.

Moderate air quality has an API that ranges between 51 and 100 while an API between 101 and 200 indicates unhealthy air quality.

Meanwhile, the Minister of Environment, Rachmat Witoelar, said the authorities would not hesitate to arrest the perpetrators of forest and land fires, and sent them to prison following the issuance of a new environment law next September. Quoting Antara news agency Witoelar reportedly said that the new law, effective from September 8, would give the authority to coordinate with other relevant authorities to arrest those who burn forests and land bushes. He said his office would directly fix police lines at the areas affected by fires and handcuff the perpetrators, before imposing jail sentences upon them.

In the meantime, haze has begun this week to blanket a number of areas in Sumatra and Kalimantan, Antara said.

Haze and fog blanketed Pekanbaru city after the air over the Riau provincial capital was clear of haze due to heavy rainfall in the small hours of the day. The dense haze and fog had prompted the attention of activists of the Tsu Chi Foundation in Pekanbaru. They went down into the streets distributing masks to passing motorists. They also distributed the masks in residential complexes like Kuantan Jaya, in Pekanbaru city.



However, the heavy downpour early Saturday could not put out the flames raging in the peat land in Pekanbaru. Smoke was still seen billowing into the sky of Panam, Rumbai and Kulim. Data of the Meteorology, Geophysics and Climatology Office (BMKG) of Pekanbaru, obtained from the monitoring by the NOAA 18 satellite, show that the forest and land fires were still raging in a number of areas in Riau province.

In Kalimantan, Indonesia is cooperating with Malaysia and Brunei Darussalam to protect Kalimantan (Borneo) through their 'Heart of Borneo (HOB)' program. The 'Heart of Borneo' program is a natural resource conservation and sustainable utilization program, Hendrik Segah, HOB Coordinator of Central Kalimantan, said. The HOB program is aimed at protecting the sustainable utilization of one of the world's remaining best forests in Kalimantan for the welfare of the current and future generations.

## SOUTH AMERICA

### **86. Chilean Government Proposes Standard to Reduce Respirable Particulate Material**

On August 3<sup>rd</sup>, the Chilean government unveiled proposed legislation that would cut atmospheric levels of respirable particulate material (smaller than 2.5 micrometers) to acceptable levels by 2032. Presenting the standard to journalists in Santiago, Environment Minister Ana Lya Uriarte said the government followed World Health Organization recommendations in proposing a gradual, three-step implementation.

The norm would require levels of PM<sub>2.5</sub> to be reduced to 25 micrograms per cubic meter (µg/m<sup>3</sup>) by 2012, to 20µg/m<sup>3</sup> by 2022, and to 10µg/m<sup>3</sup> by 2032 on an annual average basis. Levels of PM<sub>2.5</sub> currently average 32µg/m<sup>3</sup> in the greater Santiago region, which continues to suffer from serious air pollution despite decades of efforts to clean up emissions.

The bill follows recommendations made in a study of the costs and benefits of implementing a PM<sub>2.5</sub> standard conducted at the government's behest by DICTUC, an engineering consulting firm owned by Chile's prestigious Catholic University.

According to the study, implementation of the norm would avoid a total of 148,000 deaths by 2040 and save the country some \$33.5 billion in health spending in the same period. The cost of reducing emissions through the installation of filters in industrial flues and other measures is estimated at just over \$5 billion over the first decade, the minister said.

"There is no ethical or practical reason that justifies Chile not assuming a standard of this type," Uriarte said.

The presence of PM<sub>2.5</sub> is wholly due to human activity. Emissions are roughly equally divided among industry, transportation, and households. Households are especially at fault in urban areas in the south of the country, where firewood is still widely used for heating and cooking.

Recent measures like new legislation to regulate the use of firewood as a fuel and the start of liquefied natural gas imports, allowing industry to replace dirtier fuels like oil and diesel, would contribute to fulfillment of the norms, the minister said.

The "pre-bill" is due to be published soon in Chile's official gazette, Diario Oficial. The public, nongovernmental organizations, academics, and private business will then have 60 days to present observations to the National Environment Commission (CONAMA).

“It will be difficult to argue with the recommendations of the World Health Organization,” Uriarte said.

After these comments have been taken into account, the final bill will be presented to the ministerial council, which directs CONAMA. If approved, it would go to the Chilean congress for debate.

### **87. São Paulo State Consolidates Environmental Licensing Within One Agency**

A law (No. 13,542) that makes one state agency responsible for all environmental licensing went into effect on August 7<sup>th</sup> in São Paulo state, Brazil's most industrialized. Previously, four agencies in the state's Environmental Secretariat (SMA) did environmental licensing. One agency licensed all projects that involved the cutting and suppression of trees and other native vegetation; another licensed all projects built around the state's huge drinking-water reservoirs; another licensed large-scale projects which, because of their significant potential environmental impacts, required environmental impact assessments; and one agency, CETESB, the SMA agency in charge of pollution control, licensed all projects that would be sources of air or water pollution.

“The new state law gives CETESB the job of granting environmental licenses for all projects,” Marcelo Minelli, the CETESB director in charge of restructuring the agency, said. “By putting all licensing functions and all licensing analysts under one roof, we will make environmental licensing quicker and more efficient.”

The São Paulo state legislature passed the law in May.

Brazil's Environment Ministry in late July issued measures to centralize its licensing bureaucracy by reducing the number of IBAMA regional offices from 139 to 85. This smaller number of offices will incorporate more specialized regional offices, such as for licensing commercial fishing, into nonspecialized ones.

### **88. PDVSA, Petrobras Agree On Abreu E Lima Refinery**

As predicted by Brazil's President Luiz Inacio Lula da Silva, Petr oleos de Venezuela SA (PDVSA) and Petr oleo Brasileiro SA (Petrobras) have finally reached agreement concerning the Abreu e Lima refinery under construction in the Brazilian state of Pernambuco. “There is currently nothing pending in the negotiations,” said Paulo Roberto Costa, Petrobras' downstream director. “All of the issues regarding the investment plan, oil purchases, and distribution have been set.”

Earlier talks had stalled when PDVSA sought better-than-market prices for the oil it would provide for processing at the refinery. The Venezuelan state firm also wanted to sell oil products from the refinery in Brazil. However, following discussions with Venezuelan President Hugo Chavez, Lula said in June that major disagreements preventing joint projects by the two sides would be cleared up within 3 months.

Following talks this week, PDVSA agreed to follow local rules to distribute fuels from the Abreu e Lima facility, with international oil prices as the benchmark.

Costa said that final agreement on the Abreu e Lima refinery will be signed next month during a meeting between Lula and Chavez.

Petrobras is said to have invested \$2 billion in the refinery already, while Venezuela is expected to announce \$500 million in funding during the September signing by the two presidents. The cost of the refinery, originally budgeted at \$4.5 billion, will certainly rise, according to Costa who said much has changed since the budget forecast was made 3 years ago.

Cost overruns on site work for the refinery have become part of an inquiry by Brazil's Senate into alleged "irregularities" at Petrobras, which said in April that overruns had reached \$55 million.

The Abreu e Lima refinery is considered a key component in plans by Petrobras to increase Brazil's refining capacity to 3.6 million b/d by 2015, up from current capacity of 1.9 million b/d. The joint venture facility—owned 60% by Petrobras and 40% by PDVSA—is designed to process 230,000 b/d of oil, with each partner providing 50% of the oil. The refinery, now 15% complete, is due to begin operations by 2011 and will produce diesel, LPG, naphtha, and coke.

### **89. Brazil Hopes To Become Oil Superpower**

Ending a two-day visit to Saudi Arabia, Brazilian President Luiz Inacio Lula da Silva on May 17<sup>th</sup> told a crowded press conference that his country had pledged "to boost energy co-operation" with the kingdom but declined to join OPEC despite the discovery of massive crude oil reserves there. He said: "Brazil, on the other hand, has planned to refine, not export, its crude oil...; we would build large refineries in our country and export petroleum products with added value... And then...if it becomes necessary to talk about Brazil joining OPEC, then we will do so".

He said the discovery of oil and gas reserves equivalent to 5-8 billion barrels might give Brazil a powerful status as a producer. The Carioca field is 170 miles offshore in more than 6,000 feet of water and trapped beneath a shelf of salt 500 miles long and 125 miles wide. He said: "we still don't know fully how much crude oil is there".

In Rio de Janeiro, however, state-run Petrobras has come under scrutiny in an investigation, focusing on contract bidding and tax payments. This may complicate government efforts to get more income from new fields expected to transform Brazil into a global energy power.

### **90. Petrobras Starts Producing Low-Sulfur Diesel**

Petrobras has started producing a new type of low-sulfur diesel that could allow Brazil to become self-sufficient in the petroleum derivatives area by 2012, the state-controlled oil giant said. Petrobras produced the first batch of S50 diesel, which has only 50 parts per million of sulfur or one-tenth the level in S500 – the most advanced formulation previously being refined – last week.

Low-sulfur fuel, combined with the next generation of diesel engines to be rolled out in the South American country over the next three years, will help reduce pollution-causing emissions by 80 percent, Petrobras's director of downstream operations, Paulo Roberto Costa, said.

The new fuel will allow emissions from existing engines to be reduced by only between 10 percent and 15 percent, the executive said in a press conference held Monday at Rio de Janeiro's Duque de Caxias refinery, where the low-sulfur diesel is being produced.

Petrobras plans to start selling the new diesel at all of its service stations in the Belem, Fortaleza and Recife metropolitan areas starting next month, but it will have to import the fuel to meet demand.

The company expects to overhaul three other refineries so they can begin producing S50 next year.

### **91. Less Than 13 Percent of Arequipa Vehicles Pass Emissions Test**



Less than thirteen percent of the vehicles that underwent emissions inspections in the region of Arequipa, Peru passed and were found to emit less than the required limit of carbon monoxide.

In random inspections, it was found that only seven of fifty-seven private and public transport vehicles passed emissions tests.

Municipal authorities affirmed they were alarmed by the results and by the number of vehicles in the 'White City' that were emitting dangerous levels of carbon monoxide.

In an effort to educate people in the area, authorities running the surprise inspections gave motorists warnings and information on the pollution their vehicles were generating.

Authorities stated they would begin fining motorists during the next round of inspections.

### **92. Peru Companies Buy New Buses to Improve Lima's Public Transport**

In an effort to reduce the number of accidents on Peru's streets and the amount of pollution in the country's air, transportation companies are purchasing new vehicles and working on revamping the system. Such is the case of TRANSLIMA S.A., which recently announced its decision to purchase ten new buses for approximately one million dollars.

"After considering several alternatives in the market, we opted for purchasing the International brand because they changed the number of seats from 51 to 42, giving passengers more space," said a company spokesperson.

According to TRANSLIMA, the company they purchased the new buses from has given them a two year warranty on the engine regardless of the number of kilometers it is used.

Aside from renewing its fleet of buses, company representatives explained their goal was to provide quality public transportation in Lima.

### **93. Venezuelan Refinery Ordered To Cut Pollution.**

A court ordered the Isla Refinery run by Venezuela's state-owned oil company to cut pollution or face heavy fines, a victory for activists who complained for years about the thick haze of smoke that often blankets the capital of Curacao, according to press reports. The verdict in a lawsuit brought by community groups requires Isla to reduce its overall sulfur dioxide output by Jan. 1

or face a fine of US\$3 million. Isla would face additional fines of US\$300,000 per day if it exceeds emission limits more than 18 times per year. In the past, Petroleos de Venezuela SA had proposed an overhaul of the pollution control systems, but said it would not make the investment unless Curacao's government agreed to sell its stake in the refinery. Royal Dutch Shell built the refinery on the island in 1918 but transferred ownership to the government in 1985 after deciding it was no longer profitable. The Venezuelan company leases the refinery. Isla refines about 200,000 barrels per day, mostly for export to other Caribbean islands and Central and South America

#### **94. Hydrogen-Powered Buses Hit Brazilian Streets**

Sao Paulo's motto has been "I am not led, I lead," so perhaps it is appropriate that the city will be receiving the first of several clean buses. The first bus will be driving through the streets of Sao Paulo, covering the ABD Metropolitan Corridor, between Sao Mateus and Jabaquara.

The bus uses a hybrid system, combining hydrogen fuel cells with batteries, resulting in even higher efficiency. The batteries, for example, could be used to capture energy generated during stopping, while the fuel cells (generating 68 kW) are designed specifically for automotive use.

Brazil produces more than 50,000 buses each year and Sao Paulo has the biggest municipal bus fleet in the world, making motor vehicle emissions a threat to air quality.

The program means more than just a few buses coordinated between Brazilian transportation and energy agencies and funded by several global groups, including the United Nations Program for Development. International funding was due to the transit project being selected according to the country's emerging economy, in which the buses perform the vital task of ferrying commuters around the metropolitan area.

The original Brazilian goal was four hydrogen buses by June 2010, after two months of testing earlier this month. Daimler has also continued work on the Mercedes Benz fuel cell bus.

New fuel cell buses are finding their way into a number of markets, in Canada and California, for example. The Hydrogen Bus Alliance was formed by several European countries, representing over 12,000 buses, and are working towards commercial viability, which they predict in the 2010 to 2015 time frame.

### **AFRICA**

#### **95. West and Central Africa Better Air Quality Workshop Held in Abidjan**

The West and Central Africa Better Air Quality Workshop is the third regional workshop of its kind in Africa. The previous ones were held last year in Lusaka (March 08) and Nairobi (October 2008) for the Southern and Eastern Africa regions respectively. The objective of the regional workshops is for ministers and their representative to establish a roadmap for the region of the policies to improve air quality in the short and long term. There were representatives from many, if not most of the West and Central African countries at the meeting. However, only 4 ministers (out of 20 plus countries) showed up to the ministerial session the last day.

A primary focus of the workshop whose primary organizer was UNEP's Partnership on Clean Fuels and Vehicles (PCFV) is lower sulfur fuels. ICCT has presented in each workshop the air quality rationale for going to lower sulfur fuels and the results of the cost benefit analysis in

China and Mexico. ICCT's presentation was very well received by the ministers, as well as the UNEP and the World Bank representatives. ICCT facilitated the working group on fuels and vehicles with the group's recommendation summarized below:

a. Vehicle standards:

- Enact regulations to restrict the age of imported vehicles and to ensure that new and second hand imported gasoline vehicles are equipped with functioning catalytic converters by 2011;
- Establish pilot vehicle emission testing programs immediately in major cities and complete testing by 2012; develop the necessary capacity to enforce the inspection and maintenance programs through public information and training campaigns;
- Establish minimum regionally harmonized emission standards by 2014 for the different categories of motor vehicles as stringent as available fuel quality will allow;
- Explore and adopt modern technologies that promote vehicle fuel efficiency and reduce emissions including diesel retrofits and low emission vehicles;
- Ban the import of two-stroke motorcycle immediately but no later than 2012 and promote the use of clean motorcycles

b. Fuel standards:

- Enact regulations to adopt AFRI-2 or better fuel specifications by the end of 2010 and implement AFRI-4 by 2015.
- Develop a refinery investment plan to implement AFRI-4 by 2015.
- Harmonize fuel standards and practices in the sub-region by 2015 in the relevant regional organizations.
- Enforce regulations against the procurement, sale and use of fuels not meeting the set standards; establish new and reinforce and expand capacity of existing fuel quality analysis laboratories.
- Undertake detailed economic, social, and environmental assessments to enable sustainable use of bio-fuels and other clean fuels;

The results of a World Bank study of the cost and benefits of moving to lower sulfur fuels in Africa were also presented at the workshop. This study finds that the benefits of lower sulfur fuels coupled with vehicle control measures are several times larger than the costs. It also found that the fuels produced in Sub-Saharan Africa are often cleaner than the official specs (500 ppm vs. 5000 ppm) and that many of the larger and more modern refineries would do well with open markets with lower sulfur fuels. However, the investments required to upgrade these refineries are substantial and with limited capital availability, this will be challenging especially by the 2015 timeframe currently on the table.

The African Refiners Association played a key role in the workshop and the ICF study. ARA includes all the refineries in sub-Saharan and North Africa. They are overall supportive of a move towards lower sulfur fuels as they see it as an opportunity to modernize and expand their best performing refineries but they are concerned about timelines.

Some interesting facts & highlights:

- Lead has been completely phased out in Sub-Saharan Africa but is still used in parts of North Africa.
- Morocco has 15 ppm fuels (imported from Europe).

- New vehicle sales are growing rapidly (> 10% per year); used vehicle sales can be 10 times larger than new vehicles sales.
- Recent estimates show that more than 50% of PM is from vehicular sources in urban areas.
- Lagos experienced its first "smog" event in 2005 (woke up to choking fumes) with hospitalization increases.
- Nigeria will be banning two-stroke motorcycles this year.
- ICCT provided its report on MMT to the Ghana EPA and a refinery representative. They have been using MMT since lead phase out but want to move on. Many if not most other African countries are using MMT.

## MIDDLE EAST

### **96. Traffic Light Pollution Indicators to Be Installed At Entrances to Amman**

Pollution indicators fashioned as traffic lights will be installed at the entrances to the capital next year, displaying pollution levels and concentrations on highly congested streets. The three traffic light colors - orange, to green and red - will be used denote the levels of air contamination resulting from traffic jams on Amman's streets and circles, according to an Environment Ministry official.

"Green shows that the area is safe and there is no pollution; orange means that pollution levels are medium; and red indicates that air contamination is a high and thus there is traffic jam," head of the ministry's monitoring and assessment directorate, Hussein Badarin, said.

A diagram showing the percentages of sulfur dioxide (SO<sub>2</sub>) and nitrogen dioxide (NO<sub>2</sub>), which are both air pollutants concentrated in highly populated areas, will also be displayed.

Around 99 per cent of SO<sub>2</sub> in the atmosphere comes from human sources, mainly vehicle emissions, as the result of fuel combustion and the major man-made source of NO<sub>2</sub> emissions is high-temperature fuel combustion in motor vehicles and in industrial and utility boilers.

"Currently, air pollution levels in Jordan have not reached an alarming stage; however, if the pace of population and industrial growth, coupled with a similar spike in the number of vehicles, continues unchanged, pollution will increase," Badarin noted.

A recent environmental analysis indicated that Jordan's vehicular fleet, which increases annually by 7 per cent and is largely dominated by old-technology cars emitting excessive gases, is the main source of rising air pollution.

Power generation and industries such as mining and cement production are also worsening the country's air quality, which the study described as "poor and deteriorating".

"We hope that the 'traffic lights' will show people that a certain area is witnessing high pollution due to traffic movement, thus directing them to take another route that is less polluted, even if it is a bit longer," Badarin told The Jordan Times.

"If some motorists respond to the indications provided by the 'pollution traffic lights' and change their routes, this will make a difference and reduce air pollution levels," he added.

The traffic light pollution indicators will be installed as part of the Air Quality Monitoring Project, under which the percentages and concentrations of air pollutants in Amman, Zarqa and Irbid will be gauged. The project, the first of its kind in Jordan and the region, is being carried out by a joint team from Jordan and France and is supported by the French Development Agency.

Minister of Environment Khalid Irani said in a recent statement that initial results of an environment survey showed that pollution concentrations in the air are within the limits permitted by Jordanian and European standards, except for some spots that witness heavy industrial activity and traffic movement.

### **97. Iran to Halt Diesel Exports from Next Month**

Iran will cease diesel exports from September as it starts to build inventories ahead of the peak demand period starting in the autumn, an official from the state's production and supply arm said. The world's fifth-largest crude exporter has been exporting up to 450,000 barrels a month of diesel since the end of the second quarter, the official from the National Iranian Oil Products Distribution Company said.

'We have now come to the equilibrium stage...now we are in the process of planning for the fall demand and looking to start building our stocks,' he said. 'We have a plan to import diesel, but this is not finalized, we still have to wait to see how much our refineries can produce for the domestic market.' Iran lacks the refining capacity to meet local consumption and has relied heavily on international markets to meet its domestic fuel needs.

The Islamic republic ceased diesel imports at the start of the second-quarter due to rising gas production which was used as a substitute fuel for power generation.

Tehran had not included diesel imports in the budget for its new calendar year starting March 21, and was expecting to tap into new gas production from South Pars and other fields, a senior official from the National Iranian Oil Company (NIOC) had said in March.

More than 70 million barrels of gas oil and jet fuel is stored on ships at sea as traders look to take advantage of buying oil on the cheap now, and selling it for a higher price later. Distillate markets have been suffering due to a sharp contraction in global consumption levels due to the financial crisis.

Asian gas oil cracks, or the value of refining a barrel of Middle East Dubai crude oil into diesel, was pegged at around \$8 a barrel in the week ended August 21, down from its peak last May when the crack was trading between \$45 and \$47 a barrel.

## **HEALTH ISSUES**

### **98. Air Pollution Linked To Lower IQ in Children**

In the first study of its kind, U.S. researchers have found a link between pregnant women being exposed to air pollution and lower IQs of their children.<sup>4</sup> "This is a warning bell," said the lead author of the study, Frederica Perera, director of the Columbia Center for Children's Environmental Health in New York. "We need to pay greater attention to this vulnerable window

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<sup>4</sup> Perera FP, Li Z, Whyatt R, et al. Prenatal airborne polycyclic aromatic hydrocarbon exposure and child IQ at age 5 years. *Pediatrics*. Published online 20 July 2009.



... when the developing fetal brain is extremely sensitive to many different neurotoxic substances."

The findings are based on 249 children of mothers who live in low-income neighborhoods of the south Bronx and northern Manhattan.

For a 48-hour period during their pregnancies, the mothers wore air monitors that measured pollutants known as polycyclic aromatic hydrocarbons or PAHs. These chemicals are produced by burning coal, diesel, oil and gas. Tobacco is another source of PAHs, although the women in the study were all non-smokers.

At the age of 5, the children were given intelligence quotient tests. The study showed that the children of mothers exposed to the highest level of PAHs had IQ scores that were between 4.3 and 4.6 points lower than kids whose moms had the least pollution exposure.

Dr. Perera said the lower IQs scores were similar to the effects of low levels of lead, another toxin that can hinder normal mental development.

The study, published in the journal *Pediatrics*, took into account other factors that may have influenced the children's IQ scores, such as exposure to second-hand smoke, mother's education and the quality of the home environment for learning.

Although the findings need to be confirmed with additional research, Dr. Perera said, it's worrisome that typical levels of urban pollution may have lifelong consequences on a developing fetus.

"The major source of pollution was traffic - diesel and gasoline-powered trucks, buses and automobiles," she said, noting the families lived relatively far from smoke-spewing power plants and large coal-burning factories.

"These levels are relatively low and they are really comparable with what would be found in many urban areas across the U.S. and I expect in Canada, as well."

### **99. Parent Stress, Air Pollution Raise Asthma Risk in Children**

Children with stressed-out parents may be more prone to developing asthma associated with environmental "triggers" such as high levels of traffic-related pollution and tobacco smoke, hints a new study. In the study, researchers found that children whose parents reported high levels of psychological stress and who were exposed to cigarette smoke in the womb and to traffic-related pollution early in life had a much higher risk of developing asthma, compared to children only exposed to pollution.

"We found that it was children exposed to the combination of air pollution and life in a stressful environment who were at highest risk of developing asthma," Dr. Rob McConnell, deputy director of the Children's Environmental Health Center at University of Southern California, Los Angeles, told reporters.

For three years, McConnell and colleagues followed 2497 children aged 5 to 9 years who were living in Southern California and who were free of asthma or wheezing at the outset. The researchers measured stress in the parents using a standard questionnaire and collected data on air pollution and exposure to tobacco smoke during pregnancy.

During the study, 120 of the children developed asthma.

According to a report in an early online edition of the Proceedings of the National Academy of Sciences, parental stress alone did not increase the risk that a child would develop asthma. However, a child exposed to traffic-related pollution whose parents felt their lives were "unpredictable, uncontrollable, and overwhelming" - suggestive of high levels of stress -- had a 51% higher risk of developing asthma during follow up compared with a child exposed to traffic pollution but whose parents had low levels of stress.

Stress, as well as low levels of education in the parents, was also associated with larger effects of exposure to tobacco smoke during pregnancy.

These findings, the researchers say, show that psychological stress in parents can make children more susceptible to asthma.

Air pollution can promote inflammation in the airways of the lung, "which is a central feature of asthma," McConnell said. "Stress may also have pro-inflammatory effects and this may help explain why the two exposures together were important," he added.

"Childhood asthma is a complex disease that probably has many contributing causes," McConnell noted. "Further study of effects of exposure to air pollution in combination with stressful environments associated with poverty and other social factors could contribute to our understanding of why the disease develops."

Asthma is the most common chronic childhood illness in developed countries.

#### **100. Infant Exposure to Air Pollution Linked To Adult Lung Disease**

Early exposure to air pollutants has been linked to lung disease in later life. According to Science Daily, an emerging study has revealed that exposure to "environmentally persistent free radicals" in early life can affect "long-term lung function."

Stephania Cormier, PhD, an Associate Professor of Pharmacology at LSU Health Sciences Center New Orleans, made the finding, the first of its kind, said Science Daily. Dr. Cormier presented the data at the 11th International Congress on Combustion By-Products and Their Health Effects at the Environmental Protection Agency (EPA) Conference Center in Research Triangle Park, North Carolina.

Dr. Cormier is conducting the study in an effort to learn how "inhalation" exposure to "allergens, pollutants, and respiratory viruses" that occur in infancy can lead to so-called pulmonary inflammatory diseases later in life, for example chronic obstructive pulmonary disease (COPD) and asthma.

Dr. Cormier's study found that infant inhalation exposure to ultra fine pollutants led to the production of some proteins in genes, such as the protein linked with "COPD and steroid-resistant asthma." The exposure also resulted in proteins tending to "misfold," which caused them to become "dysfunctional." Such dysfunctions, or defects, are connected to structural lung changes, "airflow limitations, and permanent changes in immune responses."

"It is no surprise that elevations in airborne particulate matter (PM) are associated with increased hospital admissions for respiratory symptoms, including asthma exacerbations," said Dr. Cormier. "What has come as a surprise is that early exposure to elevated levels of PM elicits long-term effects on lung function and lung development in children," she added.

The National Institutes of Health (NIH) state that over 12 million Americans are diagnosed with COPD and another 12 million likely are unaware that they have the disease. Asthma is considered the most common chronic childhood disorder, said Science Daily, citing the NIH, estimating it affects over six million children under 18.

"Glucocorticoid (steroid) treatment is the foundation of asthma treatment; however, while the majority of patients with asthma respond to glucocorticoid treatment there are a number of patients who do not," said Dr. Cormier. "In cells, a protein called cofilin-1 appears to inhibit glucocorticoid function. We are currently testing whether cofilin-1 also does this in the body. If it does, then it is possible to envision the development of therapeutics aimed at inhibiting cofilin-1 for use in steroid-resistant asthmatics," she added.

## CLIMATE ISSUES

### **101. U.S. And China Sign Memorandum On Climate Change**

The United States and China, the world's largest emitters of greenhouse gases, have signed an agreement that promises more cooperation on climate change, energy and the environment. Chinese and U.S. officials signed the memorandum of understanding at the State Department following two days of high-level economic and strategic talks.

The document was not released publicly but Secretary of State Hillary Clinton said it highlighted the importance of climate change in U.S.-Chinese relations. "It also provides our countries with direction as we work together to support international climate negotiations and accelerate the transition to a low carbon economy," said Clinton at the signing ceremony. She said the sides discussed in detail how to cut emissions ahead of a U.N. conference in Copenhagen in December that aims to set new global goals on controlling climate change.

Pressed on the contents of the agreement, a State Department spokesman said it did not set firm goals but rather provided a "framework." The memorandum also envisaged more cooperation in energy efficiency, renewable energy, smart grid technologies, electric cars, carbon capture and research and development.

U.S. Energy Secretary Steven Chu praised China's efforts but said both countries needed to do more. This month, during a visit to China by Chu and Commerce Secretary Gary Locke, the two countries launched a \$15 million joint project to create more energy-efficient buildings and cars and study the development of cleaner-burning coal.

Chinese leaders agreed unanimously that global warming was "a very serious problem," Energy Secretary Steven Chu told reporters after meeting Chinese officials, including Premier Wen Jiabao.

Many experts believe cooperation between the two countries is essential for negotiations on a new climate treaty to succeed at a meeting this December in Copenhagen. China recently passed the United States as the biggest emitter of greenhouse gas emissions and together the two countries account for 42 percent of the world's emissions.

Climate concerns are expected to be high on the agenda when U.S. President Barack Obama visits China for a summit meeting with President Hu Jintao later this year.

Chu said the two countries could achieve big greenhouse gas reductions by working together to improve the energy efficiency of buildings, which now consume about 40 percent of the world's energy and account for nearly half of greenhouse gas emissions. At least 30 percent of that pollution could be eliminated at no net cost by upgrading old buildings and using modern equipment in new buildings, Chu said. Building efficiency could ultimately be raised by three to five times, he said. China is expected to build the equivalent of the entire U.S. building stock in the next 15 years, making it a tremendous "laboratory" for the two countries to work together on energy efficient designs, Chu said.

Here is a rundown of climate change moves already taken by both countries:

#### CHINA:

- China's latest five-year plan calls for a 20 percent cut in energy intensity by the end of 2010, from 2005 levels. Chinese authorities estimate this would cut the country's carbon dioxide emissions by roughly 1 billion tons. However, the effort has fallen behind schedule.
- Beijing also has set a goal for about 15 percent of the electricity it generates to come from renewable energy sources by 2020.
- China's fuel economy standards for its rapidly growing passenger vehicle fleet are more stringent than those in Australia, Canada and the United States.
- Some energy-intensive products for export no longer qualify for special tax breaks in an attempt to encourage energy efficiency.
- At a recent summit in Italy, China joined rich and poor countries acknowledging that global temperature increases should be limited to 2 Celsius (3.6 Fahrenheit) from pre-industrial levels, a goal that would force deep cuts in greenhouse gas emissions.
- But in a disappointment to environmentalists, China was among developing countries that would not commit to a goal of cutting world carbon emissions in half by 2050.
- Environmentalists also worry that China plans to significantly expand the number of coal-fired power plants that contribute to global warming.

#### UNITED STATES:

- No national carbon-reduction goals have yet been set but the House of Representatives has passed legislation calling for industrial greenhouse gas emissions to be reduced 17 percent by 2020, from 2005 levels, and 83 percent by 2050.
- Senate leaders say they are considering similar legislation. While a bill might be debated in October, the measure has not been introduced yet and a difficult fight is expected.
- If Congress fails to finish a bill, the Obama administration has indicated it will go ahead with regulations to control climate change. The Environmental Protection Agency has the power to move ahead and has announced that it will propose vehicle regulations soon.
- Some states, such as California, have set their own goals for reducing emissions.
- An economic stimulus measure enacted in February included \$30 billion for investments in renewable energy technology and improved energy transmission.
- With no agreement among policymakers over whether to expand non-polluting nuclear power, mostly because of waste storage problems and high construction costs, many

fear that continued use of dirty coal will hobble climate change efforts until alternative methods can be developed.

## **102. U.S. Top Greenhouse Gas Emitter, Counting Imports**

The United States is by far the biggest greenhouse gas emitter ahead of China if consumers in rich nations are given responsibility for energy used to make imported goods, according to a Norwegian researcher. Greenhouse gases, including by factories making goods such as cars or televisions for export, usually count toward the total of the country where they are made. Such data indicate that China has overtaken the United States as top emitter. But adjusting emissions according to the country where consumers of goods live swells emissions by developed nations, said Glen Peters, a researcher at the Center for International Climate and Environment Research in Oslo (CICERO).

"The ranking makes a lot of rich countries look worse and a lot of poor countries look better," he told reporters. In the ranking of 73 nations, Americans have the biggest annual "carbon footprint" at the equivalent of 29 tons of carbon dioxide per capita, ahead of Australians on 21 tons and Canadians on 20 tons. Each Chinese citizen accounts for just 3.1 tons. Adjusted for China's much bigger population, U.S. emissions were 7.9 billion tons and China's 3.9 billion.

"The U.S. is increasingly shifted toward a more service-based economy, importing more of its products from China," Peters said of the ranking, published online in the journal *Environmental Science and Technology*. "A lot of China's emissions growth is production of exports," he said of the ranking produced with the Norwegian University of Science and Technology.

Peters' rankings count emissions within each country, then add on imports and subtract exports. The study found that consumers in each country tended to have a bigger carbon footprint the richer they got.

## **103. UK Releases Low Carbon Transition Plan**

The UK has sought to position itself as a world leader in fighting climate change with a commitment to push emissions 34% below 1990 levels by 2020, a legally binding goal that's among the world's most ambitious targets. Last week, it unveiled a roadmap for making that happen.

In a July 15<sup>th</sup> white paper, the Department of Energy and Climate Change rolled out a raft of policies making up the UK's Low Carbon Transition Plan — an economy-wide strategy aiming to slash emissions and help the UK meet its five-year carbon budgets, goals it set in last year's Climate Change Act.

In the UK, the power and heavy industry sectors, which account for a full 50% of emissions, have been subject to carbon caps under the EU Emission Trading System since 2005. But up to now, no umbrella policy has explained how the UK will reduce emissions and increase efficiency in non-traded sectors that together generate the other half of UK emissions: transportation, homes, workplaces and agriculture. The new low-carbon transition plan closes the gap, extending low-carbon policies to cover the entire scope of the UK economy.

That includes a stronger push for home energy efficiency and small-scale renewable power production; tighter vehicle emission standards and investments in developing low-carbon cars; and support for sustainable agricultural practices.

In the transportation sector, the UK pledges government support for green vehicles, and it mandates that cars sold in the UK after 2020 emit 40% less carbon dioxide per kilometer than cars did in 2007.

Looking forward, the UK aims to get 40% of its electricity from low-carbon sources by 2020, with 30% coming from renewable sources and 10% from nuclear and "clean coal" technology.

In the UK, policymakers say they'll help meet the high renewables standard by launching an Office for Renewable Energy Deployment within the Department of Energy and Climate Change. The new agency will work to remove investment and regulatory barriers to ensure the UK's use of renewables is rapidly ramped up.

The UK plan also helps speed up and broadens grid access for renewable power projects, with its announcement that the government will take direct action to reform the regulatory regime currently controlling connections to the grid. The move comes after a government review determined that the UK's main grid regulator, the Office of Gas and Electricity Markets (Ofgem), might not complete needed reforms rapidly enough.

"The new rules should be in place within 12 months, and instead of waiting for over a decade for grid connections as can happen now, we can get the fast access to the grid the renewable projects need," said UK energy secretary Ed Miliband.

The British government is also working with Ofgem on plans for an improved smart grid, which will be better equipped to handle increased capacity as well as greater fluctuations in power supply and demand. DECC expects to publish a policy statement outlining the government's vision for future grid investments and regulatory reforms later this year.

Critics warn that rosy-sounding targets in the UK plan could be a set-up for a let-down. The current British Labor government could be replaced when the UK government calls an election within the next year.

#### **104. China Dust Cloud Circled Globe in 13 Days**

Dust clouds generated by a huge dust storm in China's Taklimakan desert in 2007 made more than one full circle around the globe in just 13 days, a Japanese study using a NASA satellite has found. When the cloud reached the Pacific Ocean the second time, it descended and deposited some of its dust into the sea, showing how a natural phenomenon can impact the environment far away.

In a paper published in *Nature Geoscience*, scientists described how they used a NASA satellite and mathematical modeling to track and measure the movement of the dust cloud, which formed after the dust storm on May 8-9 in 2007. The desert is in the Chinese northwestern region of Xinjiang.

The researchers, led by Itsushi Uno of Kyushu University's Research Institute for Applied Mechanics, found that the dust clouds were lifted 8-10 km (5-6 miles) above the earth's surface, and transported more than one full circle around the earth.

"This means that dust concentration, dust lifetime is very long, more than two weeks," said Uno.

The dust cloud measured about 3 km (1.9 miles) vertically and up to 2,000 km horizontally and it stayed that way even after one full trip around the globe.

"The reason why the cloud structure was very well maintained was because the dust was uplifted ... where the atmosphere is very stable," Uno said.

#### **105. G-8 Nations Pledge Emissions Cut; Developing Countries Resist Targets**

On July 8<sup>th</sup>, heads of state from the Group of Eight industrialized nations agreed to reduce their greenhouse gas emissions 80 percent by 2050, although they did not decide on the key issue of the baseline year from which emissions cuts would be measured. The reduction target was part of a declaration from G-8 leaders committing to seeking a global climate agreement at the U.N. climate change summit in Copenhagen in December. According to the declaration, the leaders agreed that the global average rise in temperature should not exceed 2 degrees Celsius (3.6 degrees Fahrenheit) above pre-industrial levels.

The declaration came as a larger group of 17 developed and developing countries meeting in the Major Economies Forum on Energy and Climate cut from a separate climate text language calling on the 17 nations to collectively halve their emissions by mid-century. That language was deleted after China and India displayed reluctance, several delegations said.

In a declaration issued on July 9<sup>th</sup>, MEF leaders vowed to limit the rise in worldwide temperatures to 2 C, to form a new partnership to promote environmentally friendly technologies, and to "identify a global goal for substantially reducing global emissions by 2050."

In the G-8 declaration, leaders of the industrialized nations agreed to join forces to reduce developed nations' aggregate emissions 80 percent or more by 2050. They also reiterated their willingness "to share with all countries the goal of achieving at least a 50 percent reduction of global emissions by 2050," adding that such a goal "implies that global emissions need to peak as soon as possible and decline thereafter."

The G-8 target would allow reductions to be compared to any year after 1990, making it easier for most countries to reach the target by allowing them to select an advantageous baseline year.

The G-8 leaders' declaration also called on major emerging economies "to undertake quantifiable actions to collectively reduce emissions significantly below business-as-usual by a specified year."

In contrast, the more specific language that was removed from the MEF draft would have required developing economies like China and India to cut emissions 50 percent by mid-century compared with 1990 levels, alongside an 80 percent reduction over the same period on the part of wealthy nations. In the end, the final MEF declaration said that each nation "will undertake transparent nationally appropriate mitigation actions, subject to applicable measurement, reporting, and verification." It also said that each country will "prepare low-carbon growth plans," and distinguished the different efforts to be taken by developed versus developing nations.

"Developed countries among us will take the lead by promptly undertaking robust aggregate and individual reductions in the midterm consistent with our respective ambitious long-term objectives and will work together before Copenhagen to achieve a strong result in this regard," the MEF declaration said. "Developing countries among us will promptly undertake actions whose projected effects on emissions represent a meaningful deviation from business as usual

in the midterm, in the context of sustainable development, supported by financing, technology, and capacity-building.”

On the use of new technologies, the MEF declaration announced the creation of “a global partnership” to encourage development of “transformational low-carbon, climate-friendly technologies,” including the doubling of public sector investments in the sector by 2015.

U.N. Secretary-General Ban Ki-moon criticized the MEF plan, saying it does too little to help poor countries’ economies to evolve economically and to adapt to the changing climate. “The policies announced do not go far enough, they are not sufficient enough for those in the developing world,” Ban said on the sidelines of the G-8 summit. “This is a political and moral imperative and is the historic responsibility for these leaders and for the future of humanity.”

The MEF statement did recognize that there is a “particular and immediate need to assist the poorest and most vulnerable to adapt” to the effects of climate change, but it did not specify any steps that would be taken by MEF countries. Going into the talks, there was speculation that the countries could agree to some financial goals for helping to fund adaptation efforts.

President Obama, who co-chaired the MEF meeting with Italian Prime Minister Silvio Berlusconi, was more upbeat. “Today ... developed and developing nations made further and unprecedented commitments to take strong and prompt action. Developed nations committed to reducing their emissions in absolute terms. And for the first time, developing nations also acknowledged the significance of the two degrees Celsius metric and agreed to take action to meaningfully lower their emissions relative to business as usual in the midterm—in the next decade or so. And they agreed that between now and Copenhagen, they will negotiate concrete goals to reduce their emissions by 2050,” he said.

“Each of our nations comes to the table with different needs, different priorities, different levels of development,” Obama continued. He said “developing nations have real and understandable concerns about the role they will play in these efforts. They want to make sure that they do not have to sacrifice their aspirations for development and higher living standards. Yet, with most of the growth in projected emissions coming from these countries, their active participation is a prerequisite for a solution.”

Obama also said developed nations “have a historic responsibility to take the lead. We have the much larger carbon footprint per capita, and I know that in the past, the United States has sometimes fallen short of meeting our responsibilities. So, let me be clear: Those days are over.”

The MEF leaders’ forum was held on the sidelines of the Group of Eight summit. The 17 economies that comprise the forum are the G-8 nations of Canada, France, Germany, Italy, Japan, Russia, the United Kingdom, and the United States, as well as Australia, Brazil, China, the European Union, India, Indonesia, Korea, Mexico, and South Africa. Denmark, in its capacity as the president of the U.N. conference in Copenhagen, and the United Nations also participated.

## GENERAL

### **106. Nitrous Oxide Becomes Main Ozone-Damaging Gas**



Nitrous oxide or "laughing gas" has become the main man-made substance damaging the planet's protective ozone layer and is likely to remain so throughout the century, scientists said. The study, by the U.S. National Oceanic and Atmospheric Administration, said tighter limits on emissions of nitrous oxide, which is also a powerful greenhouse gas, would be a "win-win for both ozone and the climate".

"Nitrous oxide emission currently is the single most important ozone-depleting substance emission and is expected to remain the largest throughout the 21st century," the scientists wrote in the journal *Science*.

Nitrous oxide has overtaken chlorofluorocarbons (CFCs), formerly used in making refrigerants, which are being phased out under the U.N.'s 1987 Montreal Protocol after they were found to thin the earth's protective ozone layer high in the atmosphere.

About 10 million tons of nitrous oxide a year -- a third of world emissions -- comes from human activities including fertilizers, fossil fuels, livestock manure and industry. "Laughing gas" is perhaps best known as an anesthetic.

Two-thirds of nitrous oxide comes from nature, when soil bacteria release the gas. It thins the ozone layer, which shields the planet from ultraviolet rays that can cause skin cancers and damage crop growth.

"The main reason for the large role of nitrous oxide is the success of the Montreal Protocol in that it has reduced the emissions of CFCs and other ozone-depleting chemicals," lead author A.R. Ravishankara told a telephone news briefing.

"Limiting future nitrous oxide emissions would enhance the recovery of the ozone layer from its depleted state," the scientists wrote.

Nitrous oxide is not regulated by the Montreal Protocol but is among greenhouse gases covered by the U.N.'s Kyoto Protocol, which obliges developed nations to cut emissions by 5 percent below 1990 levels by 2008-12.

#### **107. IEA: World Oil Demand Seen Reaching 89 Million B/D By 2014**

The latest forecast by the International Energy Agency states that global oil demand will rise 0.6%/year during 2008-14, pushing demand to average 89 million b/d in 2014 from 85.8 million b/d last year. In its Medium-Term Oil Market Report, IEA bases its outlook on the International Monetary Fund's economic forecast, which sees global economic activity gradually rebounding by nearly 5%/year from 2012 onwards.

Developing countries, those that are not members of the Organization for Economic Cooperation and Development, will drive oil-demand growth, while oil consumption within the OECD will decline over the forecast period, IEA said.

Also, transportation fuels will drive the growth in oil demand. In non-OECD countries, demand for transportation, boiler, and industrial fuels will all rise at a relatively rapid pace, but distillate will be the growth drivers, followed by LPG, naphtha, and gasoline.

Meanwhile, within the OECD, demand growth of motor gasoline, jet fuel, and diesel after 2009 will be modest and insufficient to offset declines in demand for heating oil, residual fuel oil, and industrial feedstocks, according to the report.

a. North America

IEA expects that oil demand in North America will decline to average 23.7 million b/d in 2014 from 24.3 million b/d in 2008. The combination of severe economic recession, changing behavioral patterns triggered by the sharp rise in oil price in the first half of 2008, and a new administration in the US that is intent on improving overall efficiency and reducing carbon emissions suggests that a return to past high growth rates in gasoline demand is unlikely, despite an expected economic recovery that could boost discretionary driving again, the agency said.

During 2008-14, IEA forecasts that naphtha demand in North America will decline on average 8.6%/year, as petrochemical activity declines in the US and Canada as other, more-competitive petrochemical production areas emerge. Growth in demand is expected in Mexico, but from a low base.

Gasoline demand in North America will climb 0.6%/year to average 11 million b/d in 2014. And demand for jet fuel and kerosene in the region will rise by the same rate to reach an average 1.8 million b/d, as economic recovery boosts air travel, offsetting efficiency gains in aircraft fleets and airline operations.

Demand for gas oil in North America will be unchanged over the period, averaging 5 million b/d, while declining use of fuel oil for power generation is expected to cause demand to shrink 8.5%/year to average 700,000 b/d in 2014.

b. OECD Europe, Asia

IEA's forecast calls for oil-product demand in OECD Europe—led by France, Germany, the UK, Spain, and Italy—to decline 1.3%/year to average 14.1 million b/d in 2014. Demand will rise for jet fuel, decline for naphtha, gasoline, and fuel oil, and be unchanged for gas oil.

Demand in these countries is already falling due to structural reasons, IEA said, including slow economic growth, declining populations, the expansion of diesel vehicle fleets, and the substitution of natural gas and renewables for heating oil and resid.

Decreasing 3.3%/year, oil product demand in the Pacific countries of the OECD will incur the most pronounced decline. IEA's projections show that demand in these countries will fall to average 6.6 million b/d in 2014 from 8 million b/d in 2008.

While demand for naphtha climbs marginally, demand for all other major refined products in OECD Pacific countries of Australia, Japan, New Zealand, and South Korea will decline over the forecast period.

Naphtha demand will grow strongly in South Korea but decline rapidly in Japan as other, more-competitive petrochemical producers emerge in the Middle East and China. Demand for fuel oil will decline across the region, displaced by natural gas and nuclear energy.

### c. Other regions

IEA forecasts that oil product demand in the Middle East will grow 4.3%/year on average to reach 8.9 million b/d in 2014, up from 7 million b/d in 2008. The drivers of this growth are sustained economic expansion based on oil and gas, petrochemicals, heavy industry, and construction, in addition to a young and growing population, and fuel prices that are among the world's lowest.

Demand for resid in the Middle East will soar to meet ever-growing power needs, given the lagging development of domestic natural gas resources, IEA said. Also, demand for naphtha and LPG will increase sharply to feed the region's petrochemical plants.

In Latin America, IEA projects that oil product demand will climb 2.1%/year to 6.7 million b/d vs. 5.9 million b/d last year. Growth will be mostly concentrated in transportation fuels.

Oil product demand in the former Soviet Union is also forecast to grow 2.1%/year over the forecast period, averaging 4.7 million b/d in 2014. Fuel oil demand will post the largest percentage gain, climbing 3.8% to 500,000 b/d to meet power generation needs in Russia and elsewhere, and also to free natural gas volumes to support Russian exports, IEA said.

### d. Oil supply

IEA sees non-OPEC oil supply slipping by a net 400,000 b/d by 2014 from 2008. In its previous projection, the agency forecast 6-year growth of 1.5 million b/d for these producers. Downward revisions are focused on the former Soviet Union and the Canadian oil sands. Otherwise, IEA expects sustained conventional oil supply growth through 2014 in Canada, the US Gulf of Mexico, Brazil, and the Caspian.

OPEC crude production capacity growth will be a modest 1.7 million b/d, reaching 35.8 million b/d in 2014. This compares to the agency's year-earlier projection of 3.2 million b/d in capacity growth over the period. This lower outlook is based on weaker demand, contract negotiation, reduced cash flow, geopolitical turmoil, and increased resource nationalism, IEA said.

Supply of NGL and condensate from OPEC will rise by 2.6 million b/d to 7.3 million b/d over the forecast period.

## **108. IEA Revises Global Oil Demand Forecast**

The International Energy Agency, in its August Oil Market Report, estimates that global oil demand will contract in 2009 by 2.3 million b/d vs. 2008 and average 83.9 million b/d. In its previous monthly report, the agency called for demand to shrink by 2.5 million b/d this year.

IEA's demand outlook for 2010, nearly unchanged from a month earlier, is expected to climb 1.3 million b/d. The global oil demand forecast for 2010 has been revised up by 70,000 b/d to 85.3 million b/d, given a stronger outlook in Asia among countries outside the Organization for Economic Cooperation and Development.

OECD oil demand in 2010 is pegged at 45.1 million b/d, which is 25,000 b/d lower than IEA previously expected. But the estimate for oil demand in 2009 has been slightly revised up by 20,000 b/d to 45.1 million b/d, following a small adjustment in OECD Pacific demand. The

agency commented that the latest data appear to confirm that the US gasoline season failed to materialize for the second year in a row.

IEA has revised up its forecast for non-OECD oil demand for both 2009 and 2010, largely following a reappraisal of Chinese demand prospects. Non-OECD demand in 2010 is now expected to average 40.1 million b/d, up 1.3 million b/d from 2009 and 100,000 b/d higher than the agency's previous assessment.

IEA noted that even though energy-intensive non-OECD countries will largely drive global demand growth, the rise expected next year will nonetheless be below the 2004-08 average of 1.5 million b/d/year.

The Paris-based agency's 2009 forecast of 38.8 million b/d puts non-OECD oil demand up 140,000 b/d vs. 2008. IEA said that this estimate is 170,000 b/d higher than in its previous oil market report due to much stronger direct crude burning for electric power generation in Saudi Arabia and a persistent drought in India. Lack of normal seasonal monsoon rain in India has boosted gas oil use in agricultural activities for irrigation and in power generation, since hydropower output in June was almost 10% lower on an annual basis.

IEA has raised its forecast for 2009 non-OPEC supply by 160,000 b/d, largely due to stronger than expected Russian output but also due to higher US NGL and Gulf of Mexico production and a rapid ramp-up at new Canadian oil sands mining operations.

IEA raised by 200,000 b/d its 2010 forecast for non-OPEC supply, as many of the same factors are carried forward through the outlook, the agency said.

As a result, total non-OPEC supply is now forecast at 51 million b/d in 2009, and 51.4 million b/d in 2010. IEA's "call on OPEC crude and stock change" now averages 27.7 million b/d in 2009, and 27.8 million b/d in 2010.

OECD industry stocks rose counter-seasonally by 8.5 million bbl in June to 2,749 million bbl, 5.5% above last year's level, IEA reported, as an increase in gasoline and distillate more than offset declines in crude oil and fuel oil. A North American crude stock draw outweighed crude gains elsewhere.

The biggest storage additions came in European crude and North American light distillates, while North American crude posted the largest drop, IEA said. At the end of June, forward demand cover was unchanged vs. May at 61.7 days.

Preliminary July data indicate total OECD industry oil inventories fell by 3.6 million bbl, although the movements of crude and products differed. Crude stocks drew by 12.9 million bbl, led by decreases in Japan and the EU-16 countries. Product stocks increased 9.3 million bbl, led by gains in US distillate stocks, IEA said.

Crude in floating storage declined to around 55 million bbl at the end of July, from 70 million bbl at the end of June. Products in floating storage—mostly middle distillates—rose above 60 million bbl from 50 million bbl a month earlier, IEA reported.

## **109. Ricardo Says Advanced SI Engines Will Make Inroads into Diesel Segments**

By 2015, advanced spark-ignited engines have the potential to become a major force in diesel-dominated medium-duty commercial truck and off-road segments, including agricultural and construction vehicles, Ricardo, Inc., Vice President John Pinson told participants in the U.S. Department of Energy's 2009 Directions in Engine-Efficiency and Emissions Research (DEER) conference, in Dearborn, Mich., August 3-6.

"The technology now exists to build spark-ignited engines that can deliver performance, economy and durability that are competitive with diesel for a broad cross-section of applications. What will convince manufacturers and customers to switch are the lower cost and straightforward design of these powertrains," Pinson told the DEER attendees during the New Directions in Engines and Fuels panel discussion. "Adopters of the technology will be able to meet emissions regulations at a lower cost and offer their customers a compelling value proposition."

At DEER, Ricardo is showcasing a 3.2-liter V-6 Ethanol-Boosted Direct Injection (EBDI) prototype, which is capable of operating on gasoline or up to 100 percent ethanol. "The EBDI engine is focused on delivering optimal performance from any gasoline blend based on octane and / or ethanol content. The engine has overachieved its low speed torque performance goals on both ethanol and gasoline," said Rod Beazley, Vice President of Spark Ignited Engines at Ricardo. "This represents an archetypal change when considering the low speed torque output of the gasoline engine compared to the diesel engine - in actual fact the gasoline engine far outperforms the diesel in terms of specific torque performance, or BMEP."

Beazley said Ricardo is able to reduce displacement by 25-50 percent while delivering not only torque that's competitive with direct-injection diesels in a spark-ignited engine, but fuel economy as well. "The diesel and gasoline engine are converging in terms of base engine architecture, however the cost structures for the after-treatment and fuel systems are hugely different (between gas and diesel)," said Beazley. "In certain applications the cost and fuel economy values converge to make spark ignited engines an extremely competitive option."

At the same time, EBDI technology relies on well-established three-way catalyst after-treatment technology instead of costly, complex and bulky diesel systems, such as particulate filters and SCR catalysts now required by many on- and off-road diesel applications to meet EPA emissions legislation. The gasoline engine allows for more straightforward OBDII diagnostic compliance due to the reduction in multiple after-treatment components and sensors. The EBDI solution features a high energy ignition system that does not require a two-fuel (diesel - gasoline) system, which has been suggested as an alternative. Additionally the technology requires only a single direct injector per cylinder as opposed to the more complex and costly dual injection (DI - PFI) options that are also currently under development.

There are other significant practical benefits as well:

- Engineers packaging powertrain solutions on off-road vehicles such as tractors and backhoes won't be forced to compromise operator sight lines in order to fit after-treatment components into existing vehicle designs.
- With the much smaller after-treatment package on a spark-ignited engine, there are significant thermal advantages over a diesel engine of comparable performance.
- Medium-duty commercial truck builders, who were required to adopt clean diesel technology to meet 2010 emissions requirements, will be able to reduce their variable costs and potentially wholesale and retail prices by moving to less complicated EBDI designs.

"Ricardo already is mapping out a technology plan that will yield even more improvements in fuel economy, emissions and power," Beazley said. "The greatest immediate challenge EBDI technology must overcome is the comfort level engine builders and customers have with diesel," Pinson said. "For many applications, the practical benefits for engineers and operators will be hard to ignore."

#### **110. Plug-in Hybrid Fever Spreads, Despite Cost**

Mostly everyone agrees that the next big leap in hybrids—the capacity to plug-in to the grid and run mostly on electricity—will be expensive. But that's not stopping major automakers from pushing forward with plans for plug-in hybrids that promise dramatic increases in fuel efficiency.

News and announcements about plug-ins have gained momentum in the past few weeks. General Motors said it's on track to introduce the Chevy Volt plug-in hybrid sedan in late 2010, followed by a plug-in sport-utility vehicle in 2011. Hyundai plans to have a plug-in hybrid on sale by late 2012. Volvo said that its plug-in hybrid will be "a reality" by 2012. Toyota will begin commercial production of plug-in hybrids in 2012, producing between 20,000 and 30,000 units in the first year, according to media reports.

A plug-in hybrid car is similar to a conventional hybrid vehicle—both use a gasoline engine as well as an electric motor. However, plug-in hybrids use larger more expensive battery packs that can be recharged by connecting to common household electricity. Plug-in hybrids provide many of the benefits of an electric car, while maintaining the same driving range as conventional vehicles.

The cost of developing plug-in hybrids, and uncertainty about market acceptance, is not delaying GM's plans for them—even though the company is in bankruptcy. "I can tell you that I won't lose one day in terms of customers being able to walk into dealerships and actually purchase a plug-in," GM Vice Chairman Tom Stephens told Automotive News. The company has not confirmed production numbers, but its intentions clearly are aimed at the mass market. "My job is to get it out there and get it right the first time but then get it cost-effective so that we can do a huge number," said Stephens.

Hyundai has announced plans for a new plug-in hybrid model based on its Blue-Will concept—but does not see the technology as profitable. "We want to be the leader in fuel economy and alternative fuels," said Yang Woong-chul, president of research and development for Hyundai-Kia Motors. "We want to show our technology and improve our image, not necessarily make money on hybrids." Blue-Will is a four-door sports car powered by a 1.6-liter gasoline engine and a 100-kilowatt electric motor. Hyundai said the Blue-Will will get an estimated 50 to 55 mpg in the hybrid-electric mode and can travel about 38 miles in electric-only mode. "We're going after Prius and the Volt with the plug-in," said Woong-chul.

Volvo announced plans in June to produce a plug-in diesel hybrid. At the press conference, Volvo chief executive Stephen Odell said, "This is a significant leap compared to our earlier plans of offering a regular full-hybrid on the market by 2012." The company admits that a diesel vehicle with a lithium ion battery will be expensive. The current Volvo V70 plug-in hybrid demonstration car uses an 11.3 kWh battery pack. At that size, the battery pack alone could cost \$10,000 or more based on current prices. Volvo expects those prices to come down, especially if the battery is downsized to meet, but not exceed, consumer needs. The battery pack is combined with a front-wheel drive diesel engine with a rear-wheel drive electric motor.

Nikkei recently reported that Toyota also plans to begin commercial production of plug-in hybrids in 2012. Toyota has been slowly evaluating plug-in hybrid concepts, but until now has not committed to a production date. According to Nikkei, Toyota's plug-ins will run 12 to 18 miles on battery power alone at full charge, and will cost about \$48,000.

While on the campaign trail, President Obama said he hoped to see 1 million plug-in hybrids on the road by 2015, a number beyond the most optimistic forecasts. Since Obama took office, the federal government has implemented a broad range of consumer and industry incentives to promote production and sales of plug-in vehicles.

#### **111. Global Biofuels Market Predicted To Top One-Quarter Trillion**

The dream (or nightmare) of cellulosic ethanol powered vehicles and biorefineries is slowly coming to life, climbing through contentious issues of fuel versus food, low petroleum oil prices and sustainability. A recently released biofuels report by the Pike Institute held a positive outlook for biofuels, which will be supplemented by increasingly advanced feedstocks, but will eventually face competition from drop-in fuels like "green gasoline and renewable diesel." The Pike report also predicts the world biofuels market to surpass \$280 billion by 2022, due in no small part to national biofuels consumption mandates. These consumption mandates result in large global evolution rates, with the worldwide compound annual growth rate for biodiesel from 2009 to 2022 to be 15 percent, according to Pike Research.

Big oil is also making forays into biofuels, such as BP, which has already pledged over a billion to biofuels projects. In a report commissioned by the American Petroleum Institute, oil and gas companies were found to have invested \$58.4 billion between 2000 and 2008.

With new microcrops in development and new biomass on the way, the Pike report predicts a series of "growth spurts" due to feedstock advances, starting with low-grade greases, followed by jatropha oil (which has been met with mixed opinions) and finally algal oil. The path ahead may be hampered by feedstock availability, production capacity and infrastructure compatibility, but the future remains bright for biofuels, a market valued at \$100 billion-plus per year, according to the report.

#### **112. IMO Cutting Pollution From Shipping**

The International Maritime Organization's Marine Environment Protection Committee (MEPC) has approved a package of voluntary, interim measures to reduce greenhouse gas emissions from international shipping, focusing on ship design and energy and operational efficiencies. The MEPC approved the interim guidelines summarized below at its 59th session, held in London on July 13<sup>th</sup> – 17<sup>th</sup>.

- One set of guidelines outlines methods of calculation and voluntary verification of the Energy Efficiency Design Index for new ships, which is designed to spur development of energy-efficient ship design methods.
- The committee also approved guidance on the development of a Ship Energy Efficiency Management Plan for new and existing ships, incorporating best practices for fuel-efficient ship operations including improved voyage planning, optimization of speed and power, and improved fleet management and cargo handling.

- A third set of guidelines outlines voluntary use of the Ship Energy Efficiency Operational Indicator, which has been in trial use since 2005 and allows ship operators to measure the fuel efficiency of a vessel.

No agreement was reached, however, on the use of market-based mechanisms to encourage reduced greenhouse gas emissions, such as an international emissions trading scheme for ships, or on a global bunker fuel levy. Instead, the MEPC said the technical and operational guidelines will be used in the interim, until the measures can be refined at the MEPC's 60th session, which convenes in March 2010.

In addition to measures to control greenhouse gas emissions, MEPC also approved an Emissions Control Area to limit emissions of nitrogen and sulfur oxides as well as particulates from vessels in coastal waters around specific portions of the United States and Canada.

Environmental groups widely criticized the results of the meeting, noting that the greenhouse emissions measures adopted are not mandatory.

Future discussions on expanding the U.N. emissions trading mechanism to include shipping as well as talks on a global levy on marine bunker fuel will take into account the outcomes of the 15th Conference of the Parties (COP-15) to the U.N. Framework Convention on Climate Change (UNFCCC), which will be held in Copenhagen in December, the IMO said.

The environmental groups said any decision to reduce shipping emissions, either through a fuel levy or the use of a greenhouse gas emissions trading scheme, is unlikely to occur before 2012 and could take a further five to 10 years to enter into force. "By that time, shipping's share of CO<sub>2</sub> [output], if left unchecked, will have potentially doubled and could represent up to 6% of global CO<sub>2</sub> emissions," the groups said.

According to the Second IMO Greenhouse Gas Study, which was presented at the London meeting, the shipping industry emitted 870 million metric tons of carbon dioxide emissions in 2007, or about 2.7 percent of global man-made carbon dioxide emissions. Without global policies in place to control these emissions, emissions from international shipping could increase by 150 percent to 250 percent by 2050, the report said, especially with the expected continued growth in international seaborne trade.

The Emission Control Area (ECA) approved by MEPC to limit air pollutants from shipping in coastal waters of the United States and Canada will take effect by March 2010. Under the revised Annex VI regulations of the International Convention for the Prevention of Pollution from Ships (MARPOL), an ECA requires a limit on vessels on their emissions of nitrogen oxides, sulfur oxides, and particulate matter. Canada and the United States submitted their proposal for the ECA to the committee prior to the meeting. In July, the U.S. Environmental Protection Agency announced a proposed rule to limit nitrogen oxide emissions from new, large marine diesel engines and to lower the sulfur content of marine fuel oil.

Some background on the IMO is as follows:

- a. IMO
  - A predecessor organization to the IMO was formed in 1948 to develop international standards for shipping.



- The International Convention for the Prevention of Pollution from Ships was adopted in 1978 as the main piece of legislation governing maritime pollution.
- The IMO is composed of 169 member countries.

b. Global Caps

- In October 2008, a body of the IMO unanimously voted in a package of new measures to reduce harmful emissions from ships.
- This has been ratified by 53 countries, representing approximately 82 percent of the gross tonnage of the world's merchant shipping fleet.
- The global sulfur cap will be gradually reduced from the current 4.5 percent to 0.5 percent in 2020.
- In January 2012 the sulfur cap will drop to 3.5 percent.
- A feasibility review on the above measures will be completed by 2018.

c. Emission Control Areas

- In May 2005, the first Sulfur Emission Control Area (SECA) was formed and a more stringent 1.5 percent cap came into force in this zone.
- The North Sea and the English Channel became part of the first SECA in 2006.
- Starting last year SECAs became simply Emission Control Areas (ECA) to allow caps to be introduced for other forms of emissions such as nitrogen oxides.
- Fuel Sulfur restrictions in the ECA will drop from 1.5 percent to 1 percent in July 2010.
- The sulfur cap will be reduced to 0.10 percent from 1 January 2015.
- The United States and Canada applied to form a second ECA earlier this year, as described above.