### Predicted average gain in life expectancy (months) for persons 30 years of age and older in 25 Aphekom cities for a decrease in average annual level of PM$_{2.5}$ to 10µg/m$^3$

( WHO’s Air Quality Guideline )

<table>
<thead>
<tr>
<th>City</th>
<th>Gain in Life Expectancy (Months)</th>
<th>Average PM$_{2.5}$ (µg/m$^3$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bucharest</td>
<td>38.2</td>
<td>27.0</td>
</tr>
<tr>
<td>Budapest</td>
<td>33.7</td>
<td>22.9</td>
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<tr>
<td>Barcelona</td>
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<tr>
<td>Athens</td>
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<tr>
<td>Rome</td>
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</tr>
<tr>
<td></td>
<td>0.0</td>
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EUROPE

1. EU Parliament Report Criticizes ILUC Delay

A report prepared for the European Parliament has criticized the European Commission's decision to delay action to tackle the indirect land use change (ILUC) caused by the EU's biofuel policy, saying the best course of action is clear. Commissioned by the environment committee, the report will be presented by Green MEPs in Brussels on 2 March. It concludes current scientific knowledge is sufficient to calculate the ILUC impact of biofuels and recommends feedstock-specific criteria.

This means that the committee is likely to urge the commission to focus on the development of such criteria as it is preparing an assessment of possible policy options. The assessment is due to be released in July. A committee debate may be held in March.

In December, the commission said any action would have to be delayed because more studies were needed. Its forthcoming assessment will consider four options, including increasing the minimum emission saving threshold for biofuels, adopting additional sustainability requirements for some fuels and introducing ILUC criteria.

According to the report, conducted by the Öko institute, the only valid option is to introduce feedstock-specific ILUC criteria. Considering options such as increasing the 35% emission saving threshold would be a waste of time, add the authors.

The commission's energy and climate departments reportedly have different views on how to deal with ILUC DG Climate favors ILUC criteria, while DG Energy is pushing for additional sustainability criteria, the option favored by fuel suppliers. The parliament report says that the benefits of having additional sustainability criteria are unclear. It also notes that the commission has failed to come up with a methodology for calculating emissions from carbon stock changes caused by ILUC.

2. EU Warns Britain on London Air Pollution

The British government must convince EU officials that London will meet European clean air standards if it is to avoid a court case, officials said. The European Commission gave Britain a "final warning" in June 2010 over air pollution in greater London, the BBC has reported. Airborne particles, called PM10, are above EU limits in London, the commission said.

PM10 -- emitted mostly by industry, traffic and domestic heating -- can cause asthma, cardiovascular problems, lung cancer and premature death, the commission warned. June 2011 is the final deadline before the commission initiates legal action against the United Kingdom, EU Environment Commissioner Janez Potocnik said.

EU infringement procedures have been initiated against 20 of the EU's 27 member states over air quality, he said. The United Kingdom is at stage two of a six-stage infringement process, Potocnik said.

A scientific study commissioned last year by London Mayor Boris Johnson estimated air pollution was responsible for 4,267 early deaths through long-term exposure in the British capital, the BBC reported.
3. Italian Plan to Boost Air Quality Needs Funding

On February 10th, the Italian Ministry of Environment issued a decree detailing incentives designed to reduce air pollution from the transportation sector. But on February 14th it amended the decree because funds were not available to put the measure into effect. Ministry officials said the budget shortfall was discovered after the decree was published and that they were seeking the required funds. They declined to say how much the initiatives would cost or whether the proposed start date would be delayed. According to the original decree, starting May 1st the government would provide rebates to individual car owners who took specific steps to make their vehicles burn cleaner and would offer commercial truck drivers free filters to improve the air quality of their vehicles' exhaust. Two weeks earlier, Minister of Environment Stefania Prestigiacomo spoke at an air quality conference where it was revealed that air quality had eroded in all 20 of Italy's largest cities over the 2005-2010 period. Prestigiacomo vowed the government would take steps to improve the situation. The budget-related amendment to the decree is unusual but not entirely without precedent. In most cases in the past, ministries with similar problems have been able to find the cash they needed.

4. EU Lawmakers Approve Carbon Dioxide Emission Limits for Vans Starting in 2014

Manufacturers of vans and light commercial vehicles sold in the European Union will be required to lower the vehicles' carbon dioxide emissions starting in 2014 under legislation adopted by a plenary sitting of the European Parliament on February 15th. The legislation, which has already been approved by the EU Council, will impose an initial limit of 175 grams per kilometer, which must be met by 70 percent of new vans in 2014. Starting in 2017, all van fleets on average should be within the limit.

In 2020, the limit will be tightened to 147g/km, though, according to the legislative text, this will be subject to "confirmation of its feasibility on the basis of [an] updated impact assessment," which must be supplied by the European Commission by the end of 2012.

Manufacturers that fail to respect the limits in 2014 will be fined €20 ($27) to €95 ($128) per excess gram per vehicle. The fine will be fixed at €95 per excess gram per vehicle in 2019. Manufacturers producing fewer than 22,000 vehicles per year can apply for exemptions from the rules, while those producing electric or hybrid vans with very low emissions of 50g/km or less can count them as 3.5 vehicles to reduce their fleet average emissions. This "supercredit" clause will apply in 2014 and 2015 before being phased out through 2018.

The legislation applies to vans and commercial vehicles weighing up to 2,610 kilograms (5,754 pounds) when empty. According to the European Commission, vans make up 12 percent of the European Union's light vehicles fleet.

The van emission limits will complement similar limits on passenger cars, which will be capped at 130g/km starting in 2012 for most new vehicles.

EU member state environment ministers approved the legislation at a meeting on December 20th, following an informal Council/Parliament deal made earlier. The Parliament's rubber stamp means the text will return to the Council for adoption, though this will be a formality.

Berlin reportedly initially resisted the measures for vans, forcing a weakening of the strategy to make it easier for its big automakers, Mercedes and Volkswagen.
5. EC to Call For 60% Cut In Transport Emissions

Greenhouse gas emissions from transport reportedly should be reduced by at least 60% by 2050 compared with 1990 levels, according to a draft EU policy paper due to be published in March. Several legislative proposals will be put forward to reach this target. Emissions have grown so much over the past decades that carbon reduction efforts will only manage to bring them down to 8% above 1990 levels by 2030, says the European Commission. Transport is the only sector where emissions continue to grow.

The commission points out that it is economically more efficient to make deeper cuts in other sectors to meet the EU's long-term climate goal of a total 80-95% reduction compared with 1990 levels.

The draft policy paper reportedly says that fuel prices can only be kept under control if transport is subjected to a drastic carbon diet. If the EU sticks to a business as usual approach, transport could still be 90% dependent on oil 40 years from now.

The paper recommends continuing policies to improve the energy efficiency of vehicles, developing new sustainable fuels, shifting more freight from roads to seas, rivers and railways and improving traffic management and infrastructures. The draft paper also reportedly endorses the idea of increased road charging. The commission will also examine company car taxation.

T&E said it supported the 60% cut in transport emissions by 2050, but the short-term targets are unambitious. Director Jos Dings said emissions would have to drop by 5% each year after 2030 to reach the 2050 target. "That is very unlikely," he said.

Earlier, international transport body IRU said the forthcoming paper should aim to double the use of collective passenger transport, including buses. But the draft only calls for a "higher share" of such transport.

Greenhouse gas emissions would have to drop by 40% in 2030, then 60% in 2040 to eventually cut CO2 by 80% by the middle of the century, according to the document. The electricity sector would play a major role in delivering these cuts envisaged by the commission, with a 93-99% cut from 1990 levels in 2050. Europe would essentially rely on renewables, fossil fuel with CCS and nuclear energy.

Specific measures on the EU energy market, which member states want to complete by 2014, and grid developments will be outlined in an energy roadmap for 2050 that will be published later this year. The EU's emissions trading scheme (ETS) will also have to be strengthened, according to the commission's document.

The commission's roadmap also shows that industrial emissions would have to go down by 83-87%. It also foresees a 42-49% reduction for agriculture.

6. Environmental Groups Protest Against EU-Korea Trade Deal

Environmentalists have accused the EU of damaging Korean environmental rules and its own ambition to lead the world on climate change as the European Parliament gave final approval to a sweeping EU-South Korea free trade agreement recently. Parliamentary ratification of the deal was delayed while the EU sought and won a relaxation in planned Korean car efficiency
standards. EU trade officials expressed satisfaction with amendments tabled by South Korea on 24 January.

The agreement is the most far-reaching bilateral free trade deal ever signed by the EU. Over the next five years it will eliminate about 98% of import duties and other trade barriers in manufactured goods, agricultural products and services. Trade volumes in cars, textiles and electronic products in particular, are expected to increase.

The deal was completed in 2009 and formally endorsed by both sides last October. European carmakers expressed strong concerns, especially over a Korean plan tabled last September to set new fuel economy and carbon dioxide limits for new cars.

The draft Korean legislation is similar to, but less stringent than, EU rules finalized in 2008. Allowing for differences in test methods the International Council on Clean Transportation estimates the Korean CO2 target as equivalent to 150 grams of CO2 per kilometre by 2015, compared with the EU’s target of 130gCO2/km by the same date.

Korea has now agreed to relax the CO2 target for heavier cars. It has also relaxed the target by 19% for EU carmakers that sold few cars there in 2009, and has introduced a system of credits of up to 14g/km for cars fitted with CO2-cutting technologies.

The agreement easily passed the European Parliament by 465 votes to 128 against. But Green MEPs accused the EU of "odious arm-twisting" over Korea's car efficiency rules. And NGO Greenpeace called the pressure "outrageous" and warned that it set a "dangerous precedent" for future EU trade deals.

7. EU Council Approves Green Road Taxes, Faces Debate in European Parliament

EU member states are headed for a showdown with the European Parliament over legislation that would impose road taxes via highway tolls for trucks based on the level of their air pollutant emissions, including carbon dioxide. On February 14th, the European Council approved legislation tentatively agreed to by transportation ministers in 2010. The legislation was seen as a breakthrough by the European Commission and environmental groups because it would apply the "polluter pays" principle to the road transport sector, a major contributor to greenhouse gas emissions linked to climate change.

Italy and Spain voted against the proposal because they object to the method for calculating the road taxes via road tolls. Both countries said the legislation would impose an unfair economic burden on the transport of goods from their homelands to northern Europe. Meanwhile, the United Kingdom, Sweden, and Ireland disputed the legal base of the legislation because it contained fiscal measures such as road taxes. They said the legislation should have been vote on under EU rules that require unanimous consent of all member states instead of a qualified majority. The three nations issued a joint declaration stating their position.

Before the legislation becomes law, the EU member states as represented in the Council of Ministers must reconcile differences with the European Parliament, which is scheduled to hold a second vote on the issue in June. Unlike legislation proposed by the European Commission and backed by Parliament in its first vote, the measure approved by the Council calls for all of the extra revenue collected because of the green road taxes to be used to finance sustainable transportation such as electric cars and other measures that would reduce greenhouse gas emissions.
The road taxes would apply only for the use of about 20,000 miles of European motorways where electronic toll systems are used. EU member states would be allowed to lower the taxes if the trucks were traveling on the highways at nonpeak times, such as at night or on Saturday.

“These new rules send the right signals to operators,” European Transport Commissioner Siim Kallas said in October when the tentative deal was reached by transportation ministers. “The aim is to motivate a shift in behavior so companies invest more in efficient logistics, less polluting vehicles, and more sustainable transport at large.”

Countries such as France, Germany, Belgium, the Netherlands, and Austria, which experience heavy transit flows of trucks, back the legislation. The measure was first proposed by the European Commission in 2008 but was blocked because of disputes over the extent of the road taxes and which roads would be covered.

To secure approval, Belgium, which held the rotating EU presidency in the latter half of 2010, proposed a compromise that allows an exemption for trucks that meet the highest EU emissions standards for light and heavy vehicles ranging between 3.5 and 12 metric tons. Another last-minute compromise dropped requirements for the extra revenue to be used only for research into making road transport more sustainable.

Any differences between the European Parliament and the Council of Ministers must be worked out in a conciliation committee before legislation becomes law.

8. Rolls-Royce Develops First Electric-Powered Test Vehicle

Luxury car maker Rolls-Royce, a unit of German auto giant BMW AG, has announced it had developed a fully electric-powered car, but did not say when the environmentally-friendly model would enter production. Rolls-Royce said the prototype, dubbed the 102EX and based on its top-end "Phantom" model, will be put through various tests throughout 2011.

The normal Phantom is powered by a 6.75 liter 12-cylinder engine, at least three to four times the size of the engine on a typical family sedan, and consumes about one liter of fuel for every six kilometers traveled.

Rolls-Royce said it will display the prototype at the Geneva Motor Show on March 1, but said there were no immediate plans to develop a production version.

9. Biofuels Regulator Imposes Fine for Breach of Content Rules to Oil Supplier

The United Kingdom’s Renewable Fuels Agency (RFA) has assessed its first and highest allowable penalty—£50,000 ($79,500)—to a local oil supplier for failing to match the fossil fuel it supplies with a sufficient amount of biofuels, the agency said on January 10th. Under the Renewable Transport Fuels Obligation introduced in April 2008, suppliers of more than an annual 450,000 liters (118,900 gallons) of diesel or gasoline for road transport must ensure that a specified percentage is made up of renewable fuels. The targets rise every year, for instance from 3.25 percent for 2009–10 to 3.6 percent for 2010–11 and 4.1 percent for 2011–12.

RFA imposed a $79,500 fine on Yorkshire Petroleum Company Ltd. (Yopec), “the highest penalty our powers allow us to impose,” an RFA spokesman told the press. Despite being fully aware of its obligation, Yopec failed to meet the 2009–10 target, giving the company a market
advantage over its competitors during that period, RFA said. “We will always come down hard on those who fail to meet their obligation, as this is at the heart of the RTFO [Renewable Transport Fuels Obligation] as a carbon reduction measure,” David Calderbank, RFA’s head of regulation, said in a prepared statement.

To meet their obligation, fuel suppliers are allowed to surrender certificates purchased from suppliers that exceeded the volume of biofuel they were required to deliver, RFA said. Alternatively, suppliers can choose to “buy out” of the obligation by paying a set rate per liter of biofuel-15 pence (24 U.S. cents) per liter for 2009–10 and 30 pence (43 cents) per liter for 2010–11) not supplied, RFA said. These payments enter a central fund and are then recycled proportionally among firms that have met their obligation.

In the case of Yopec, the firm made insufficient payment to “buy out” from its obligations, RFA said. An RFA spokesman said Yopec missed the January 17th deadline to pay, which in principle allows the regulator to take appropriate action including winding up the company.

In a separate action, RFA, the country’s independent sustainable fuels regulator, imposed smaller fines on subsidiaries of two major oil companies for failing to register with the agency, it said in a separate statement on January 10th. The Renewable Transport Fuels Obligation requires fuel suppliers to produce Renewable Transport Fuel Certificates—which include reports on the carbon intensity and sustainability of the biofuels they use—to prove they have met their obligations.

RFA assessed smaller fines of £5,000 ($7,950) each to Aral Direkt GmbH, part of the BP group at the time of the infringement, and Total Additifs et Carburants Speciaux, part of the Total group, for failing to register as companies that supply more than 450,000 liters of gasoline or diesel a year for use in road transport. “This legislation was put in place to reduce the environmental impact of road transport and we expect companies to deliver on their duties. We would remind any company that thinks it may be obligated that it is its responsibility to find out how the Order affects it, and to register with the RFA,” Calderbank said.

RFA is due to be abolished this year with “all its powers and duties [to be] transferred to the government’s Department for Transport.” The government is winding down the regulator as part of major cuts across independent environmental bodies, including those that are part of the Department for Energy and Climate Change and the Department for Environment, Food, and Rural Affairs.

RFA, which was legally created in October 2007, published its second Annual Report to Parliament on the Renewable Transport Fuel Obligation on January 25th. The report takes a detailed look at the performance of oil companies against a number of sustainability criteria relating to the supply of biofuel to the United Kingdom, focusing on the period from April 2009 to April 2010.

10. French Decree Implements EU Directives on Vehicle Scrapping

On February 6th, France’s Ministry of Ecology, Sustainable Development, Transportation, and Housing published a decree amending the country’s environmental regulations to comply with EU laws on the scrapping of end-of-life vehicles. In April 2010, the EU Court of Justice ordered France to implement EU Directive 2000/53/EC on the dismantling and recycling of end-of-life vehicles, after the country had missed the deadline to do so.
The French decree (No. 2011-153) changes the environmental code to comply with the court's ruling, in particular by requiring manufacturers to implement a system in which certified car-scrapping centers must take end-of-life vehicles from owners at no charge. It also requires manufacturers, scrapping centers, and other parties to achieve a collective 85 percent recycling or reuse rate for these vehicles by 2015, not counting certain types of vehicles listed in an annex.

According to France's Environment and Energy Management Agency (ADEME), about 1.5 million cars usually go out of use yearly in the country. This number jumped to about 2 million in 2009, spurred by a so-called junkyard bonus and bonuses for purchases of vehicles with low carbon dioxide emissions.

To meet the recycling target, the decree requires automakers to design vehicles that are easier to disassemble and recycle, contain lower amounts of dangerous substances, and use more recycled materials. As an incentive to comply, it requires manufacturers to pick up at least part of the tab for scrapping centers.

It also requires scrapping centers to remove polluting components and reusable parts before handing vehicles over to certified crusher/shredders that cull various materials for recycling. A new authority will monitor the cost of operating the centers and will be able to initiate a process to financially compensate automakers if they are losing money on them, according to the decree. The decree changes the procedure for canceling the registration of an end-of-life vehicle, requiring scrapping centers to give owners certificates that the vehicle has been destroyed.

The decree took effect immediately, except for the requirement for certificate that a vehicle has been destroyed, which takes effect March 31.

11. Countries Must Act Quickly or IMO Energy Efficiency Initiative Could Fail

Hungary, the Czech Republic, Austria, Slovakia, Malta and Monaco are being urged to ratify the international Marpol Annex VI regulation on ship pollution in time for a tight vote on mandatory energy efficiency standards for new ships in July. If they do not ratify the annex by July, these countries will not be able to vote on the proposed Energy Efficiency Design Index (EEDI), a group of environmental NGOs have warned. The EEDI was blocked by a group of emerging economies last year.

Recently, green groups EEB and the Clean Shipping Coalition wrote to the Hungarian presidency of the EU to coordinate an effort for the six countries to quickly ratify Annex VI. The EEDI was tabled as an amendment to the annex.

Earlier this month, the EU's transport and climate commissioners said the EU would make "every effort" to help the International Maritime Organization agree carbon reduction measures this year. According to the environmental groups, the EEDI could lead to a 20% reduction in CO2 emissions from shipping by 2030.

12. Ports and Shippers Argue Sulfur Limits May Hinder EU Plans to Expand Shipping

EU plans to shift freight from roadways onto ships to reduce pollutant emissions could be thwarted by pending limits on sulfur under International Maritime Organization (IMO) mandates for the Baltic Sea. The Baltic Sea is designated as a sulfur emissions control area under Annex VI of IMO's 1973 International Convention for the Prevention of Pollution from Ships (MARPOL
Convention). The designation means the limit on sulfur content in fuel burned in territorial waters of EU countries in the Baltic Sea will be tightened from the current 1 percent to 0.1 percent by 2015. The current limit went into effect in July 2010.

Port operators and shippers say the new limit could make fuel so expensive that shipping will become uncompetitive and freight transport will be shifted back onto roads. The European Commission has just finished a public comment process on a possible reduction of the sulfur content of certain liquid fuels. In April, it will make a decision on sulfur rules for the European Union.

The controversy over the 2015 sulfur limits under the MARPOL Convention also could jeopardize the Helsinki Commission's (HELCOM) planned application to IMO to make the Baltic Sea a nitrogen oxide emissions control area, requiring new ships operating in the area to install abatement technologies. HELCOM is the governing body of the Helsinki Convention, the international agreement to radically reduce Baltic Sea pollution over the next decade.

HELCOM Professional Secretary Monika Stankiewicz told the press, “From our environmental point of view, we are now in the unfortunate situation where these [sulfur emissions control] issues create such an atmosphere, it is difficult to discuss anything else.”

The EU transportation policy, dubbed “Motorways of the Sea,” began in 2000 to create sea-based logistical routes in the Baltic Sea as well as the North Sea and Mediterranean to shift freight flows off crowded European roadways. The EU policy is meant to improve traffic flow and to trim emissions of air pollutants, including greenhouse gases. Reducing traffic congestion would itself cut emissions. Meanwhile, a broader shift to shipping would yield significant greenhouse gas emissions reductions, as maritime freight transport emits an estimated five times less carbon dioxide per kilometer traveled than road transport.

Transportation is the only European sector that did not reduce its greenhouse gas emissions between 1990 and 2005, according to the Organization for Economic Cooperation and Development. EU states along the Baltic are expected to contribute to an increase in the sector's emissions in coming years. But the policy to rely on increased shipping as a green transport solution is facing pressure from other measures designed to protect the heavily polluted Baltic Sea, including those under the Helsinki Convention and IMO.

“The conventions put a lot of constraints on the ship owners, and the targeted 0.1% of SOx [sulfur oxide fuel content] in the Baltic Sea area is considered by the Baltic Port Organization as something that will backlash and shift the cargo transportation back on roads,” the organization TransBaltic said in a report from a December 10th seminar on Baltic ports and the environment. “The focus on SOx puts the shipping industry in an unfavorable position against its road competitors.”

Stankiewicz of HELCOM said it is unprecedented for parties to an IMO convention to try to reverse a decision. She said that given the environmental advantages of shipping over road transit, the goal now should be to “find some other instruments or tools that will put maritime transport in a more advantageous position.” HELCOM is most worried that the SOx issue could make countries less willing to support a nitrogen oxide, or NOx, emission control area application. “They are under huge pressure from the industry,” Stankiewicz told the press. HELCOM was set to submit the NOx application this year, but it may be delayed.
Meanwhile, some observers said barriers to expanded shipping in the Baltic are not due to environmental policy, but rather to ongoing institutional failures. Barriers include the logistics of working with many stakeholders such as port operators, ship owners, and freight companies; complicated procedures for applying for funds to create the transport shifts; and competition among corridors for limited funds. For example, a new transport corridor between Sweden and Poland that received funds under the program took nearly 10 years to complete.

13. Norway Ratifies Maritime Treaty with Russia; No Environmental Safeguards

On February 8th, the Norwegian Parliament ratified a maritime treaty with Russia that opponents say will clear the way for Russian exploitation of the region's natural resources with few environmental safeguards. That criticism was rebuffed by a Norwegian government official, who told reporters that it could lead to further agreements on regional environmental issues.

The treaty must still be formally ratified by Russia's parliament before it takes effect.

The treaty establishes a legally binding demarcation line between the two nations' territorial waters in a 109,000-square-mile area adjacent to the archipelagoes of Franz Josef Land and Spitzbergen. The result of negotiations dating back to the 1970s, the treaty covers the exploitation of cross-boundary energy deposits in areas of the Arctic Ocean and Barents Sea thought to contain significant gas and oil resources.

While it lays out consultation obligations and refers to conservation responsibilities, the treaty does not include any specific environmental protection clauses. However, Rolf Einar Fife, director general at the Norwegian Foreign Ministry's Legal Affairs Department, told the press that its implementation could pave the way for strengthened environmental cooperation between the two nations.

“This is a boundary treaty and, as such, it establishes the maritime boundary between Norway and Russia,” he said. “In accordance with established practice, national legislation and standards are not regulated by this kind of treaty.” However, Fife added that its ratification did not constitute any obstacle” to more cooperation in the fields of energy and the environment. “On the contrary, we expect the treaty to promote bilateral cooperation in several fields,” he said.

Critics remain skeptical. The Socialist Left Party, a junior partner in the ruling leftist coalition, has threatened to quit the government over fears that the treaty could result in Russian energy operations with few environmental safeguards. The pan-Nordic environmental group Bellona has called for the drafting of a new regional treaty related specifically to environmental concerns.

“Russia is not committed to any environmental standards within the oil and gas sector, except her own national standards,” said a Bellona spokesman, Kristin Vibeke Jorgensen. “The maritime demarcation treaty is about how to share the oil and gas resources between Norway and Russia, not about environmental standards. “Standards in Norway and Russia are very different,” she said. “From the Norwegian side there have been approaches toward the Russians, for example a common management plan for the Barents Sea, but these approaches have not been welcomed. “If any oil and gas development is to be carried through in the area, other treaties or agreements should be developed,” she said.

The treaty was approved in April 2010 and signed five months later.
14. Sweden To Develop Arctic Strategy

Foreign Minister Carl Bildt surprised the Parliament in Stockholm when he announced that the Government will present a Swedish Arctic strategy in the spring of this year. Presenting the Statement of Government Policy in the debate on Foreign Affairs, Bildt underlined that north of Sweden lies a challenge of growing importance. Arctic issues are becoming increasingly important for the international community, not least due to climate change. It is crucial for Sweden to protect the sensitive environment in the region, Bildt said.

Sweden currently holds the chairmanship in the Barents Council, also a position where Bildt has said environmental issues are of most importance in the cooperation with Norway, Finland and Russia. In May, Sweden will be taking over the chairmanship of the Arctic Council and will thus have a key role to play coordinating this increasingly strategic area, Bildt said to the Parliament members.

With the move, Sweden follows Norway and Finland by initiating a national strategy for the Arctic region. The Norwegian Government presented their High North strategy in 2005, while Finland followed with their national Arctic strategy in 2010. Both Finland and Norway says it is crucial to develop the Barents Region and the Arctic in close cooperation with Russia.

15. Greenland Says Libyan Turmoil Puts Greater Focus on Developing Arctic Oil

Unrest in the Middle East means the potential oil riches in Arctic areas like Greenland are more important than ever, according to the island's premier, criticizing environmental groups that want to hamper exploration. Greenland, which enjoys self-rule as part of the Kingdom of Denmark, has issued 20 licenses for oil and gas exploration in Baffin Bay on its West coast. Some estimates put Greenland's offshore oil reserves at 20 billion barrels.

"There is a very strong focus on the Arctic ... especially nowadays because of the richness of natural resources. The very last days' developments in the Middle East of course put more (emphasis) on this focus," said Greenland Premier Kuupik Kleist, referring to instability in Libya. "We are of course influenced and also highly affected by what's happening on world markets," he told an Ottawa conference on the Arctic.

Speaking separately, Greenland's industry and mineral resources minister, Ove Kar Børhelsen, said exploration licenses for blocks in the Greenland Sea to the east would be auctioned in 2012 and 2013. Firms with licenses include U.S.-based ConocoPhillips and Exxon, Canada's Encana, Norway's Statoil, France's GDF Suez, Britain's Cairn Energy, Royal Dutch Shell Plc., Denmark's Maersk and DONG Energy, and Greenland's national oil company Nunaoil.

Although environmental groups say the Baffin Bay exploration blocks are particularly vulnerable to oil spills and should be kept off limits, Kleist made it clear there is no turning back. "If Greenland should stay away from exploiting its mineral resources, some other place on Earth will do it. That's for sure," he later told reporters.

Greenland, dependent on the fishing industry and funding from Denmark, says it needs the money to cope with pressing social needs. "For Greenland, the status quo is not an option. We are faced with big huge challenges in all areas -- social, educational, health, infrastructure," said Kleist. The Greenland government says while there are risks to offshore drilling, modern technology means the dangers are much lower than in the past.
16. Rules to Help Identify Air Pollution Sources in Russia

On February 21st, a new regulation setting out procedures for federal and local authorities to determine sources of air pollution went into effect in Russia. Order No. 579, issued by the Natural Resources and Environment Ministry, contains formulas for calculating regional pollution limits. Sources of air pollution are to be determined on the basis of emission monitoring. Among the 115 pollutants listed in the regulation are ammonia, benzene, chlorine, methane, nitrogen dioxide, ozone, phenol, and 92 radioactive substances. The regulation requires the ministry to update the list of pollutants at least once every 10 years. All businesses, including organizations and individual entrepreneurs, will be subject to the order’s provisions.

17. EU Analysis Shows Benefits of Clean Air Far Outweigh Costs

DG Environment has made available the most recent cost benefit analysis (CBA) for the revision of the NEC directive (Cost Benefit Analysis for the Revision of the National Emission Ceilings Directive. Interim) at their website. It concludes that the incremental emission abatement costs for achieving the Thematic Strategy on Air Pollution (TSAP) targets will be about euro 1.3 billion/year in 2020 but that the resulting incremental monetized health benefits will be about euro 15-49 billion/year in that same year. The benefit-to-cost ratio is approximately 12-37 (i.e. monetized benefits are valued at up to 37 times the estimated costs).

The report provides a 2010 update on the balance of costs and health benefits of possible revisions to the National Emission Ceilings (NEC) Directive with respect to emission limits to be reached by 2020. The analysis deals only with impacts to human health, using exposure to fine particles and ozone as indicators of risk.

The analysis specifically addresses the position outlined in the Thematic Strategy on Air Pollution (TSAP), the European Parliament (EP) position on the TSAP, and the Maximum Technically Feasible Reduction (MTFR according to the measures contained in the GAINS model) scenario. Estimates of annual health impacts under the scenarios are shown in Table 1.

| Table 1: Estimated Annual Health Impacts In 2020 Due To Air Pollution In The EU27 For Core Scenarios |
|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|
| Ozone effects                                   |                                                 |                                                 |                                                 |
| Acute Mortality (deaths)                        | 19,900                                          | 19,500                                          | 19,400                                          | 17,800                                          |
| Hospital Admissions (cases)                     | 18,800                                          | 18,500                                          | 18,400                                          | 16,900                                          |
| Minor Restricted Activity Days                  | 40,600,000                                      | 39,900,000                                      | 39,564,100                                      | 36,330,500                                      |
| Days with respiratory                           | 7,800,000                                       | 7,600,000                                       | 7,588,400                                       | 6,967,600                                       |
# Fine particle (PM<sub>2.5</sub>) effects

<table>
<thead>
<tr>
<th>Metric</th>
<th>Base Case</th>
<th>UK Status</th>
<th>UK Status +20%</th>
<th>UK Status -20%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic Mortality (life years lost*)</td>
<td>2,300,000</td>
<td>2,100,000</td>
<td>2,059,300</td>
<td>1,689,200</td>
</tr>
<tr>
<td>Chronic Mortality (deaths*)</td>
<td>250,000</td>
<td>230,000</td>
<td>220,800</td>
<td>181,200</td>
</tr>
<tr>
<td>Infant Mortality (deaths)</td>
<td>373</td>
<td>340</td>
<td>326</td>
<td>265</td>
</tr>
<tr>
<td>Chronic Bronchitis (cases)</td>
<td>120,000</td>
<td>110,000</td>
<td>104,100</td>
<td>85,400</td>
</tr>
<tr>
<td>Hospital Admissions (cases)</td>
<td>63,000</td>
<td>58,000</td>
<td>55,000</td>
<td>45,000</td>
</tr>
<tr>
<td>Restricted Activity Days</td>
<td>206,000,000</td>
<td>188,000,000</td>
<td>181,000,000</td>
<td>148,000,000</td>
</tr>
<tr>
<td>Days with respiratory medication use</td>
<td>21,000,000</td>
<td>19,000,000</td>
<td>18,000,000</td>
<td>15,000,000</td>
</tr>
<tr>
<td>Lower Respiratory Symptom days</td>
<td>273,000,000</td>
<td>250,000,000</td>
<td>240,000,000</td>
<td>197,000,000</td>
</tr>
</tbody>
</table>

* Note two alternative metrics are used for the presentation of chronic mortality from PM. Firstly in terms of years of life lost and secondly in terms of numbers of premature deaths. These are not additive.

Table 1 demonstrates that the effects quantified in relation to PM exposure are dominant.

Following quantification of impacts, results are monetized to permit comparison with the cost estimates generated by the GAINS model. Costs from the GAINS model analysis for the TSAP case are estimated at €1.3 billion/year in 2020 across the five pollutants considered for abatement. For the EP case, costs nearly double to €2.5 billion. Under the MFR case they increase much more significantly to €51 billion as this brings in measures that are very expensive per unit abatement.

The key sensitivity in the benefits assessment relate to valuation of mortality, specifically in relation to mortality impacts of exposure to fine particles. For the CAFE CBA, both the Value of a Statistical Life (VSL) and the Value of a Life Year (VOLY) were used, to show transparently the variation in results arising from use of these two approaches. Given its importance, the main analysis retains quantification of a range for mortality impacts of particles based on application of the lower bound (median) VOLY and upper bound (mean) VSL.
Total impacts for the baseline scenario (Current legislation, CLE) are calculated to be between €186 and €583 billion/year in 2020 (see Table 2), the range accounting for alternative views on mortality valuation. The results for the TSAP and EP scenarios have large, positive net benefits once costs are subtracted out, despite the omission from the analysis of all non-health benefits.

**Table 2: Quantified Health Damage (€Billion/Year) Under Each Scenario**

<table>
<thead>
<tr>
<th>Benefits And Net Benefits Over The CLE Baseline, And Benefit: Cost Ratios For The EU27.</th>
<th>CLE</th>
<th>TSAP</th>
<th>EP</th>
<th>MTFR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Damage Low-High*</td>
<td>186-583</td>
<td>170-535</td>
<td>164-514</td>
<td>135-422</td>
</tr>
<tr>
<td>Benefit over CLE Low-High</td>
<td>15-49</td>
<td>22-69</td>
<td>51-161</td>
<td></td>
</tr>
<tr>
<td>Net benefit over CLE (subtracting out increased costs) Low-High</td>
<td>14-47</td>
<td>20-67</td>
<td>0.053-110</td>
<td></td>
</tr>
<tr>
<td>Benefit: cost ratio over CLE Low-High</td>
<td>12-37</td>
<td>8.9-28</td>
<td>1.0-3.1</td>
<td></td>
</tr>
</tbody>
</table>

* Low: mortality valued using median VONY. High: mortality valued using mean VSL.

The analysis clearly demonstrates that monetized benefits outweigh costs in the range from the baseline through the TSAP scenario to the EP scenario for the EU even under the assumption of the lower bound valuation of mortality. Review of the uncertainties that affect the analysis concluded that it was very unlikely that they would change the view that the benefits of the scenarios investigated would be lower than the costs. Indeed, given the omission of various types of benefit from the analysis and previous research showing that estimates of the costs of pollution control tend to be exaggerated, the surplus of benefit over cost could well be greater than shown here.

The results of the analysis demonstrate that the conclusions reached earlier, that adoption of the environmental quality targets defined under the Thematic Strategy on Air Pollution would generate a significant net benefit for society, remain valid. Indeed, recognizing that this analysis has addressed only health impacts, it is expected that the benefits of the policy would be larger than shown here.

The final report on this contract will be released in 2011.

**18. European Environment Agency Report Shows Benefits of Controls**

In recent decades, the EU has introduced a range of policies to improve air quality by controlling pollutant emissions. A new report by the European Environment Agency (EEA) evaluates three key instruments and finds that they have significantly improved Europe’s air quality and reduced pollution-induced health effects. There is scope for even more progress, however, if countries achieve all their binding commitments to reduce emissions.
Industrial combustion and road transport are major sources of air pollutants that cause significant harm to human health and the natural environment. Together, they account for around 50–66% of total emissions of particulate matter, acidifying pollutants and ozone-forming gases.

The EU introduced the Euro emission standards for road vehicles and directives on Integrated Pollution Prevention and Control (IPPC) and Large Combustion Plants (LCP) to reduce air pollutant emissions from these sources. But how effective have they been?

A new EEA study 'Impact of selected policy measures on Europe's air quality' aims to provide an answer, analyzing how much these policies have reduced air pollutant emissions and improved Europe's air quality compared to a 'no-policy scenario'. It also explores how much better air quality could be if the policies were fully applied.

Key findings

Road transport

- Despite a 26% increase in fuel use over the period 1990–2005, the introduction of the Euro vehicle standards has reduced road transport emissions of carbon monoxide (CO) by around 80%, non-methane volatile organic compounds (NMVOC) by 68%, nitrogen oxides (NOx) by 40% and fine particulate matter (PM2.5) by 60% compared to a no-policy scenario.
- Due to lower emissions, concentrations of particulate matter over Europe have also been reduced far below the levels that would have been observed had no policies been in place. This is mainly the case for densely populated areas in western European countries. Such significant reductions have not been observed in Eastern Europe.
- Due to an overall decrease in the emissions of ozone precursors (CO, NMVOC, NOx), high daily ozone concentrations have become less frequent over most parts of Europe, especially in the Mediterranean region.

Industrial combustion

- Current emissions of NOx and sulfur oxides (SOx) are significantly below the no-policy scenario. The reduction in particulate matter emissions from industrial combustion is more significant than from the road transport sector. The largest reductions have occurred in major industrialized areas such as Germany, Italy’s Po Valley, the Netherlands and Poland.
- Europe's air quality has improved significantly in terms of both acidifying pollutants (NOx, SOx) and fine particulate matter. Concentrations of both pollutants groups would be around twice as high if no measures had been implemented.

The potential of existing policies

- Emissions could be reduced much further if the latest Euro vehicle standards were fully applied in all European countries. This would mostly affect NOx emissions from gasoline fuelled vehicles and direct PM$_{2.5}$ emissions from diesel fuelled vehicles.
- In many countries, NOx and SO2 emissions could be approximately halved if they were brought down to the requirements set out in the LCP legislation.
Concentrations of PM2.5, the pollutant of major concern in terms of health effects, would decrease in most areas if countries reduced emissions to the requirements set out in the LCP legislation. As emissions in Denmark, Germany and the Netherlands are already largely consistent with the LCP requirements, high reduction potentials are mainly found in southern and Eastern Europe.

There is scope for even further improvements in Europe's air quality as many countries have not yet achieved their binding emission reductions under the National Emission Ceilings Directive.

19. EU Delays Tackling Air Pollution to 2012 or Later

The European Commission is going to take further measures to improve air quality in areas such as transport but it has no plans to revise the National Emission Ceilings (NEC) directive any time soon, according to Janez Potočnik. The environment commissioner released a statement following a debate on air quality at the commission. The EU executive agrees that improving the situation is a "pressing need", promising measures on marine fuels and emissions from vehicles and machinery. Many cities are struggling to meet PM10 standards.

In his statement, Mr Potočnik explained that the commission would deal with the NEC revision together with other planned measures to take advantage of synergies between policy areas. These synergies will be highlighted in a forthcoming assessment of the EU's sixth environmental action program (EAP), he said.

Most soot particles or airborne acid pollution comes from diesel cars, ships and power stations. No action is seen until 2012 or 2013 when a whole string of related legislation can be overhauled simultaneously, a source at the European Commission told reporters.

The European Commission's 27 commissioners -- one from each EU member state -- recently debated the issue of air quality and agreed to review the National Emission Ceilings (NEC) Directive, which caps airborne pollutants in each country. Seven member countries look set to overshoot their targets under the existing NEC directive, and 20 face the prospect of penalties for failing to curb dangerous soot particles under the EU's Air Quality Directive, Potocnik's spokesman said.

Potocnik said that while the NEC directive has been due for revision for some time, the Commission had decided a 'stand alone' revision would be less useful than an overhaul in a few years in tandem with laws on energy, transport and agriculture. The NEC Directive could be looked at alongside a review of the EU Ambient Air Quality Directive (2008/50/EC), which is scheduled for 2013, as well as changes being made to EU agricultural policy, which will come into force in 2014, according to the Commission.

The NEC Directive obliges EU countries to stay within limits on emissions of sulfur dioxide, nitrogen oxides, volatile organic compounds, and ammonia, which are produced largely by transport, agricultural, and industrial activities and are responsible for acidification of soils and ground-level ozone pollution.

The Commission should have reviewed the NEC Directive in 2004 and 2008, with the reviews meant to identify measures to help EU countries comply with their emission limits and to propose longer-term targets for 2020. Countries were obliged to meet the initial limits contained in the directive by 2010, with a report on the results of their efforts due to be published by the Commission in 2012.
20. Madrid to Ask For More Time to Meet NO2 Limit

The Madrid city council has acknowledged that nitrogen dioxide (NO2) levels in the Spanish capital exceeded an EU air quality standard by 10% last year. In previous years, it had claimed that high NO2 levels did not breach EU law. Alleging a “currently impossible” 50% reduction in motor traffic would be required to achieve compliance, city environment boss Ana Botella said the council would ask the Spanish government to negotiate extra time for complying with the standard.

Green group Ecologistas en Acción, whose 2010 Madrid air quality report prompted Botella's statement, said recorded NO2 levels would be much higher "had Madrid council not removed 12 measuring stations in 2009 in an effort to massage the data".

21. EC Seeks To Delay Emission Limits for Tractors

Narrow track tractors with a maximum width of less than 1.15 meters should have another three years to comply with more stringent air emission limits that would normally apply from January, the European Commission has said. A 2004 directive sets limits on carbon monoxide, hydrocarbon, nitrogen oxides and particulate emissions from agricultural and forestry tractors. It says that the new stage IIIIB limits should be subject to a technical review by the commission.

The review found the new limits to be feasible for tractors except narrow track ones in categories T2, T4.1 and C2, typically used in Mediterranean agriculture. EU member states have not raised any objections, according to the commission.

In November, the EU executive proposed to ease the burden of the new limits for all tractors by extending the 'flexibility scheme' allowing manufacturers to produce tractors meeting the old requirements. Up to half of each manufacturer's sales would be allowed to meet less stringent stage III A limits until the end of 2013.

22. Experts Advise Options for Oil-Free Transport

Decarbonizing transport is a core theme of the EU 2020 strategy and of the common transport policy. The long-term perspective for transport in Europe has been laid out in the Commission Communication on the Future of Transport of 2009. The long-term objective of the European Union on CO2 emissions is an overall reduction of 80-95% by 2050.

Oil, the main energy source for transport overall, supplying nearly 100% of road transport fuels, is currently expected to reach depletion on the 2050 perspective. Substitution of oil therefore needs to start as soon as possible and increase rapidly to compensate for declining oil production, which is expected to reach a peak within this decade.

Climate protection and security of energy supply both lead to the requirement of building up an oil-free and largely CO2-free energy supply to transport on the time horizon of 2050. Therefore, a consistent long-term strategy should aim to fully meet the energy demand of the transport sector from alternative and sustainable sources by 2050. The aim of the Clean Transport Systems (CTS) initiative, foreseen for end in 2011, is to present a consistent long-term alternative fuel strategy and possible measures to take in the short and medium term.
Alternative fuels are the ultimate solution to decarbonize transport, by gradually substituting for the fossil energy sources, which are responsible for the CO2 emissions of transport. Other measures, such as transport efficiency improvements and transport volume management, play an important supporting role.

Compatibility of new fuels with current vehicle technology and energy infrastructure, together with the possible need for disruptive system changes, should be taken into account as important determining factors influencing the introduction of alternative fuels. In the context of revising existing policies and launching new strategic initiatives for more sustainable transport in the EU, the Commission established in March 2010 a stakeholder Expert Group on Future Transport Fuels, with the objective of providing advice to the Commission on the development of political strategies and specific actions aiming towards the substitution of fossil oil as transport fuel in the long term, and decarbonizing transport, while allowing for economic growth.

The study on Clean Transport Systems (CTS), launched by the Commission in September 2010, will design and assess possible scenarios which can provide full substitution of fossil oil as fuel for transport by 2050, and progressively decarbonize transport. This study will take into account previous analysis and the Report from the Future Transport Fuel Expert Group, and provide all the elements required for the Impact Assessment of the Clean Transport Systems initiative. The study will design scenarios and measures potentially capable of fully meeting the energy demand of the transport sector with sustainable and secure CO2-free sources by 2050. The quantitative assessment will include a cost-benefit analysis and address the availability of feedstock of the different fuels, resources required, security of supply, market potential, technological issues, economic viability and industrial, social and demographic aspects.

Road vehicles used for short trips such as urban transport should be powered by electricity while those specifically designed for going long distances should use biofuels, synthetic fuels, methane or liquefied petroleum gas (LPG), according to the EU advisory body. This is one of the main recommendations of an expert panel advising the European Commission on future transport policies in the EU. Later this year, the commission is due to publish a policy paper on how to decarbonize the transport sector by 2050.

The experts say that it is technically possible to replace fossil fuels with a single alternative fuel in all transport sectors: liquid biofuels and synthetic fuels such as hydrotreated vegetable oil (HVO) and DME. But they do not recommend going down this route, calling instead for a mixture of alternative fuels for specific applications.

The EU’s expert group has for the first time developed a comprehensive approach covering the entire transportation sector. Expected demand from all transport modes could be met through a combination of:

- Electricity (batteries or hydrogen/fuel cells).
- Biofuels as main options.
- Synthetic fuels (increasingly from renewable resources) as a bridging option.
- Methane (natural gas and biomethane) as complementary fuel.
- LPG as supplement.

Railways should be electrified whenever possible and aviation should use kerosene derived from biomass. Regarding waterborne transport, the experts recommend using biofuels. Hydrogen could be used for inland waterways and small boats, they add. Synthetic fuels could
be used as an interim alternative to oil as Europe moves towards greater renewable energy production. Methane and LPG could also be used as complimentary sources of energy in the transport sector.

Biofuels and synthetic fuels can be used with existing infrastructure, while methane would require new filling stations. The core infrastructure for LPG has already been established, with more than 27,000 stations. It is currently the most widely-used alternative transport fuel, accounting for 3% of fuel used in passenger cars.

Incentives for development and use of these fuels need to be harmonized across the EU to ensure the free circulation of vehicles and to prevent market distortions. There should be tax incentives for using greener fuels and more low-emission zones.

The commission is currently revising existing policies; the new report will feed into the "initiative on clean transport systems," to be launched later this year, said the Commission's announcement. “The initiative intends to develop a consistent long-term strategy for fully meeting the energy demands of the transport sector from alternative and sustainable sources by 2050,” it said.

According to the expert-group report, alternative fuels are the “ultimate solution to decarbonize transport,” by gradually substituting fossil energy sources. Technical and economic viability, efficient use of primary energy sources, and market acceptance, however, will be decisive for a competitive acquisition of market share by the different fuels and vehicle technologies, it said.

No single candidate for fuel substitution currently exists. Fuel demand and greenhouse gas challenges will most likely require the use of a mix of fuels that can be produced from a large variety of primary energy sources. The commission’s announcement also said there is “broad agreement” that all sustainable fuels will be needed fully to meet the expected demand.

Different modes of transport require different options of alternative fuels. Fuels with higher energy density are more suited to longer-distance operations, such as road-freight transport, maritime transport, and aviation. Compatibility of new fuels with current technologies and infrastructure or the need for disruptive system changes “should be taken into account as important factors, determining in particular the economics of the different options.”

23. EU Guidance on Rural PM2.5 Monitoring Stations

The European Commission has issued guidance for setting up PM$_{2.5}$ monitoring stations in rural areas. Air quality law says that EU states must have at least one rural station, or set up stations that they share with neighboring countries.

The guidance was published recently by the Council of Ministers. It gives information on the minimum number of stations per country. At least 43 rural stations must be established across Europe. The law requires one station every 100,000 km$^2$.

The commission also recommends that countries sharing monitoring stations sign agreements detailing the terms of the deal, for example responsibility for reporting air quality data to the EU executive and the European Environment Agency (EEA).
It also gives examples of where stations could be shared. Small countries such as Luxembourg could use PM2.5 stations in Belgium, France and Germany. Malta could use a station in southern Sicily. Cyprus could share a station with Greece.


In 2011, the Czech government will continue to focus on energy policy, specifically fine-tuning its subsidies for solar and biomass facilities and continuing to expand its nuclear power facilities. Bringing the country's air pollution laws in line with European Union directives is also a priority of the Environment Ministry, along with a far-reaching revision of clean air legislation. Finally, an environmental cleanup tender is now back in the game in a substantially reduced form.

The Czech government could face lawsuits and arbitration proceedings initiated by solar power entrepreneurs after passing an emergency legislative package in 2010 to impose a withholding tax and drop the feed-in tariff, or guaranteed above-market rate, for some solar plants.

The Czech Industry Ministry is preparing draft legislation altering the state's policy on biomass subsidies in order to prevent a situation similar to the solar debacle, by giving the state more control over the amount of the subsidy and the ability to lower it by more than 5 percent each year. After 2015, power plants that burn a combination of biomass and coal will no longer be eligible for any subsidy, Industry Ministry Director for the Support of Renewable Resources Pavel Gebauer said in November. He said the ministry wants to give coal-burning plants a three-year transition period to install new facilities for biomass alone, in order to avoid a drop in the price of biomass. He said that only plants that produce heat as well as energy will be eligible for any subsidies. The draft law still must go through the legislative process. It is expected to go into effect in 2012, Gebauer said.

The Environment Ministry is planning an extensive revision of Law No. 86/2002 on Clean Air to bring it in line with EU directives on the addition of biofuels to petrol. “Failure to amend the law that accompanies transpositions of EU directives would expose the Czech Republic to the risk of infringement proceedings on the part of the European Commission and to an unfavorable evaluation of the Czech Republic as a member of the Kyoto Protocol,” the ministry said in a news release.

The ministry also is working on a far-reaching amendment to the clean air law to streamline legislation and give environmental authorities more tools to fight polluters.

“The draft legislation differs dramatically from the present law,” Jan Srytr of the Environmental Law Service told the press. “It implements several new tools that are not in the present law, such as low-emission zones in towns, or new provisions for controlling local heating plants. It takes a completely different approach from the present law.”

Jan Kuzel, director of the Environment Ministry's Clean Air Office, said the draft legislation is expected to come before the Cabinet in January. “If all goes well, we expect the legislation to be approved in the first half of 2011,” he told reporters in November.

The government has directed the Finance and Environment ministries to come up with a realistic cost estimate for a comprehensive environmental cleanup of pollution that predates 1992. Preliminary estimates vary between 25 billion and 50 billion CZK ($1.3 billion and $2.6 billion), and a result is expected by the end of January. The idea to combine all of the individual environmental cleanup projects from the Communist era arose during the government of former
Premier Mirek Topolanek and Finance Minister Miroslav Kalousek at the end of 2008. Then the cost was estimated at some 115 billion CZK ($6.1 billion). However, this estimate has been criticized as too high.

25. December Was the Coldest In 100 Years in UK

Britain has just gone through its coldest December since nationwide records began 100 years ago, the Met Office announced. The country shivered as temperatures averaged minus 1 degree Celsius, well below the long-term average of 4.2 degrees, and colder than the previous record for the month of 0.1 degrees hit in 1981.

Provisional figures released by the forecaster showed that December saw exceptionally cold and snowy weather across the country, with temperatures regularly falling to between minus 10 and minus 20 overnight.

The Arctic blast caused havoc with the country’s transport sector, closing roads, airports and railways and hitting retail sales during the traditionally busy Christmas period as shoppers struggled to get to stores.

The Met Office said that over the last 50 winters, there have been eight similar spells of severe weather. It also said December 2010 was the coldest month in England and Wales since February 1986, the coldest in Scotland since February 1947 and that in Northern Ireland it was the coldest on record.

Despite the freeze, the forecaster said precipitation including snow and rain was less than half of that expected for the month, making it sunny and dry, and the third driest since records began in 1910.

The Met Office told the government in October to prepare for an exceptionally cold winter, but decided against informing the wider public after opting last year to drop seasonal forecasts in favor of monthly ones. The change followed criticism over predictions of a "barbecue summer" in 2009 which ended up being a washout.

26. EU Calls for International Ban on Heavy Fuel in Arctic

Iceland’s probable accession to the EU, new Arctic oil and other natural resource opportunities, and the effects of pollution, notably on sea-level changes in Member States, all strengthen the case for placing the High North at the top of the EU policy agenda and pushing for greater EU involvement in the Arctic Council, said MEPs recently.

Despite having three Member States with Arctic territory (Denmark, Finland and Sweden), the EU still lacks a common and ambitious policy towards the High North. In a resolution by Michael Gahler (EPP, DE), MEPs propose basic guidelines for striking a balance between environmental concerns (global warming, vulnerable natural resources) and not being left out of the race to exploit natural resources such as oil, gas and fisheries.

The resolution recognizes that the effects of the melting ice are not only displacing indigenous populations and threatening their way of life, but also creating new opportunities for economic development and for the opening of new faster and safer sea routes in the Arctic.
Research suggests that about one fifth of the world's undiscovered hydrocarbon resources may lie in this region. Yet it is the responsibility of Arctic states to ensure that international oil companies use the technology necessary to prevent oil spills like the British Petroleum disaster in the Gulf of Mexico last year, MEPs warn. They call for an **international ban on the use and carriage of heavy fuel oil on vessels operating in the Arctic**, like that which is to apply to the Antarctic from August 2011, and ask the EU to impose a strict regime limiting soot emissions and the use of heavy fuel oil by vessels calling at EU ports prior to voyages through Arctic waters.

MEPs stress the benefits that would flow from Iceland's joining the Union, which would make the EU an Arctic coastal entity and consolidate its presence in the Arctic Council (AC), a key intergovernmental forum whose members already include the USA and the Russian Federation. Denmark, Sweden and Finland are the three EU Member States represented in the AC. The EU currently attends the Council as an ad hoc observer, a status which MEPs would like to see turned into that of "permanent observer", so as to enhance the EU's presence in an international organization which plays a privileged role in managing the region.

The need to protect the right of the Sami people (the only EU indigenous population, living in the Arctic regions of Finland, Sweden, Norway and Russia), to unpolluted natural resources and to involve them directly in policy-making for their region are highlighted by MEPs, who are particularly concerned to promote culture and language rights of Finno-Ugric people in Northern Russia.

27. **Belgium's Governments Eye Energy Efficiency, Air Quality, Renewable Power**

The three regional governments of Brussels, Flanders and Wallonia have set similar environmental goals for 2011, with a focus on energy efficiency, air quality improvements, and use of renewable energy sources, according to officials. Belgium has yet to form a new federal government, since the country held elections on June 13. As a result, a federal caretaker government—a holdover from the previous government—remains in place. Although active in its six-month presidency of the European Union in the latter part of 2010, the federal government of Belgium was stymied at home because it could only execute existing law rather than make new ones.

The European Commission's energy efficiency action plan identifies residential and commercial housing as the biggest sectors where governments can achieve savings. For each of the Belgian regions, improvements to an aging housing stock will be a priority.

Brussels' regional government plans to review its air quality plan in 2011, adding measures to reduce greenhouse gas emissions. As part of this effort, it will look further at the insulation of houses in the capital, a priority set in 2010, but yet to be fulfilled.

The government of Flanders, the Dutch-speaking northern region, will present to its Parliament by May 31, 2011, an energy efficiency action plan; start discussions on a decree for lower energy norms for new buildings, offices, and schools; and draw up an action plan for developers and builders.

In Wallonia, the French-speaking southern region, residential buildings also will be a focal point.

**Air Quality**
Belgium is under the European Commission’s spotlight for its failure to transpose EU air quality legislation (2008/50/EC) into national law. On June 24, 2010, the Commission initiated infringement proceedings against the country. Belgium also is set to exceed its 2010 pollution limits.

Under EU law, the limit of 50 micrograms per cubic meter for particulate matter can be exceeded up to 35 days in a year. As of December 14th, however, at 15 of 66 testing stations across the nation, this level had already been reached.

On top of its air quality and climate change plans, The Brussels government also has announced a plan to cut road traffic 20 percent by 2018 compared to 2008.

The Flanders regional government will continue its implementation of its 2006–2012 Climate Policy Plan, which includes measures to improve air quality, as well as calls for reforms to reduce traffic emissions, according to Energy Minister Freya Van Den Bossche. As of 2011, taxation on traffic has shifted from a federal competence to a regional one. The Flemish government will introduce a measure to tax cars on the basis of their environmental performance rather than the power of their engine, according to officials.

**Green Energy**

Under EU Directive 2009/28/EC, renewable energy should account for 20 percent of total consumption in the European Union as a whole by 2020. Belgium’s target, calculated on the basis of efforts so far and gross domestic product, is to have 13 percent of its energy come from renewable sources.

This 13 percent target has yet to be split among the regions due to the collapse of the federal government in early 2010. Flanders will announce this year what its minimum share of renewables should be in the overall mix.

To boost the use of such energy sources, Flanders will ask network operators to study potential locations for decentralized production facilities and perform a biomass inventory. It also will split green energy certificates, creating separate and therefore stronger markets for heating and green electricity.

Wallonia’s government has adopted an ambitious plan for renewable energy, targeting 20 percent renewables by 2020. It hopes to achieve this through further implementation of its Green Marshall Plan—an economic development measure. The Green Marshall Plan includes a strategy called the Alliance for Jobs-Environment. This, Cordovil said, should create 20,000 jobs in the green energy sector and provide funds of up to €2 billion over the next five years.

It also will present a wind energy framework to the region’s Parliament in early 2011. Increasing onshore wind, solar energy, and biomass—the priorities of the Energy Ministry—should help the region achieve its target for 30,000 gigawatts of green energy by 2020.

As in Flanders, there will be a review of green energy certificates in 2011, with new targets that will become compulsory from 2012. “We will assess the policy in order to improve it. We need to create a market,” Cordovil said.

28. Water, Air Dominate Agenda As Netherlands Lowers Its Climate Targets
The Dutch government in 2011 will retreat from ambitious climate change targets set by its predecessor and focus on improving the availability of fresh water, protecting the low-lying country from flooding, and cutting air pollution. The previous government set a target to have renewable energy account for 20 percent of total consumption by 2020. Although the current government will introduce a subsidy scheme to stimulate renewable energy, it plans to meet only the 14 percent target set for it for 2020 under the European Union's renewable energy directive.

Unlike the previous government, the coalition backs nuclear power, although there are unlikely to be any approvals of permits for nuclear power plant operators in 2011 since the process takes some time. The government also will put a strong emphasis on gas storage with the aim of making the Netherlands a European hub for this activity. The first liquefied natural gas terminal will be opened this year in Rotterdam.

Discussions over where to store sequestered carbon dioxide, an activity for which both the previous and present government want the Netherlands to take center stage, will continue, although the focus is likely to shift toward offshore storage after local protests.

The renewable energy subsidy, announced to Parliament in December, will be chiefly aimed at stimulating onshore wind and biomass projects. Offshore wind, where the Netherlands is also active under the North Sea grid initiative, will continue to be funded separately.

The budget for the first year of the 15-year subsidy scheme will amount to €1.5 billion ($2 billion) and will be introduced by government regulation in the spring and become operational July 1.

The Netherlands faces two key water issues: It needs to improve the quantity of the freshwater supply and to ensure that it is well-protected from flooding since about 50 percent of the country lies close to or at sea level. State Secretary for Infrastructure and Environment Joop Atsma announced during the country's first Delta Congress in November that water policy will be a top priority in 2011 and that he will issue a detailed plan of what needs to be done and what budget is required. Under the Delta Program, a national program in which government bodies and water boards collaborate, Atsma will introduce the Delta Act. This will establish the legal foundation for his initiative and is to be presented to the lower house of Parliament on Feb. 1.

According to the ministry, the costs of bolstering the Dutch Delta to prevent flooding have turned out to be higher than foreseen in 2006 and a larger budget will be required. The ministry said that by the end of the year, the total investment should be clear.

Because the Netherlands is on course to miss the 2011 target set by EU Directive 2008/50/EC to reduce ambient particulate matter and the 2015 target for nitrogen dioxide, Atsma has pledged to introduce legislative measures this year to improve performance. He told Parliament in a November letter that the improvement in air quality "was going slower than expected" and announced he would propose ways to reduce air pollution from chicken farms and motor vehicles.

Chicken farms, abundant in the southern region of the Netherlands, already face new requirements in 2011 regarding ammonia emissions. Atsma told Parliament this proposal could be extended to cover particulate matter. Farmers whose production units are set to exceed the 2011 limits should enter into a dialogue with regulators and may even face further regulatory hurdles that would make their licenses conditional on cutting emissions, he said.
Regarding vehicles, the minister’s spokeswoman told the press that measures to cut nitrogen dioxide emissions could include speed reductions, limits on traffic in city centers, and mandatory filters.

NORTH AMERICA

29. EPA Report Underscores Clean Air Act’s Successful Public Health Protections

A new report released by the U.S. Environmental Protection Agency (EPA) estimates that the benefits of reducing fine particle and ground level ozone pollution under the 1990 Clean Air Act amendments will reach approximately $2 trillion in 2020 while saving 230,000 people from early death in that year alone. The report studied the effects of the Clean Air Act updates on the economy, public health and the environment between 1990 and 2020.

The EPA report received extensive review and input from the Council on Clean Air Compliance Analysis, an independent panel of distinguished economists, scientists and public health experts established by Congress in 1991.

“The Clean Air Act’s decades-long track record of success has helped millions of Americans live healthier, safer and more productive lives,” said EPA Administrator Lisa P. Jackson. “This report outlines the extraordinary health and economic benefits of one of our nation’s most transformative environmental laws and demonstrates the power of bipartisan approaches to protecting the health of the American people from pollution in our environment.”

“The Benefits and Costs of the Clean Air Act from 1990 to 2020” shows that the benefits of avoiding early death, preventing heart attacks and asthma attacks, and reducing the number of sick days for employees far exceed costs of implementing clean air protections. These benefits lead to a more productive workforce, and enable consumers and businesses to spend less on health care -- · · all of which help strengthen the economy.

In 2010 alone, the reductions in fine particle and ozone pollution from the 1990 Clean Air Act amendments prevented more than:

- 160,000 cases of premature mortality
- 130,000 heart attacks
- 13 million lost work days
- 1.7 million asthma attacks

In 2020, the study projects benefits will be even greater, preventing more than:

- 230,000 cases of premature mortality
- 200,000 heart attacks
- 17 million lost work days
- 2.4 million asthma attacks

This report estimates only the benefits from the 1990 Clean Air Act amendments. The 1990 Clean Air Act amendments built on the significant progress made in improving the nation’s air quality through the Clean Air Act of 1970 and its 1977 amendments. The overall benefits of the Clean Air Act exceed the benefits estimated in this report, with millions of lives saved since 1970.
30. Obama 2012 Budget Provides $8 Billion for Clean Energy; Cuts Diesel Retrofits

President Barack Obama proposed boosting funds for clean energy research and deployment in his 2012 budget by slashing subsidies for fossil fuels such as oil, gas and coal. The budget provides the Department of Energy $29.5 billion for fiscal year 2012, up 4.2 percent from the proposed 2011 budget, and up 12 percent from the enacted 2010 budget. Some $8 billion would support research in clean energy like wind, solar and advanced batteries. "Whomever leads in the global, clean energy economy will also take the lead in creating high-paying, highly skilled jobs for its people," the administration said in the budget.

The budget would also provide $853 million to support new nuclear energy technologies, such as small modular reactors. The White House asked for $36 billion in federal loan guarantees to help finance the building of nuclear power plants, as it did last year. The loan program already has $18 billion in authority.

To help pay for the clean energy initiatives, the White House is asking Congress to repeal $3.6 billion in oil, natural gas and coal subsidies, a move that would total $46.2 billion over a decade. In addition, the budget cuts funding for oil and gas research and for hydrogen fuels programs.

But many Republicans oppose cutting subsidies for fossil fuels, saying it would hurt industries that provide jobs while the economy is still fragile.

Republicans, who now have control of the House of Representatives, have also proposed to cut funding for the Environmental Protection Agency’s program to regulate greenhouse gases, saying Congress should be the one to decide whether to fight climate change, not the administration.

Republicans may try to force a government shutdown if the Obama administration does not agree to its spending cuts. But analysts said a delay in EPA climate regulations led by Congress was more likely than shutting down the government over an environmental rule.

The Obama budget cuts the 2012 EPA budget by about $1.3 billion or about 13 percent with reductions in a clean diesel program and in Great Lakes restoration projects.

The budget proposes $588 million for vehicle technologies, an increase of 88 percent from current levels.

The budget would double the number of energy innovation hubs to six to bring scientists to work on topics like rare earth elements, energy storage and batteries and development of smart grid technologies designed to make electricity transmission efficient.

31. House Republicans, However, Push Energy and Science Cuts

Scientific research, environmental protection and other priorities of the Obama administration would face steep cuts under a congressional Republican spending plan. More than 60 programs would be eliminated entirely, including Obama's effort to build a network of high-speed passenger trains. Birth control funding, the Americorps volunteer program, public broadcasting, the community-oriented policing program and a "weatherization" program to insulate homes and office buildings also would be eliminated.
The $32 billion in cuts prepared by the Appropriations Committee would amount to the largest budget cut in U.S. history. But they would spare entitlement programs, such as pension and health insurance for the elderly, and military spending that account for the majority of the $3.7 trillion annual U.S. budget.

The final package that passes the House is likely to be even deeper as newly elected conservative members push for an additional $26 billion in cuts. House Republican leader Eric Cantor said it likely will deny funding needed to implement Obama's landmark healthcare reform, which Congress passed last year.

The package would apply to a fiscal year that is nearly halfway through, meaning that many agencies and programs would face immediate, sharp budget cuts. Among them:

- A 30 percent cut to the Energy Department's Office of Science, which funds basic scientific research. Obama called for renewed emphasis on scientific research in his State of the Union speech last month.
- A 5 percent cut to a program that provides food for low-income mothers and children.
- A 2 percent cut to the Internal Revenue Service, which faces increased duties under the new healthcare law.
- Sharp cuts to several programs that help local governments upgrade drinking-water and sewer systems and fund improvements in poor neighborhoods.
- Eliminating outright the $1 billion set aside for Obama's high-speed rail network.
- $2 billion in cuts from the government's $18 billion in job-training programs.
- A 32 percent cut to the Environmental Protection Agency, which aims to regulate carbon dioxide and other greenhouse gases over Republican objections.
- Cuts to an array of energy programs, from efforts to boost efficiency and renewable energy programs to nuclear and clean-coal programs.

32. House Votes 244-179 to Kill U.S. Funding Of IPCC

Just before 2 a.m. on February 19, the war on climate science showed its grip on the U.S. House of Representatives as it voted to eliminate U.S. funding for the Intergovernmental Panel on Climate Change. The Republican majority, on a mostly party-line vote of 244-179, went on record as essentially saying that it no longer wishes to have the IPCC prepare its comprehensive international climate science assessments. Transcript of floor debate follows.

The amendment was sponsored by second-term Rep. Blaine Luetkemeyer (R-Missouri).

Leading off with a reference to the stolen climate scientists emails ('climategate'), he said: “Scientists manipulated climate data, suppressed legitimate arguments in peer-reviewed journals, and researchers were asked to destroy emails, so that a small number of climate alarmists could continue to advance their environmental agenda.

Since then, more than 700 acclaimed international scientists have challenged the claims made by the IPCC, in this comprehensive 740-page report. These 700 scientists represent some of the most respected institutions at home and around the world, including the U.S. Departments of Energy and Defense, U.S. Air Force and Navy, and even the Environmental Protection Agency.
For example, famed Princeton University physicist Dr. Robert Austin, who has published 170 scientific papers and was elected a member of the U.S. National Academy of Sciences. Dr. Austin told a congressional committee that, unfortunately, climate has become a political science. It is tragic the some perhaps well-meaning but politically motivated scientists who should know better have whipped up a global frenzy about a phenomenon which is statistically questionable at best.

Mr. Chairman, if the families in my district have been able to tighten their belts, surely the federal government can do the same and stop funding an organization that is fraught with waste and abuse. My amendment simply says that no funds in this bill can go to the IPCC. This would save taxpayers millions of dollars this year and millions of dollars in years to come. In fact, the President has requested an additional $13 million in his fiscal 2012 budget request.

My constituents should not have to continue to foot the bill for an organization to keep producing corrupt findings that can be used as justification to impose a massive new energy tax on every American.

That is now the prevailing viewpoint of the majority party in the U.S. House of Representatives.”

Speaking in opposition to the amendment, not surprisingly, was Rep. Henry Waxman (D-California).

According to Waxman, “The U.S. contributes only $2.3 million to the IPCC. Our $2.3 million contribution leverages a global science assessment with global outreach and global technical input – a process we could not carry out alone and one that could come to a halt without U.S. support.

Its work on climate change is unparalleled, and its four assessment reports to date have brought together thousands of scientists around the world, in disciplines ranging from atmospheric sciences, to forest ecology, to economics, to provide objective and policy-neutral information. The panel has attracted hundreds of the best U.S. scientists. In fact, a majority of the research that’s reviewed is undertaken in U.S. institutions.

The IPCC’s work has been lauded by the U.S. Academy of Sciences, and by the Interacademy Council, a body comprised of the national academies of the world. The organization won the Nobel Prize in 2007 for its assessment work.

This institution is a nonpartisan and technically extraordinarily sound organization. The Republican majority has already voted to prevent EPA from using funds to regulate greenhouse gases. Now we’re being asked to de-fund the work of international scientists to learn about the threat.

The assumption seems to be that there is no threat, and therefore let’s not study it. I think that is not a wise assumption. This is a very shortsighted proposal to cut these funds. It’s like putting our heads in the sand, denying the science, and then stopping the scientists from working – because they might come to a different conclusion from the Republican Party’s ideology, in believing that there’s no problem and therefore we don’t need to know anything about it.
If we’re not going to do anything here at home, at least work internationally to understand the threat and work with other countries to combat it.”

33. Climate Skeptics Unpersuaded By Extra-Warm 2010

U.S. and international scientists have concluded that 2010 tied for the warmest year on record, supporting findings of unequivocal global climate change. Climate skeptics remain unconvinced. Those who study the climate skeptic position say this raises echoes of scientific controversies of the past, including the debate over the health hazards of tobacco.

In Washington, the most vocal denier of human-caused climate change is U.S. Senator James Inhofe, an Oklahoma Republican who has repeatedly dismissed the idea as a hoax. “Actually, right now we’re in the third year of a cooling period,” Inhofe said in December, before the January release of statistics from the U.S. National Climate Data Center, NASA and the World Meteorological Organization showing 2010 tied for the hottest year since modern record-keeping began in 1880. WMO showed it tied with 2005 and 1998. NCDC and NASA had a tie with 2005.

The latest temperature data have not changed Inhofe’s stance, said Matt Dempsey, Inhofe’s spokesman. "Why would one year, even if it was the hottest year on record, influence the senator's view?” Dempsey said in a phone interview. "There’s a lot of factors that go into this. To have one hot year and use that to suggest that there’s catastrophic man-made global warming sounds a little hollow.”

Brenda Ekwurzel, a climate expert at the Union of Concerned Scientists, which maintains that human activity is a primary cause of global warming, agreed that one year is less significant than the record over decades, which she said conclusively showed a warming world. "Any one year can vie with another year or be extremely hot and break all records," Ekwurzel told the press. "It's more important to look at the decadal average." Looking at it on that time scale, she said, showed that 2001-2010 was the hottest decade since 1880. The previous decade, 1991-2000, was next-warmest, and 1981-1990 was the third-warmest. "This trend is undeniable," Ekwurzel said.

It's been a rough year or so for scientists and others who say that data shows human activities, especially the burning of fossil fuels, accelerate the climate-warming greenhouse effect. Climate skeptics are quick to point this out. To wit:

- Skeptics allege scientists manipulated climate research, citing the so-called "climategate" scandal of December 2009, in which leaked e-mails from scientists at the University of East Anglia’s Climatic Research Unit in Britain appeared to show scientists sniping at climate deniers and trying to block publication of articles critical of their findings. At least four reviews of the case have exonerated the climate scientists but skeptics maintain it cast doubt on all climate research that showed a consistent warming trend.
- In 2010, the U.N. Intergovernmental Panel on Climate Change had to correct a 2007 report used by government policymakers that exaggerated the melt of Himalayan glaciers by saying they might all vanish by 2035. Since then, however, independent reviews have reaffirmed the panel's main conclusion that it is at least 90 percent certain that human activities are the main cause of global warming in the past 50 years.
- International meetings in 2009 and 2010 aimed at crafting global policy to stem greenhouse emissions have not brought major results.
• The U.S. Congress failed to pass climate change legislation, and without U.S. involvement, any international agreement is unlikely to go forward.
• President Barack Obama, who ran for the White House in 2008 on a platform that included tackling climate change, failed to mention the issue in his State of the Union address last month, though he did mention clean energy.
• Fewer U.S. residents think there is solid evidence that human activities spur climate change than did five years ago.

34. Canada to Implement Requirement for Renewable Content in Diesel, Heating Oil

The Canadian government plans on July 1st to implement a commitment to require an average of 2 percent renewable content in all diesel fuel and heating oil sold in Canada, Environment Minister Peter Kent said on February 10th. The government plans to amend the Renewable Fuels Regulations to implement the requirement, which was included in the original regulations but delayed pending a study of whether it was technically feasible, Kent said in a prepared statement. Natural Resources Canada has confirmed the feasibility, he said.

The regulatory amendment, which will apply to all producers and importers of diesel fuels and heating oils, will be published in the Canada Gazette, Part I, within the next few weeks and will be open to a 60-day public comment period before publication in final form in the Canada Gazette, Part II.

Environment Canada spokesman Henry Lau said there will not be an extensive phase-in period for the 2 percent renewable content measure. The government is proposing the requirement to take effect July 1, although the first specified compliance period will be 18 months long, through Dec. 31, 2012, Lau told reporters. “Industry will have an extended period of time in which to fulfill the blending requirement. This combined with other provisions currently in the regulations will provide flexibility for companies in meeting the 2 percent requirement,” he said.

The Renewable Fuels Regulations also require an average 5 percent renewable content in gasoline. The measures together are expected to reduce annual greenhouse gas emissions by 4 million metric tons, equivalent to removing 1 million vehicles from Canada’s roads, he said. The regulations, published Sept. 1, 2010, implemented the 5 percent requirement for gasoline as of December 10th.

The regulations are part of an effort to reduce greenhouse gas emissions from Canada’s transportation sector, a key element in meeting the government’s commitment to cut overall emissions by 17 percent from 2005 levels by 2020. Transportation sector emissions are estimated to be more than 25 percent of total emissions.

Natural Resources Canada concluded in a report made public on February 10th that technical information developed through its National Renewable Diesel Demonstration Initiative (NRDDI), as well as other research and experience in Canada and the United States, confirmed that diesel fuel with 2 percent renewable content can meet industry-accepted standards. “Stakeholders are generally satisfied that technical issues related to an average [2 percent renewable] blend in distillate fuel in their operations have been addressed,” the report said.

Canada’s cold and variable climate raised significant questions about the introduction of renewable diesel products in the Canadian market, it said. While provincial mandates for ethanol content in gasoline, which have been in place for several years, provided considerable experience with those products in the Canadian climate, experience with biodiesel was much
more limited, it said. Demonstration projects designed by industry proponents for the NRDDI project were not exhaustive in scope and were mostly conducted under controlled conditions, but they confirmed that renewable diesel blends can be made to conform to the latest industry standards for a range of Canadian conditions, it said.

The Natural Resources Canada report warned, however, that industry may need lead times of one to three years to make infrastructure changes necessary to accommodate blending of renewable content into diesel fuels. “Accelerating lead times in order to meet a mandated regulatory start date can lead to significantly increased costs, and may not be possible in some cases,” it said. “In order for a seamless transition to renewable diesel blends in the Canadian marketplace, it is important to provide adequate lead times for infrastructure upgrades, as well as flexibility should unexpected complications arise.”

To help implement the requirement for 5 percent renewable content in gasoline, the Renewable Fuels Regulations established a system of tradable compliance units to assist industry participants unable to immediately upgrade their infrastructure to blend renewable fuels. Lau said the tradable compliance unit system will not be an option for the new requirement for diesel fuel or heating oil. “The 2 percent requirement for diesel fuel and heating oil must be met by blending renewable fuels with diesel fuel or heating oil,” he said.

The federal government has set an “impractical” effective date for the 2 percent renewable content for diesel fuel and home heating oil, Peter Boag, president of the Canadian Petroleum Products Institute, said on February 11th. “The proposed start date overlooks important feasibility issues,” Boag said in a prepared statement. “A July 1, 2011 start date does not provide fuel suppliers, the only obligated party under these regulations, the necessary lead time to ensure a seamless, trouble-free national transition to renewable diesel blends.” He said the July 1 date does not address issues raised by industry related to necessary changes to fuel storage, distribution, and transportation infrastructure to compensate for biodiesel fuels' poor low-temperature properties. Those changes will not be in place in all regions of Canada until well after July 1, a fact acknowledged by Natural Resource Canada’s report, he said.

35. Canada Proposes Rules for Off-Road Diesel Engines

On February 11th, Environment Canada issued a proposal that would impose more stringent emissions limits on off-road diesel engines. The changes would align Canadian rules with standards adopted by the U.S. Environmental Protection Agency. They would set new Canadian standards for emissions of volatile organic compounds, nitrogen oxides, particulate matter, and other pollutants for off-road diesel engines of 2012 and later model years used in tractors, bulldozers, log loaders, and other machinery, the department said in the amendments, published in the Canada Gazette, Part I. “The proposed amendments would minimize the regulatory burden on manufacturers and importers by recognizing U.S. EPA certificates as evidence of compliance,” the department said. In the 2012-2030 period, the tougher standards are expected to eliminate emissions of 403,600 metric tons of formaldehyde, 63,300 metric tons of nitrogen oxides, 53,800 metric tons of benzene, 9,500 metric tons of sulfur dioxide, 8,400 metric tons of particulate matter smaller than 2.5 microns in diameter, and 2,700 metric tons of volatile organic compounds.

36. Canada Finalizes Regulations for Marine and Off-Road Engine Emissions

On February 16th, Environment Canada published final regulations to limit emissions of smog-forming pollutants from marine engines, vessels, and off-road recreational vehicles, including
hydrocarbons, nitrogen oxides, carbon monoxide, and particulate matter. The regulations, which take effect starting with the 2012 model year, are aligned with standards implemented by the U.S. Environmental Protection Agency, ensuring a level playing field for North American manufacturers and meeting a commitment in the Ozone Annex to the 1991 Canada-United States Air Quality Agreement, the department said in a statement accompanying the regulations in the Canada Gazette, Part II.

“Emissions from marine engines and vessels, such as personal watercraft, and off-road recreational vehicles, like all-terrain vehicles, are an important source of air pollutants ... particularly since most of these engines, vessels, and vehicles are often used during periods of warm weather associated with the formation of smog,” it said.

The regulations establish the first emission standards and test procedures for marine engines, vessels with installed fuel lines or tanks, and off-road recreational vehicles used in Canada. The regulations recognize certificates issued by the U.S. EPA as evidence of conformity, and provide additional compliance flexibility through an optional fleet averaging and emissions credit system.

The regulations are expected to reduce emissions of hydrocarbons and nitrogen oxides by 160,000 metric tons over the 2012-2030 period, as well as 213,000 metric tons of carbon monoxide and 5,800 metric tons of particulate matter 2.5 micrometers in diameter or smaller. The value of environmental and health benefits from the reduced emissions is estimated at C$32.7 million to C$65.4 million ($33.2 million to $64.4 million), and fuel economy improvements are expected to provide benefits to consumers totaling about C$148 million. That will be partly offset by additional costs to consumers estimated at C$21.1 million.

The department said comments received after the publication of the regulations in draft form fully supported the alignment of Canadian standards with those in the United States, and that only minor changes were made to the regulations in response to technical comments made by manufacturers and industry groups.

37. EPA Seeks Public Comment on the 16th Annual U.S. Greenhouse Gas Inventory

The U.S. Environmental Protection Agency (EPA) is seeking public comment on the annual Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2009 draft report. The draft report shows that in 2009, overall greenhouse gas (GHGs) emissions decreased by 6 percent since 2008. This downward trend was attributed to a decrease in fuel and electricity consumption across all U.S. economic sectors. Total emissions from GHGs were about 6,640 million metric tons of carbon dioxide (CO2) equivalents. Overall, emissions have grown by 7.4 percent from 1990 to 2009. Emissions in 2009 represent the lowest total U.S. annual GHG emissions since 1995.

The inventory tracks annual greenhouse gas emissions from 1990 to 2009 at the national level. The gases covered by this inventory include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. The inventory also calculates carbon dioxide emissions that are removed from the atmosphere by “sinks,” e.g., through the uptake of carbon by forests, vegetation, and soils.

This annual report is prepared by EPA in collaboration with experts from other federal agencies. After responding to public comments, the U.S. government will submit the final inventory report to the Secretariat of the United Nations Framework Convention on Climate Change (UNFCCC).
The report will fulfill the annual requirement of the UNFCCC international treaty, ratified by the United States in 1992, which sets an overall framework for intergovernmental efforts to tackle the challenge posed by climate change.

38. Report Says Economy Improvement Spikes U.S. Power Plant Carbon Output

A stronger economy helped push up U.S. power plant emissions of the greenhouse gas carbon dioxide in 2010 by the highest annual rate on record, according to a new report. The economy and air conditioning demand from a warm summer sent emissions up 5.56 percent to 2.42 billion metric tons in 2010, according to the report by the Environmental Integrity Project based on data by the Environmental Protection Agency. "Great news about the economy recovering, but carbon grew faster than the economy, which shows a lot of old inefficient coal plants were pumping out electricity last year," said EIP director Eric Schaeffer. He co-founded the nonprofit, nonpartisan group in 2002 with fellow former EPA enforcement lawyers.

The recession pushed emissions down in 2009, but the recovery in 2010 showed how quickly they can rise once the economy gets stronger. The 2010 rise was the highest jump in emissions since 1995, when the EPA began keeping data, but the total carbon emissions from power plants were still below the record of 2.57 billion metric tons set in 2007.

Emissions from power plants account for about a third of the carbon output from the United States, the world’s second leading greenhouse gas emitter after China.

The state of Texas, which opened three new coal-fired power plants in late 2010, led the country in carbon emissions from power plants last year with nearly 257 million metric tons of output. Top emissions were then followed by Florida, Ohio and Indiana.

39. Coal’s Hidden Costs Top $345 Billion in U.S: Study

The United States’ reliance on coal to generate almost half of its electricity, costs the economy about $345 billion a year in hidden expenses not borne by miners or utilities, including health problems in mining communities and pollution around power plants, a study found. Those costs would effectively triple the price of electricity produced by coal-fired plants, which are prevalent in part due to their low cost of operation, the study led by a Harvard University researcher found.

"This is not borne by the coal industry, this is borne by us, in our taxes," said Paul Epstein, a Harvard Medical School instructor and the associate director of its Center for Health and the Global Environment, the study’s lead author. "The public cost is far greater than the cost of the coal itself. The impacts of this industry go way beyond just lighting our lights."

Coal-fired plants currently supply about 45 percent of the nation's electricity, according to U.S. Energy Department data. Accounting for all the ancillary costs associated with burning coal would add about 18 cents per kilowatt hour to the cost of electricity from coal-fired plants, shifting it from one of the cheapest sources of electricity to one of the most expensive. In the year that ended in November, the average retail price of electricity in the United States was about 10 cents per kilowatt hour, according to the Energy Department.

Advocates of coal power have argued that it is among the cheapest of fuel sources available in the United States, allowing for lower-cost power than that provided by the developing wind and solar industries.
The estimate of hidden costs takes into account a variety of side-effects of coal production and use. Among them are the cost of treating elevated rates of cancer and other illnesses in coal-mining areas, environmental damage and lost tourism opportunities in coal regions where mountaintop removal is practiced and climate change resulting from elevated emissions of carbon dioxide from burning the coal. Coal releases more carbon dioxide when burned than does natural gas or oil.

The $345 billion annual cost figure was the study's best estimate. The study said the costs could be as low as $175 billion or as high as $523 billion. The estimates came in the paper "Full cost accounting for the life cycle of coal," to be published in the Annals of the New York Academy of Sciences.

40. In Food vs. Fuel Debate, U.S. Resolute On Ethanol

As world food prices reach new highs, a handful of U.S. politicians and corporations are readying a fresh effort to forestall the use of more U.S. corn and soybeans as motor fuel. They are likely doing so in vain, say experts. Unlike in 2008, when a wave of global panic over grain supplies provoked a fierce "food vs. fuel" debate, there's so far only muted outcry over biofuels, even after corn prices recently surged to within 10 percent of its 2008 peak following a forecast showing even higher use in the ethanol sector.

While that may yet change as higher prices fuel inflation and trigger worries over supply security, officials and experts say ethanol is too ingrained in public policy and the economy of the U.S. heartland to be easily dislodged.

U.S. ethanol production this year will consume 15 percent of the world's corn supply, up from 10 percent in 2008. That share will continue to rise as the industry faces a mandate to boost minimum production an additional 20 percent by 2015. And exports are booming thanks to costly sugar-based rivals.

Ethanol has become a lightning rod for criticism from opponents including food makers, livestock feeders, environmentalists and budget hawks. The largest U.S. meatpacker, Tyson Foods Inc, which also raises chickens, and No. 1 pork processor Smithfield Foods Inc, which raises hogs, say ethanol drives up feed costs sharply and hurts consumers. But up to now, foes have not found an effective argument to compel broad-scale change.

But with spending cuts the top issue for lawmakers this year, ethanol subsidies may be swept into the deficit debate. "Before this (debate) is over ... I suspect a lot of things will be looked at," said House Agriculture Committee Chairman Frank Lucas of Oklahoma, where major industries are ranching and oil and gas -- two sectors skeptical of ethanol.

Backtracking on existing ethanol mandates would be almost unthinkable at this point. At some 900,000 barrels per day (bpd), ethanol now makes up about 10 percent of the gasoline pool in the world's largest oil consumer.

And food prices, at least at home, have yet to pinch. Prices at U.S. grocery stores and restaurants shot up 5.5 percent in 2008 without inspiring an ethanol overhaul. They were a negligible 1.8 percent in 2009 and a tiny 0.8 percent last year, so 2.5 percent may seem large this year. The overall inflation rate is forecast for 1.9 percent.
Nor does there seem to be great political will to make it an issue. Republicans, including the Tea Party caucus, pushing for deep budget cuts, could single out the 45-cents-a-gallon fuel tax credit that encourages biofuel production, and helps ensure the sector remains profitable. But at $6 billion a year, they are a drop in the U.S. budget bucket, and overturning them would likely face stiff opposition from President Barack Obama -- whose determination to boost domestic resources is as resolute as his predecessors. "Biofuels continue to be an important component of our clean energy strategy," a White House spokesman said when asked about ethanol, tight corn supplies and rising food prices. "These home-grown, renewable fuels reduce our dependence on oil and create jobs and rural economic development."

Besides the tax credits, a 2007 law guarantees renewable fuels a rising share of the market. For corn ethanol, the mandate is 12.6 billion gallons this year and 15 billion gallons annually from 2015. Production is set to reach 13.5 billion gallons this year -- up 46 percent from 9.235 billion gallons in 2008. Makers will exceed the mandate this year due to exports and profit-making moments when ethanol is cheaper than gasoline.

When grain prices skyrocketed in 2008, Texas, home of the U.S. oil industry, asked the Bush administration to halve the ethanol mandate for that year. The request was rejected.

Last year, Congress battled over ethanol subsidies before approving a one-year extension. Senator Dianne Feinstein of California is working on legislation to trim ethanol subsidies. "Federal subsidies and tariffs for ethanol are wrong for our fiscal policy and wrong for the environment and rising commodity prices are another indicator of that," she said.

Ethanol defenders say that critique ignores the benefit of distillers dried grains, an ethanol co-product that can substitute for corn in livestock rations. Forty million tons of grains are available at lower cost than corn, they say.

Comparatively small numbers of lawmakers oppose corn ethanol, while farm-state lawmakers are a strong bloc of support. Last year, the argument centered on possible cuts in the tax credits rather than elimination of them.

The major U.S. makers are privately owned POET, Archer Daniels Midland Co and Valero Energy Corp.

Advanced biofuels, such as ethanol from cellulose found in grass and woody plants, are the darling of corn ethanol critics. But the next-generation fuels amount to only a trickle of output and will need years to grow.

**41. Agriculture Secretary Says U.S. Has Foot on the Gas on Ethanol**

The United States "can do it all" -- turn more corn into ethanol without running short of food, Agriculture Secretary Tom Vilsack said recently, as oil prices soared and the government raised its forecast of food price increases this year. "There is no reason for us to take the foot off the gas," said Vilsack, referring to biofuels at a two-day Agriculture Department conference on the outlook for this year's crops. "We can do it all."

A record 5 billion bushels of corn will be used to make ethanol in the marketing year opening on September 1st, up slightly from this year, said USDA. It also forecast food prices will rise 3.5 percent this year -- double the U.S. inflation rate.
Former president Bill Clinton, who spoke shortly after Vilsack, said there were stark trade-offs in using crops to make fuel. They affect the food supply in other nations as well as decisions around the world on where to grow crops. "I think the best thing to say is we have to become energy independent but we don't want to do it at the cost of food riots," said Clinton. "The more biofuels we grow here, the less crops we have to put on the international market."

Vilsack said biofuels are an important component to U.S. energy security that also boosts rural employment and income. A 2007 law guarantees a rising share of the motor fuel market to ethanol, peaking at 15 billion gallons from 2015. Production is running at 13.5 billion gallons a year now.

U.S. farmers are capable of growing enough corn to meet rising demand for food, fuel, livestock feed and exports, he said. This year's corn crop is projected for a record 13.73 billion bushels, up 10 percent from last year. Corn supplies are expected to be tight for one or two more years, however.

Clinton suggested annual reviews of supplies to assure there will be "good food at affordable prices," to maximize energy independence and to prevent climate change but did not say who should carry out the reviews.

Some 4.95 billion bushels of corn are forecast to be turned into ethanol in the year ending August 31st. Joe Glauber, USDA chief economist, said usage would rise marginally in the new year because ethanol is saturating the market at the 10 percent blend that is standard.

The Environmental Protection Agency has approved a 15 percent ethanol blend for cars and light trucks made since 2000, about 60 percent of the fleet. The U.S. House (of Representatives) recently voted to block EPA from implementing E15 and to bar use of federal funds to install "blender" pumps that dispense up to 85 percent ethanol in fuel, but the Senate has yet to act on such legislation.

Corn grower and ethanol trade groups said Clinton was wrong. There is plenty of fallow farmland that could be used for biofuels without harming the environment and that petroleum is a bigger factor in food prices, they said. Oil prices rocketed above $100 a barrel due to unrest in the Middle East but then retreated slightly. U.S. crude oil settled at $97.28 a barrel after hitting its highest price since September 2008.

**42. CO₂ from Oil Sands Refining To Be Used In Conventional Oil Extraction**

Carbon capture and sequestration will be a major component of a C$5 billion (US$5.06 billion) oil sands bitumen refining upgrader project planned for Canada's province of Alberta. The facility will upgrade the bitumen into synthetic crude oil. Carbon captured in the project will be transported and pumped underground to force oil reserves up for extraction in conventional recovery projects, the Alberta government said.

The bitumen refinery is to be built near Redwater by Canadian Natural Resources Limited (CNRL) and North West Upgrading Inc. (NWU) under a partnership agreement announced Feb. 16. The partnership has agreed to process bitumen supplied by the Alberta government under the bitumen royalty-in-kind (BRIK) initiative.
Conditional on all approvals being obtained after detailed engineering plans are provided, the project's first phase will process 50,000 barrels per day of bitumen—12,500 barrels for CNRL and 37,500 barrels for the government. The first phase is to be completed by mid-2014.

Alberta's Ministry of Energy said in a February 16th news release that the refinery will produce 5.5 million liters (1.45 million gallons) per day of ultra-low-sulfur diesel while capturing over 3,000 metric tons of carbon dioxide daily. Another company, Enhance Energy Inc., will transport the carbon dioxide by pipeline to conventional oil recovery projects throughout central Alberta where it will be injected into reservoirs to make the tough-to-extract oil flow more freely, the government said. This agreement gives the province of Alberta more control over its bitumen resources and significantly more opportunity to profit from them, NWU Chairman Ian MacGregor said in a February 16th news release.

The project is the only one in the world to combine gasification technology with carbon dioxide management, NWU said.

Alberta's Carbon Capture and Storage Development Council estimated in 2009 that sufficient enhanced oil recovery capacity exists in the province to potentially store 450 megatons of carbon dioxide and to produce an additional 1.4 billion barrels of oil from conventional reservoirs. That could generate up to $25 billion in additional provincial royalties and taxes, according to the province.

About 18 percent of conventional reserves at a site can be recovered using current technology, the provincial Ministry of Energy said. Injecting solvents such as carbon dioxide can increase total recovery rates to 26 percent, it said.

A request for proposals to purchase or process 75,000 barrels per day of Crown-owned bitumen was issued in July 2009 and negotiations began with the partnership in May 2010.

43. India, U.S. Convene Task Force to Reduce Use of HFCs

India and the United States agreed during a recent hydrofluorocarbons (HFCs) workshop in New Delhi to convene a joint task force to reduce the use of the climate-damaging chemicals, the U.S. State Department announced on February 23rd. The use of HFCs has expanded as countries phase out hydrochlorofluorocarbons (HCFCs) under the Montreal Protocol on Substances that Deplete the Ozone Layer. HFCs are used in refrigeration, air conditioning, foam-blowing, aerosols, inhalers, solvent cleaning, and firefighting equipment. They do not deplete the ozone layer, but they have a global warming potential in the range of 1,000 to 3,000 times that of carbon dioxide. HFCs are among six global warming gases targeted for emissions reduction under the Kyoto Protocol.

The task force aims to reduce global HFC use by encouraging the development and commercialization of environmentally sustainable alternatives, according to a U.S. embassy press statement. U.S. Deputy Assistant Secretary of State for Environment Daniel Reifsnyder and Indian Joint Secretary for Climate J.M. Mauskar will co-chair the task force, which will include representatives from governments, as well as industry, scientists, and technical experts. The task force will issue a report in August to describe the status of HFC alternatives and to suggest national, industry-to-industry, and international approaches to support a global reduction in HFC use.
The report will be discussed at the 31st Meeting of the Open-ended Working Group of the Parties to the Montreal Protocol, scheduled for Aug. 1–5, in Bangkok.

In November 2010, 91 countries signed a declaration agreeing to work toward reducing the use of HFCs under the auspices of the Montreal Protocol, which does not currently cover them.

At the February 18th meeting of Indian and U.S. representatives, Indian Minister for Environment and Forests Jairam Ramesh pointed out that his country had ended its use of ozone-depleting chlorofluorocarbons (CFCs) by August 2008, 17 months in advance of its commitment under the Montreal Protocol. It already has unveiled a road map to phase out HCFCs by 2030, an environment ministry statement said. Ramesh said that with international financing and technology support, there is no reason India should not lead in the phase-down of HFCs.

44. EPA Compromises on Industrial Pollution Rules

The Obama administration scaled back on demands for heavy industrial boilers to cut toxic air emissions, a sign it may be willing to compromise with businesses and Republicans on future air pollution rules. The Environmental Protection Agency issued final regulations on cutting air pollutants such as mercury and soot at industrial boilers and incinerators. The EPA said the move would cost companies $1.8 billion to cut pollution, about half the amount that would have resulted from rules proposed last year.

While the rules are only a minor part of the EPA's agenda this year, they come at a time when the agency is racing to deliver on President Barack Obama's promise to show the world that the United States is taking action on climate change.

Manufacturers and other industries have complained that a slate of looming EPA rules on toxic pollution and greenhouse gases would kill jobs while the economy is fragile. Many lawmakers in the Republican-controlled House of Representatives have said the EPA would unfairly burden business. EPA Administrator Lisa Jackson is battling fierce legal and legislative challenges in her drive to crack down on greenhouse gas emissions, but the boiler decision -- which came after receiving about 4,800 comments from industry and communities -- suggests the agency is able to compromise. The final rules were more flexible than the proposed regulation, by allowing, for example, companies to fine-tune their pollution systems rather than add costly new controls.

It was unclear how much more pollution would be emitted as a result of the EPA rules rewrite, but the agency said many health benefits would be achieved. The standards will avert between 2,600 and 6,600 premature deaths, prevent 4,100 heart attacks and forestall 42,000 asthma attacks per year in 2014, it said. The rules will create a net of about 2,000 jobs, it added.

45. Mary Nichols Reappointed As California ARB Chair

California's new (and former) governor Jerry Brown has reappointed Mary D. Nichols as California ARB Chairman. Nichols was appointed by governor Schwarzenegger as Chairman of the California ARB in July 2007. She also served as ARB Chairman from 1978 to 1983 during the former term of Governor Brown. She issued the following statement regarding her reappointment:

"I am delighted to join the Brown administration and be reappointed as Chairman of the California Air Resources Board. I look forward to continuing the work of ARB to clean California's air, protect the public's health, and help drive the development of clean and more
efficient energy sources and technologies to power our state’s economy and generate new, green jobs."

46. U.S. Plans Action in 2011 on Air Pollution, Climate Change

The Environmental Protection Agency plans to issue or implement several new regulations in 2011, including measures to reduce air pollution from light duty vehicles, power plants, refineries, and industrial boilers and greenhouse gas emissions permitting for new and modified sources. But the agency will have to defend itself from a less friendly Congress, with a Republican-led House of Representatives that has promised more oversight and has said it will work to strip the agency of its authority to regulate greenhouse gas emissions under the Clean Air Act.

Litigation also could slow the agency’s work. On December 30th, a federal appeals court ordered a temporary, emergency stay of an interim EPA rule designed to allow the agency to take over greenhouse gas emissions permitting for new and modified sources in Texas, which has thus far refused to implement the permitting itself.

EPA plans to pursue sector-wide air pollution rules for power plants, refineries, and industrial boilers in 2011, regulating emissions of both criteria and hazardous air pollutants from those sources in a single package of rules. The rules will be part of the agency’s plans to addressing all of the air pollutants emitted by a source in a single regulatory package, according to Gina McCarthy, EPA’s assistant administrator for air and radiation. EPA intends to issue proposals for both new source performance standards (NSPS) and maximum achievable control technology (MACT) standards for hazardous air pollutant emissions for the industry.

EPA is under a judicial deadline to propose national emissions standards for hazardous air pollutants for electric utilities in March with a final rule expected in November as part of a court settlement.

McCarthy said EPA would prefer to re-propose a package of rules that would set sector-wide emissions limits for boilers and incinerators after the agency received additional emissions data during the comment period. The agency is under a court-ordered deadline to issue the rules by January 16th. “My hope is the courts will allow us the opportunity to re-propose but no decision has been made, so we'll be prepared to put a final [rule] out,” McCarthy said.

On December 7th, EPA asked a federal court to extend until April 2012 its deadline for issuing final national emissions standards for hazardous air pollutants (NESHAPs) for industrial, commercial, and institutional boilers and process heaters and new source performance standards for commercial and industrial solid waste incinerators as it reviews new emissions data received during the comment period on the proposal. The agency requested that if the court denies the extension, it allow EPA an additional six months to finalize the rule. That extension would allow EPA to respond more thoroughly to comments it received on the proposed rule.

While proposing sector-wide regulations for power plants, EPA in 2011 will also finalize a rule requiring power plants in 31 Midwestern and Eastern states and the District of Columbia to control emissions of sulfur dioxide and nitrogen oxides. That final rule is expected this summer.

The agency also intends to issue revised, more stringent national ambient air quality standards for ozone and to propose more protective standards for particulate matter. A proposed transport
rule is intended to help downwind states attain EPA’s national ambient air quality standards for ozone and particulate matter. EPA released revised power plant emissions data in support of the proposed transport rule in October. McCarthy said the agency intends to issue the final rule in June.

For mobile sources, EPA plans to propose new emissions limits for cars and trucks. Additionally, regulations requiring ocean-going vessels to control nitrogen oxides emissions and use lower sulfur content fuels will also take effect in 2011.

Facing a Republican-led House and a newly emboldened Republican minority in the Senate, environmental groups and many Democrats have already turned their attention away from moribund climate change legislation and expect to spend much of 2011 defending whatever gains they have made on the issue in recent years. Their focus, aside from trying to enact piecemeal energy policies, will be on ensuring that EPA retains its authority to regulate greenhouse gas emissions.

Republicans are expected to make an early and aggressive target of EPA just as the agency’s rules to limit emissions from power plants and other stationary sources go into effect. Legislation to restrict EPA’s authority could pass in the House with relative ease while passage in the Senate is also possible, although less certain, given that Democrats are still in control.

President Barack Obama would be under enormous pressure from environmental groups and many Senate Democrats to veto any bill that would strip EPA of its authority to regulate greenhouse gas emissions. But Republicans could counter by repeatedly attaching the EPA restrictions to any number of high-profile bills that might be difficult for the president to veto.

On the broader legislative front, cap-and-trade legislation that failed to garner support in the Senate last summer is essentially off the table following Republican victories in November. With a climate bill dead for now, advocates of emissions caps will be looking to incremental progress on energy policies this year that could help reduce U.S. emissions—at least at the margins. But prospects for compromise are uncertain for piecemeal legislative efforts, such as more stringent energy efficiency standards and incentives for renewable energy. Deep regional differences remain for even those energy and climate policies that seem ripe for compromise, such as a renewable energy standard requiring a portion of each state’s power to be generated by solar, wind, and other clean energy sources.

The EPA began moving to regulate emissions causing global warming after the agency designated carbon dioxide a threat to human health and welfare more than a year ago. Republicans, who now control the House of Representatives in Congress, are moving to block EPA action. Fred Upton, a Michigan Republican who will head the powerful House Energy and Commerce committee, called the EPA’s carbon rules an "unconstitutional power grab" in a recent op-ed for the Wall Street Journal. Saying that the rules will kill millions of jobs, Upton called on Congress to pass legislation barring the EPA from carrying out carbon regulations until courts have decided on the legality of the rules.

The EPA also faces a slew of lawsuits from states and industries attempting to block the climate regulations, as well as lawsuits from states and organizations pressing the agency to move forward with the rules.

While the Obama administration has said it opposes moves impeding the EPA, the real test will come when such measures are attached to unrelated pieces of "must pass" legislation.
Republicans will likely attempt to tie proposals attacking the climate rules to a major budget bill Congress will need to pass in March to keep the government running. But that is where the deal making could begin. Obama could agree to some delay in the EPA’s moves in return for a few concessions. Similar to the fight over extending the Bush tax cuts, the White House could then say Republicans forced a compromise by holding important legislation “hostage” over the EPA rules.

47. House Republicans Propose Large Transportation Budget Cuts

House Republicans have unveiled an ambitious 10-year plan to slash government spending by $2.5 trillion. The plan would cut funding from environment and energy initiatives, Amtrak, high-speed rail and the federal auto research program, among other programs. This would cut $100 billion this year and $2.5 trillion in total by 2021.

Some highlights of the cuts:

- Cutting the federal workforce by 15 percent through attrition, and allowing only one new federal worker for every two who quit.
- Ending Amtrak subsidies for $1.565 billion
- Ending intercity and high speed rail grants for $2.5 billion
- Cutting the subsidy for DC’s transit authority by $150 million.

Additionally, the bill would cut another $200 million from FreedomCAR and Fuel Cell Partnership — an Energy Department program that was begun by President George W. Bush in 2002, along with Detroit’s Big Three automakers; 20 percent from the federal government’s vehicle budget by 20 percent, and $7.5 billion from the overall federal travel budget.

48. CARB Fact Sheet Clarifies December Off-Road Diesel Vehicle Regulation.

On July 26, 2007, the California Air Resources Board (ARB) approved and subsequently adopted a regulation to reduce diesel particulate matter (PM) and oxides of nitrogen (NOx) emissions from in-use (existing) off-road heavy-duty diesel vehicles in California. At its December 2010 hearing, the Board considered and made findings on the need for amendments to the regulation. It subsequently issued a fact sheet which describes the December 2010 amendments. Key parts of the fact sheet are summarized below.

Who must comply with the off-road regulation?

Any person, business, or government agency that owns or operates diesel-powered off-road vehicles in California (except for agricultural or personal use, or for use at ports or intermodal railyards) with engines with maximum power of 25 horsepower (hp) or greater are subject to the regulation. The regulation applies to vehicles commonly used in construction, mining, rental, airport ground support and other industries. Out-of-state companies doing business in California are also subject to the regulation.

What types of vehicles are subject to the off-road regulation?

The regulation applies to self-propelled diesel-fueled vehicles that cannot be registered and licensed to drive on-road, as well as two-engine vehicles that drive on-road, with the limited exception of two-engine sweepers. Examples include loaders, crawler tractors, skid steers,
backhoes, forklifts, airport ground support equipment, water well drilling rigs, and two-engine cranes. The regulation does not apply to stationary equipment or portable equipment such as generators.

What changes to the off-road regulation do the December 2010 amendments include?

- A four year delay from the original timeline for all fleets, making the first compliance deadline January 1, 2014, for large fleets (over 5,000 hp), January 1, 2017, for medium fleets (2,501-5,000 hp), and January 1, 2019, for small fleets (2,500 hp or less).
- A dramatic reduction and simplification in the annual requirements for fleets, and fleet average structure. Fleets now have only one fleet average target to meet based on their NOx emissions; if they cannot meet the fleet average target, they are required to clean up 5 to 10 percent of their horsepower annually, as opposed to the previous requirement of 28 to 30 percent.
- Making exhaust retrofits no longer mandatory.
- Raising the low use threshold to 200 hours per year instead of 100 hours.

Overall, staff estimates that these amendments reduce the compliance costs by more than 95 percent during the first five years and more than 70 percent during the entire span of the regulation, compared to the regulation before the amendments.

What do operators need to do now?

The off-road regulation as initially adopted requires reporting and labeling, limits unnecessary idling, and requires disclosure of the regulation upon vehicle sale. These requirements are not affected by the December 2010 amendments, and enforcement actions for these requirements are ongoing, with fines of up to $10,000 per day possible for each vehicle that is in violation.

If a fleet has not done so already, it should report all applicable vehicles to ARB as soon as possible and label its vehicles appropriately. Fleets should also comply with the five-minute idling limit and maintain a written idling policy as required. When selling an affected vehicle, the seller should notify the vehicle buyer of the regulation.

Although the December 2010 amendments include a significant delay of the regulation’s first compliance dates, planning now could reduce or spread out future compliance costs. Fleets could earn credit for taking early actions to reduce emissions, such as repowering or replacing their older, dirtier vehicles, and installing exhaust retrofits.

What are the off-road regulation’s performance requirements and when do they take effect?

The off-road regulation’s performance requirements are based on a fleet’s average NOx emissions. If a fleet cannot meet the NOx fleet average target, it must comply with the regulation’s Best Available Control Technology (BACT) requirements by cleaning up 5 to 10 percent of its fleet each year it cannot meet the target. A fleet may satisfy the BACT requirements either by turnover or applying exhaust retrofits.

Under the December 2010 amendments, the performance requirements would take effect on January 1, 2014, for large fleets, January 1, 2017, for medium fleets, and January 1, 2019, for
small fleets. The performance requirements continue every year through January 1, 2023, for large and medium fleets and January 1, 2028, for small fleets.

**Does the off-road regulation require installing exhaust retrofits?**

No, under the December 2010 amendments, fleets will be able to comply with the performance requirements of the off-road regulation solely through turning over or repowering their vehicles. However, retrofitting may be your lowest cost compliance option. Applying exhaust retrofits can help fleets meet the fleet average targets and comply with the annual BACT requirements. Retrofits installed early can earn double credit and exempt a vehicle from further actions for the life of the regulation.

**49. EPA Extends E15 Waiver to 2001-06 Model Year Cars, Trucks**

The US Environmental Protection Agency extended a waiver allowing higher ethanol concentrations in fuel for 2007 and later model year cars and trucks to 2001-06 model year vehicles. But it added that no waiver will be granted for fuels with up to 15% ethanol for use in any motorcycles, heavy-duty vehicles or nonroad engines because current test results do not support it.

EPA Administrator Lisa P. Jackson said she made the decision after reviewing thorough tests by the US Department of Energy and other available data on E15 effects on emissions from the older cars and light trucks. "Whenever sound science and the law support steps to allow more home-grown fuels in America’s vehicles, this administration takes those steps," she said.

The American Petroleum Institute and National Petrochemical & Refiners Association separately criticized EPA’s action extending the waiver it approved on Oct. 13 for 2007 and newer model year cars and light trucks. Ethanol advocacy organizations applauded the latest move, but said that EPA still needed to go further.

Pushing back the so-called "blend wall" that has prevented producers from injecting more ethanol into the nation's fuel supply will help reduce the U.S. dependence on foreign crude oil, replacing it with home-grown fuel, a boon for corn farmers who already sell 40 percent of their crop to ethanol makers.

But it has been fiercely opposed by ranchers who fear higher costs for their livestock feed will hurt margins; by refiners and blenders who would have to pay for new storage tanks; and by service station owners and auto makers who worry that putting higher ethanol blends in older cars could open them up to lawsuits if the fuel damages their engines.

The EPA had repeatedly delayed its decisions on the increase for months to ensure its safety.

Even so, few expect a rapid increase in usage. Corn futures were only slightly higher after the announcement, up 3 cents to $6.57 a bushel. But prices have doubled since last July as feed, food and fuel use drains global stockpiles, and further gains threaten to make it uneconomical for producers.

The EPA said it is still reviewing public comment for an E15 label that would be put on gasoline pumps to make sure consumers don't use the wrong fuel.
50. NPRA, Other Groups Ask Court to Overturn EPA’s E15 Waiver

On January 3rd, the National Petrochemical & Refiners Association and two other oil and gas associations petitioned a federal appeals court to review and overturn the US Environmental Protection Agency’s decision allowing fuels with up to 15% ethanol to be used in model year 2007 or newer vehicles. The Western States Petroleum Association and Independent Liquid Terminals Association joined NPRA in the legal challenge.

EPA issued the waiver on October 13, 2010, in response to a petition by Growth Energy, an ethanol advocacy group. The US Appeals Court for the District of Columbia upheld EPA’s action on December 21st.

NPRA said that it and the two other groups will argue in their lawsuit that EPA does not have legal authority under the Clean Air Act to approve a partial waiver allowing the use of E15 in some engines but not in others. It said that it also will argue that EPA based its partial waiver decision on new data submitted to the public rulemaking docket on the day before it announced the partial waiver decision, thereby providing no time for stakeholder review or meaningful public comment which the federal Administrative Procedure Act requires.

NPRA, along with recreational, work equipment, and transportation engine manufacturers, have expressed concern that E15’s introduction without more complete tests potentially could damage engines.

51. EPA Proposes to Retain National Air Quality Standards for Carbon Monoxide

The U.S. Environmental Protection Agency (EPA) is proposing to keep the current national air quality standards for carbon monoxide (CO), while taking steps to gather additional data through more focused monitoring. The science in EPA’s view shows that the current standards will protect people, especially those susceptible to health problems associated with breathing CO from the outdoor air. CO can cause harmful health effects by reducing oxygen delivery to the body’s organs (like the heart and brain) and tissues. At extremely high levels, CO can cause death.

The current health standards are 9 parts per million (ppm) measured over 8 hours, and 35 ppm measured over 1 hour. To ensure people are protected from high concentrations of CO and to develop better information about CO and its health impacts, EPA is proposing to revise the air monitoring requirements. The proposed changes would require a more focused monitoring network with CO monitors placed near highly trafficked roads in urban areas with populations of 1 million or more. The data from these sites would be available for scientific studies that could help inform future reviews of the standard.

EPA estimates that the proposal would require approximately 77 CO monitors in 53 urban areas. EPA expects that states would not need to purchase new monitoring equipment. They could relocate some of their existing CO monitors to the near-road monitoring stations already required in connection with the revised nitrogen dioxide standards issued in January 2010. CO monitors at the new locations would be required to be operational by January 1, 2013.

The proposed rule only addresses the primary CO standards and is consistent with the advice and recommendations from the agency’s independent science advisors, the Clean Air Act Scientific Advisory Committee.
CO is a colorless, odorless gas emitted from combustion processes. Nationally and, particularly in urban areas, the majority of CO emissions come from motor vehicles.

EPA will take final action by August 12, 2011.

**52. EPA And Chrysler to Develop Hydraulic Hybrid Minivan**

U.S. Environmental Protection Agency Administrator Lisa P. Jackson and Chrysler CEO Sergio Marchionne recently traveled to Ann Arbor, Michigan to announce a cooperative agreement to develop and adapt hydraulic hybrid technology for the light duty auto market. The goal of this partnership is to design a Chrysler minivan as a demonstration vehicle, using EPA’s own patented technology. It is anticipated that the hydraulic hybrid technology will increase overall fuel efficiency 30-35 percent — 60 percent in city driving — and reduce overall greenhouse gas emissions by 25 percent. Increasing efficiency also cuts down on emissions of other harmful pollutants that threaten Americans’ health.

“Hydraulic hybrid vehicles represent the cutting edge of fuel-efficiency technology and are one of many approaches we’re taking to save money for drivers, clean up the air we breathe and cut the greenhouse gases that jeopardize our health and prosperity,” Jackson said. “The EPA and Chrysler are working together to explore the possibilities for making this technology affordable and accessible to drivers everywhere. This partnership is further proof that we can preserve our climate, protect our health and strengthen our economy all at the same time.”

“In addition to creating the jobs of the future, clean energy benefits the U.S. economy by ultimately making energy costs more affordable for consumers — especially if their dollars stay in America,” Marchionne said. “Hydraulic hybrid vehicle technology is one more promising path worth pursuing in the effort to reduce our carbon footprint, and we are excited to partner with the EPA to push forward on this track.”

EPA’s hydraulic hybrid technology, developed in the agency’s lab in Ann Arbor, Michigan, is coming into use in large delivery and refuse trucks across the country. The hydraulic hybrid system captures and reuses the energy lost in braking through a hydraulic pressure vessel. The system can also turn off the engine when it is not needed and only fully use the engine when it can operate at peak efficiency.

The new partnership seeks to bring this same cost-effective technology to passenger vehicles. A minivan can be adapted cost effectively to the technology because the hydraulic components are widely available in other industries. A joint engineering team will design and integrate the hydraulic hybrid system into a minivan, and test the demonstration vehicle in 2012.

The research project will focus on adapting the hydraulic hybrid system to a Chrysler Town & Country minivan equipped with a 2.4-liter, inline four-cylinder gasoline engine. Components of the hydraulic hybrid system include a 117 cc engine pump, a 45 cc drive electric motor and a two-speed automatic transmission. Fluid for the system will be stored in a 14.4-gallon high pressure accumulator.

The system produces power with engine torque driving a hydraulic pump that charges the high pressure accumulator of up to 5,000 psi (34 MPa). The high-pressure accumulator delivers the pressure energy to the axle hydraulic motor, giving the vehicle power to drive the wheels. The gas engine will remain off if the accumulator charge is sufficient to drive the motor.
EPA’s work on this project will take place at the National Vehicle and Fuel Emissions Laboratory. The EPA lab holds more than 60 patents with 25 pending and is at the forefront of the clean energy economy. In addition to advanced technology research, the lab tests and certifies vehicles to be sold in the U.S. and develops programs that prevent thousands of deaths each year and helps to strengthen the nation’s energy security. EPA’s lab is near the American auto industry capital of Detroit. All major international automakers have facilities in the Ann Arbor area to work closely with the lab.

Other key engineering partners working on this project include FEV of America, Inc. of Auburn Hills, Michigan and Southwest Research Institute of San Antonio, Texas and Ann Arbor.

53. Chevy Volt, Ford Explorer Take Top Honors In Detroit

The Chevrolet Volt plug-in electric car, the centerpiece of General Motors' comeback, has been named North American Car of the Year. The Volt, which already won the 2011 Green Car of the Year and Motor Trend Magazine's Car of the Year, edged out the Nissan Leaf and the Hyundai Sonata to win the award.

Ford Motor Co's latest incarnation of its Explorer sport utility vehicle was named 2011 Truck of the Year, edging out the Jeep Grand Cherokee and the Dodge Durango. It was the third year in a row that Ford claimed the truck award.

A panel of 49 automotive journalists voted in the competition.

54. Toyota Unveils Extended Prius Hybrid Family

Toyota Motor Corp unveiled a family of Prius cars with two new additions to the lineup as it aims to build the iconic hybrid series into a core pillar in the United States, its single-biggest market. The roomier Prius v and compact Prius c concept were among the highlights of the Detroit auto show, where rivals also revealed green cars in a bid to attract an increasingly fuel-conscious customer base.

Toyota, the world’s biggest automaker, has dominated the gasoline-electric hybrid market since putting its first Prius on the road in 1997. Toyota has 14 hybrid models globally and is planning 11 more over the next two years, winning it a reputation as arguably the most advanced car maker in fuel-efficient vehicle technology.

While rival Nissan Motor Co and General Motors Co look to share the green limelight with their Leaf and Volt electric cars launched last month, sales volumes are expected to stay at a fraction of the Prius until the high price of batteries comes down significantly.

Sales of Toyota’s Prius hatchback soared 36 percent last year to 140,928 units, according to Autodata, making it the most popular hybrid car on the road by far.

Under the tagline "Prius Goes Plural," Toyota showcased the two new models alongside the current third-generation Prius and a plug-in hybrid (PHV) version of the car that Toyota plans to begin selling to individuals next year.

The five-seater Prius v will hit U.S. showrooms this summer targeting families looking for more cargo space and utility. It will get an estimated 40 miles per gallon combined for city and highway driving. The Japanese version is expected to include a three-row option.
Toyota also introduced the Prius c concept, which it called a city-friendly car aimed at young singles and couples who want a high mileage and fun-to-drive Prius with a roomy interior. A production model based on the Prius c concept will go on sale in the United States in the latter half of 2012.

Toyota has a goal of selling at least 1 million hybrid vehicles a year globally before the middle of the decade, eventually offering a hybrid option on all of its models by 2020.

With more than $30 billion in cash and securities in its war chest, Toyota is among the few car manufacturers that can afford to develop vehicles across a range of technologies and the batteries needed to power pure electric cars.

Toyota is also planning to launch two pure electric cars next year in the United States: an electric RAV4 crossover developed with U.S. start-up Tesla Motors and a tiny urban commuter model based on its own technology.

**55. Report Examines Paths to Sustainable US Transportation**

Transportation presents major energy and climate challenges in terms of oil dependence and greenhouse gas emissions. A new report released by the Pew Center on Global Climate Change examines cost-effective solutions to begin to cut U.S. transportation emissions and oil use now and move toward cleaner, alternative fuels.

Transportation accounts for more than one-fourth of all U.S. GHG emissions. The report, Reducing Greenhouse Gas Emissions from U.S. Transportation, identifies reasonable actions across three fronts – technology, policy, and consumer behavior – that could deliver up to a 65 percent reduction in transportation emissions from current levels by 2050.

Authored by David L. Greene of the Howard H. Baker, Jr. Center for Public Policy and Steven E. Plotkin of Argonne National Laboratory, the study provides three plausible scenarios of improved transportation efficiency and reduced GHG emissions through 2050, with technology progress and policy ambition increasing from the first to third scenario. The scenarios show emissions reductions of 17 percent, 39 percent, and 65 percent below 2010 levels by 2050. The findings were based on a wide range of existing transportation literature and the authors’ own analysis.

Policies can pull existing technology to market, support future technology development, and correct market failures to reduce oil dependence, the report finds. Effective policies, such as performance standards, pricing mechanisms, and RDD&D, should be employed now and adapted over time as we learn how technologies and polices perform in the real world.

Today’s technologies, if widely used, can already make substantial gains in fuel efficiency and emission cuts, while a fuel mix of electricity, biofuels, and hydrogen could significantly reduce gasoline-powered vehicles by mid-century, the report states. In fact, freight truck emissions could be slashed by 30 to 50 percent with current technology and achieve greater reductions over the next several decades.

Starting now and sustaining efforts to cut transportation emissions over time is critical. The interplay between policies, technologies, and the choices of citizens and consumers can drive adoption of cleaner transportation solutions across the economy.
56. Los Angeles Metro Retires Last Diesel Bus

The last diesel bus in the massive 2,228 vehicle fleet directly operated by the Los Angeles County Metropolitan Transportation Authority (Metro) was recently retired making Metro the first major transit agency in the world to operate only alternative clean fueled buses. The "retirement" ceremony highlighted the significant contribution Metro has made in reducing air pollution in one of America's smoggiest regions.

Metro runs the second largest public transit bus operation in the United States with nearly 400 million annual passenger boardings, and its buses log just under 1.5 billion miles a year.

Metro directors in 1993 decided to only order clean air vehicles, an action that paved the way for other transit agencies across the U.S. to opt for greener vehicles. After experimenting with methanol and ethanol buses that proved too corrosive for bus engines, Metro, ultimately, went with compressed natural gas (CNG) engines and today has 2,221 CNG buses, one electric and six gasoline-electric hybrid buses in its fleet. They have logged 1 billion clean air miles.

CNG buses cost about 10 to 15 percent more to operate than standard diesel engine buses, largely because of increased maintenance costs. The initial purchase cost of a CNG bus is also about 10 to 15% more--some $50,000 over a standard diesel coach cost of about $400,000.

The clean air bus fleet is just one aspect of Metro's green program which also includes widespread use of solar panels at bus maintenance facilities and other energy saving devices to cut energy costs, recycling, and building and retrofitting new transit facilities with sustainable materials and practices. Installation of solar panels, LED lights and other energy saving features and recycling saves Metro well over $1 million annually in operating costs. The solar panels alone reduced Metro's carbon footprint by 16,500 metric tons in 2010, the equivalent of removing 3,200 private cars from Los Angeles area streets and freeways.

ASIA-PACIFIC

57. Indian Officials Speak At Delhi Sustainable Development Summit

A. Planning Official Urges Fuel Repricing

India could move to rationalize its currently subsidized fossil fuel prices by the end of its 12th Five Year Plan in 2017 to curtail consumption, cut greenhouse gas emissions, and enhance energy security, according to the deputy chairman of the country's top policy and planning body. Speaking at the Delhi Sustainable Development Summit on February 5th, the Planning Commission's Montek Singh Ahluwalia said India should take steps to trim its greenhouse gas emissions without waiting for developed countries to cut their own or to pay developing countries to cut theirs. Renewable energy will be significant part of that effort. "I would say … 50 percent of what we need to do to position ourselves for a world ready to transition to a new energy mix is to get used to a higher energy price," Ahluwalia said. "Perhaps by the end of the 12th Five Year Plan we shall have a consensus." He said he hoped that by then Indians could agree to meet the objectives of the 2009 Integrated Energy Policy, which, while giving primacy to coal in the energy mix, nevertheless calls for rationalization of fossil fuel prices.

Ahluwalia said civil society needs to mobilize public opinion so that people will accept higher fuel prices. "People need to be clear that implementation of NAPCC [National Action Plan on
Climate Change] will cost,” he said, adding that India will need technology from abroad to make the necessary changes.

“A lot of the outcome will depend on what happens globally,” he said, referring to technological advances worldwide in energy efficiency and renewable energy.

At present, he said, India is “not in a position to internalize the costs” of fossil fuels. “This requires a whole set of actions in terms of expanding our own production, stimulating reliance on non-conventional energy, and subsidizing the latter by penalizing the former.” He said although India has taken “baby steps” regarding the Integrated Energy Policy 2009 and petrol prices have been rationalized, no movement is likely at present to free up diesel and liquefied petroleum gas (LPG) prices.

“The main thing the Planning Commission needs to be doing is to see how to handle the energy challenge domestically by achieving 20 percent reduction in energy efficiency of GDP by 2025,” he said, referring to India’s stated target for energy use per unit of gross domestic product. “I bet we'll do better than 20 percent,” he said.

Ahluwalia said India is not doing enough for research and development and that its role in global technological breakthroughs will be modest. “But we must do something, it’s one of the most important things we should focus on,” he said. “Indian public sector units involved in technology are doing an abysmal job of putting a share of their revenues into R&D—the share of revenues of an energy company spent on R&D in other countries is significant. They must not expect to use budgetary resources but allocate a share of their revenues, commission research from other labs and institutions.”

He added that public sector institutions may then complain that they need to raise prices, which they should because theirs are lower than world prices. “Certainly for oil, coal, equipment manufacturing—all need four to five times [price] increase,” he said. “It's an untapped resource.”

Asking about international climate change talks, Ahluwalia said he is “not particularly hopeful of the way global negotiations are proceeding.” He said the Planning Commission has been working to ensure that India applies in its policies what it is propagating globally. “To carry credibility, we cannot take the line that we cannot do anything unless there is a global compact, but we’re certainly not going to commit to anything unless there is a global compact,” he said. There is “a lot to be done to gain momentum and traction to position ourselves well to be able to handle sustainability issues in the future.”

B. Environment Minister Says U.N. Talks Will Not Produce Binding Deal This Year

Indian Environment Minister Jairam Ramesh said on February 4th that U.N. climate change talks scheduled for later this year in Durban, South Africa, would not result in a legally binding agreement to reduce greenhouse gas emissions. It is crucial for world leaders to approach the talks in Durban with “a degree of realism” and not waste time and effort trying to achieve desirable but unattainable outcomes, Ramesh told attendees at the 11th Delhi Sustainable Development Summit in the Indian capital.

“Let us be clear about what we will not be able to accomplish at Durban,” Ramesh said. “We will not reach an agreement on the second commitment period of the Kyoto Protocol or a legally binding agreement. There will still be divergence of views over 1.5 or 2 degrees [the target to limit global temperature rise] and an overarching announcement or statement on the global

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peaking year,” the year in which global greenhouse gas emissions should reach their peak and then begin to decline, Ramesh said.

The Indian environment minister said the recent U.N. climate change talks, held in Cancun in December 2010, were a “failure” environmentally, but a breakthrough politically, which was just what was needed. “My heart was with Bolivia, but my head was not,” Ramesh said, referring to the South American country’s lone stance in opposition to provisions of the Cancun Agreements over vague emissions reduction targets and the failure to remove intellectual property constraints on the transfer to developing countries of clean energy technologies.

Ramesh said the Cancun talks provided a work plan for Durban, adding that it is “important to stop interpreting Cancun and start implementing it.” “It is important to start implementing what we collectively agreed to in a spirit of compromise,” Ramesh said. He enumerated eight implementable points from the Cancun meeting: shared vision, adaptation, mitigation actions, a second commitment period for the Kyoto Protocol, forestry, market mechanisms, finance and technology.

The minister said it is important to define key terms in the Cancun agreements to have a framework for the Durban talks, including the definition of “equitable development in a sustainable manner,” the details of an international mechanism to review and verify countries’ actions to reduce greenhouse gas emissions, and details on technology and finance transfer.

One issue that needs more focus is climate justice, Ramesh said. “What are the alternative ways of approaching equity? The [Cancun] agreement says ‘equitable access to sustainable development’ is a goal—how to define this is a question in terms of per capita emissions, per capita income, maybe a combination of both,” Ramesh said.

“We are looking not only at Durban but also at Rio+20,” Ramesh said, referring to the U.N. Conference on Sustainable Development, to be held in Rio de Janeiro, Brazil, May 14–16, 2012, 20 years after the Earth Summit on environment and development that took place in Rio in 1992. “Political direction and leadership are required—we need to keep the momentum going and not end up in negotiating filibustering.”

Asked if he could suggest an alternative to the Kyoto Protocol, Ramesh said there could be many substitute arrangements. “Perhaps a series of bilateral CDMs like bilateral FTAs [free trade agreement],” he said. “Japan in fact had proposed to me at Cancun … how about talking about bilateral offsets? It could be one aspect.” He added that ideally it would be good to ensure that the Kyoto Protocol remains in place but “you also have to look at reality.”

Commenting on global pricing for emissions of carbon dioxide, he said it would be a desirable objective, but it is not clear if it is realistic in the short- to medium-term. “It will be difficult to get the U.S. on board, some of the EU, yes,” he said. He added that India in 2010 imposed a levy on coal production to create an environmental fund that was a carbon tax of sorts, although not comprehensive or large enough.

He added that the ability of the United States to deliver anything on climate change in 2011 and 2012, “is entirely suspect.” Legislation to cap U.S. greenhouse gas emissions died in the Senate last year, and several bills have been introduced in the current Congress that would delay or prohibit the U.S. Environmental Protection Agency from regulating greenhouse gas emissions.
Ramesh also talked about local actions to tackle climate change, following the theme of the Delhi summit, “Tapping Local Initiatives and Tackling Global Inertia.” Ramesh said local actions already are taking place in India largely in the area of adaptation, particularly in the agriculture sector and in coastal areas. He said India has identified its coasts and the Himalayan region as those needing intervention. “We have projects going on to make locals resilient in terms of water supply, access to forests, livelihoods and so on,” he said. “When we take steps domestically, it gives us the confidence and leadership internationally on local adaptation and mitigation steps.”

Ramesh added that one of the biggest accomplishments of Cancun involved progress toward the formal creation of the forest protection program, known as Reducing Emissions from Deforestation and Degradation, or REDD+, where the “+” refers to the inclusion of reforestation and forest management actions. Delegates in Cancun reached a consensus on REDD+, calling on all countries to work together to “slow, halt, and reverse forest cover and carbon loss.” Delegates also called on heavily forested developing nations, such as Brazil and Indonesia, to develop national strategies to protect forests.

But said much more work is required to define, model, and measure reforestation and efforts to improve forestry practices, Ramesh said. “One of the concerns of REDD+ is what does it do to local communities that rely on access to forests for food, firewood, livelihoods—will it protect these rights, what does it do to these rights?” Ramesh said. “Forests do not only serve an important function for states but also for local communities; 250 million people in India depend on forests for livelihood. The traditional thinking among foresters is to keep people out of forests, but this simply has to change.”

International agreements also need to incorporate the value of marine biology as oceans sequester as much carbon as forests. “So we must give marine biodiversity the same degree of importance,” he said.

C. Prime Minister Calls for Balance of Environmental Regulation, Development

India must establish environmental regulations and policies to prevent “potentially damaging behavior” while taking care not to overregulate, Prime Minister Manmohan Singh said at the opening of the three-day Delhi Sustainable Development Summit. “The central principle that must be enshrined in any sustainable development strategy is that incentives facing all economic decision makers must encourage them to act in a manner that is environmentally benign,” the prime minister said.

Singh admitted that regulation and enforcement are often not entirely successful and there are always cases of “residual pollution.” “The principle that should be followed in such cases is that the polluters must pay,” he said. “This will discourage the polluters and also provide a means of financing the corrective steps necessary to counter the pollution caused.”

He said India is doing this by setting standards, especially in energy-intensive sectors such as transportation and buildings. In addition, a 5 percent coal tax was introduced in 2010 to build the corpus of a National Clean Energy Fund.

While stressing the need for capacity building at the local level, Singh said India is trying to restructure development programs to strengthen and empower local governments.

Singh also spoke about the management of common pool resources. “In India, as in many other developing countries, indigenous tribes, cattle rearing groups, as well as cultivators use and
access common pool resources like forests, water bodies, pastures, and farmland without clearly defined property rights." The traditional wisdom that such commons were best managed by central authorities and governments has been proven wrong, he said.

“The Noble laureate Dr. Elinor Ostrom and her associates have demonstrated that in such situations local action for managing common resources through cooperative activities by small user groups can lead to optimal results provided the stakeholders are adequately informed and also empowered to act,” Singh said. “This has profound implications for policymakers.”

India enacted a landmark Forest Rights Act in 2006 that restored to millions of tribal and other forest dwellers both individual rights to cultivated forestland and community rights over common property resources. “We hope this will spur local initiative on a sustainable use of resources, conservation of biodiversity, and maintenance of ecological balance,” Singh said.

At the same time, he said, globally coordinated action is necessary to tackle transnational externalities such as climate change. Singh repeated India's stance that developed countries must bear the larger share of the burden of climate change mitigation, while developing countries should get financial and technological help to limit the increase in their greenhouse gas emissions as their economies grow.

The United Nations Framework Convention on Climate Change summit in Cancun, Mexico, in December produced some “modest results,” Singh said. “India particularly welcomes the agreement on the setting up of a framework of technology innovation centers under the UNFCCC to foster local adaptation and mitigation measures,” he said.

“I would also like to emphasize that even as we wait for meaningful agreements on global mitigation action, we in India have committed ourselves to keeping our per capita consumption below the average for the industrial countries,” Singh said, pointing out that “the faster the industrialized countries reduce their per capita emissions, the quicker will be the self-imposed constraint which requires action in our country.”

Under its National Action Plan on Climate Change, India has set a target to reduce its greenhouse gas emissions intensity—its level of emissions per unit of gross domestic product—by 20 percent between 2005 and 2020. It also has launched seven “missions” in the fields of energy efficiency, solar energy, sustainable habitat, water, sustaining the Himalayan ecosystem, agriculture, and strategic knowledge for climate change. An eighth and final mission, to be called “Green India,” has yet to be announced but will aim to regenerate 6 million hectares (14.8 million acres) of degraded forestland.

Singh said policymakers working on the 12th Five-Year Plan (for 2012–2017) are also focused on specific initiatives to balance economic growth with energy efficiency, increase use of renewable energy, and ensure sustainable development.

“India, China, and many other developing countries have all responded with significant voluntary goals and specific plans on emission intensity reduction,” he said, while complaining that developed countries have not admitted to any concrete greenhouse gas emissions reduction targets for 2020 that would be consistent with the goal set out in the Copenhagen Accord of December 2009 to limit the likely temperature increase to no more than 2 degrees Celsius (3.6 degrees Fahrenheit).
“In the final analysis, we have to recognize that the world must move away from production and consumption patterns which are carbon-intensive and energy-intensive,” Singh said. “We have to make changes in our lifestyles, particularly in the developed world, and learn to make do with less. In developing countries, poverty eradication will have to be linked to the availability of clean, renewable, and affordable energy. I believe that charting these new pathways is not beyond our collective imagination. Life as we know it on our beautiful planet is at stake.”

Singh was awarded the Sustainable Development Leadership Award at the Delhi Sustainable Development Summit. The event was organized by the New Delhi-based The Energy Research Institute (TERI), whose theme this year was “tapping local initiatives and tackling global inertia.”

58. BASIC Countries to Meet In Delhi to Discuss Climate Change

Environment Ministers from BASIC countries - Brazil, South Africa, India and China - will meet to assess the post Cancun climate change policy and actions at the global and national level and discuss coordination going forward. Minister of State for Environment and Forests, Jairam Ramesh said: “Over the last 15 months, BASIC has become a powerful force within the climate change negotiations. The BASIC Ministers have been meeting regularly since Copenhagen to exchange views and evolve a coordinated approach to important negotiating issues." “We will continue to work closely to ensure a positive outcome at Durban and beyond, while advancing the interests of our countries and partners," he added.

The two-day meeting will be held in a "BASIC Plus" format. India has invited Ministers/Ambassadors from three other countries - Argentina, Algeria and Maldives - to the meeting. These countries represent important regional groups within the "G-77 and China" bloc in the climate change negotiations, and will participate in the meeting as Observers.

This is in keeping with the BASIC tradition of involving major regional groups within G-77 and China in order to enrich discussions and represent the interests of developing countries. Maldives is a member of Small Island Developing States (SIDS) in addition to being a neighboring country in the South Asian region. Algeria represents the developing countries in Africa, while Argentina is the current Chair of the Group of 77 and China.

BASIC countries’ meeting is significant as it will be the first major international meeting of any group of countries since December 2010 when Cancun Agreements were reached under the leadership of Mexico as the Chair of 16th Conference of Parties to the UNFCCC and Kyoto Protocol. The BASIC group was formed in Beijing in November 2009.

59. China Stays Net Importer of Diesel to Build Fuel Inventories

China, the world’s biggest energy consumer, bought more diesel from overseas than it exported for a second month in January as the nation built fuel inventories amid increased demand from drought-hit farmlands. Net diesel imports reached 87,412 metric tons, according to data from the Beijing-based General Administration of Customs today. Purchases of the fuel surged 82 percent to 183,298 tons compared with a year earlier.

Farmers in the world’s largest grain-consuming nation stepped up use of energy-intensive equipment to pump water into wheat fields as a drought cut production in provinces including Shandong, Jiangsu, Henan, Hebei and Shanxi. On February 12th, China Petrochemical Corp., the nation’s largest refiner, said it was producing and storing diesel at a record pace to boost supplies to dry areas.
“There was demand when they were rebuilding diesel inventories, but China will probably return to being a net exporter of diesel next month as that demand starts to come off,” Brynjar Eirik Bustnes, an oil and gas analyst at JPMorgan Chase & Co., told reporters by telephone from Hong Kong.

China’s diesel inventories expanded 25 percent as of the end of January compared with December, China Oil, Gas and Petrochemicals, published by the official Xinhua News Agency, reported this month.

Diesel consumption may be damped further as China’s winter heating demand wanes with warmer temperatures.

China International United Petroleum & Chemical Corp., the country’s biggest oil trader, said it plans to export 100,000 tons of diesel in February after halting exports for two months. The profit from producing diesel in Asia may decline as much as 40 percent in the next three months as Chinese refiners start exporting the fuel, according to industry researchers FACTS Global Energy and KBC Energy Economics.

In December, China turned a net importer of diesel for the first time since November 2008 as electricity rationing forced some factories to turn to their own diesel-fueled generators. Net diesel imports reached 290,000 tons in that month after China more than tripled overseas purchases to 460,000 tons compared with November, customs data showed.

Imports of fuel oil graded No. 5-7 rose 76 percent to 2.24 million tons in January and exports fell 3.2 percent to 766,723 tons, today’s customs data showed.

China’s independent or so-called “teapot,” refineries may have bought more fuel oil to make gasoline and diesel in anticipation of higher retail fuel prices, Bustnes said.

Asia’s biggest oil consuming nation increased retail gasoline and diesel prices for the first time this year, on February 20th, aiding state refiners under pressure from $100 crude.

60. Lead-acid Battery Makers Targeted in Clean-up Campaign

China’s environment authorities will launch a campaign this year to clean up lead-acid battery manufacturing, which has been blamed for a spate of child lead poisoning cases. Authorities across the country will carry out blanket inspections of all lead-acid battery manufacturers, and suspend operations of those failing to make environmental impact assessments or emitting excessive waste, Environmental Protection Minister Zhou Shengxian said.

Manufacturers with failing pollution controls or those refusing inspections of facilities should be closed until they meet standards, Zhou told environment protection officials at a meeting on the control of heavy metals pollution.

The campaign comes after a string of lead poisonings in the provinces of Anhui, Hunan and Shaanxi since 2009, which seriously endangered the health of local people, especially hundreds of children.

The government will focus on the control of heavy metals pollution in the next five years, Zhou said. “Heavy metals pollution control will be the cardinal task in environmental protection," Zhou
said. He urged local authorities to step up supervision of firms that cause heavy metals pollution, especially lead-acid battery manufacturers and lead smelters with outdated equipment. Enterprises would face harsh penalties for illegal heavy metals emissions in the next five years.

61. 2010 Report on Environmental Quality of China Made Public by MEP

The Ministry of Environmental Protection has made public the 2010 Report on Environmental Quality of China which shows that national environmental quality was stable compared with that of 2009.

In general, surface water was under intermediate pollution; there was no large scale water bloom in major lakes and reservoirs. The quality of coastal marine waters had some degradation compared with that of last year, which was under slight pollution. Air quality of major cities on environmental protection was basically the same as that of 2009. Acid rain pollution of China was still relatively heavy. The acoustic enterprise of functional areas of major cities kept stable with relatively heavy noise pollution during night. The surface water of typical rural areas was under intermediate pollution but with good air quality.

Environment monitoring results show that national surface water quality continued turning better; air quality of major cities on environmental protection improved year on year; eco environment quality kept stable and environmental quality of key river basins, regions and cities had evident improvement since the “11th Five-Year Plan” period. However, the pollution indicators of individual areas and region went beyond the national standard with serious pollution. National environmental quality still has some gap compared with that of developed countries.

In 2010, the air quality of 73.5% of the major cities met Grade II national standard in terms of annual air pollutant concentration, up by 6.2 percentage points compared with that of 2009, up by 30.3 percentage points compared with that of 2005. There were 292 days in which the air quality of 95.6% major cities met Grade II national standards, up by 27.1 percentage points compared with that of 2005, meeting the target (>75%) specified in the 11th Five-Year National Plan for Environmental Protection.

In 2010, the annual average of SO2 concentration in the air of major cities went down by 2.3% compared with that of 2009; annual average of NO2 and inhalable particulate went up by 2.9% and 1.1% respectively. Compared with in 2005, the annual average concentrations of SO2 and particulate went down by 26.3% and 12.0% respectively, the annual average of NO2 was basically the same.

The overall air quality of Shanghai was good during the World Expo period, 98.4% of the days of the period met Grade II national air quality standard, up by 2.7 percentage points compared with that of 2009. The concentrations of SO2, NO2, and particulate met Grade II national standard, the lowest of the same period in the history.

The overall air quality in Guangzhou was good during the Asian Games, 100% days of the period met Grade II national air quality standard, up by 12.5 percentage points compared with that of 2009. The concentrations of SO2, NO2, and particulate met Grade II national standard. The air quality has evident improvement.

In 2010, the area subject to acid rain pollution (annual average pH <5.6) across China is about 1.2 million km2, accounting for about 12.6% of national land, same as that of 2009 and down by 1.3 percentage point compared with that of 2005. In general, the total area subject to acid rain
pollution went down slightly. The areas with relatively heavy acid rain (annual average pH less than 5.0) and heavy acid rain (annual average pH less than 4.5) were basically stable. Acid rain mainly concentrated on the areas along and south to the Yangtze River, and eastern part to Qinghai—Tibet Plateau. There was no evident change of the distribution and types of acid rain across China. The main acid causing substances in precipitation is sulfate.

In 2010, the acoustic environment of functional areas of major cities on environmental protection kept stable. The meeting-noise-standard-rate of various kinds of functional areas was higher in daytime than in night. The meeting-noise-standard-rate of class III functional areas was higher than that of other types of function areas. About 62.7% monitoring sites of Class IV functional areas (areas along main trunk road) went beyond noise standard during night.

The overall eco environment quality of China was "general" during 2005~2009 with no evident change. The ecological index (EI) of China in 2009 went up by 0.5 compared with that of 2008 and 0.9 compared with that of 2005. In general, EI was on rising trend.

Environmental monitoring was conducted in 274 villages from 31 provinces (autonomous regions and municipalities) in 2010 which adopted the "employing award to facilitate pollution treatment". The monitoring outcomes showed that the overall air quality was good; surface water was under intermediate pollution with E-coli, ammonia nitrogen and permanganate value as the main pollutants. 507 soil samples of six land use types from 27 provinces including cropland, vegetable plots, areas surrounding animal breeding farms, areas in vicinity of enterprises, farmland irrigated by waste water and areas in vicinity of landfill facilities were analyzed with going-beyond-standard rate at 11.1%~42.6%. The main pollutants included heavy metals and DDT etc. The soil surrounding industrial enterprises and farmland soil were under relatively heavy pollution.

62. China Gets Failing Score on Air Quality Transparency

China falls short of world standards in notifying its public about major air quality indicators, such as fine particulate matter, ozone, carbon monoxide, and volatile organic compounds, according to a report that compared air quality information transparency in 20 Chinese cities with practices in other countries. Issued on January 19th by Renmin University’s School of Public and Environmental Affairs and the Institute of Public and Environmental Affairs, an environmental nongovernmental organization, the report gave a failing grade to all 20 Chinese cities in their transparency regarding 11 major pollutants and whether information about them was released systematically, in a timely manner, was complete, and user-friendly. The report criticized China’s cities for not monitoring certain pollutants, not disclosing specific information on pollutants that are monitored, and for having fewer air quality monitoring sites than are needed compared to population density. On a scale of 0 to 100 for transparency, with 100 representing the highest grade, Beijing scored the best among the 20 Chinese cities, but still failed with a score of 38, the report said. The average transparency score for China's cities was 22, compared to an average of 80 in cities in other countries, including New York, Hong Kong, Mexico City, and New Delhi, the report said.

63. China Fuel Prices Rise By 4.5%

Retail gasoline and diesel prices were raised recently, the second increase in two months, in a bid to tame rising domestic fuel demand amid surging crude oil prices on the international market. Gasoline and diesel prices increased by 350 Yuan ($53.2) each per ton, or 4.5 percent the National Development and Reform Commission (NDRC) said in a statement on its website.
The increases are based on a mechanism, introduced in 2009, that allows the NDRC to adjust fuel prices when the cost of crude fluctuates by more than 4 percent over 22 working days.

Brent crude futures, traded in London, have jumped almost 10 percent since China last increased fuel prices on December 22nd.

"The adjustment meets market expectations that China would raise fuel prices by 300 to 400 Yuan per ton to be in line with rapidly rising crude prices resulting from the volatile situation in the Middle East," said Cindy Liang, a senior analyst at energy information provider Platts. She added that the latest move could also ease losses by domestic refineries and boost production incentives.

The government considered various factors before announcing the decision, such as inflation, Cao Changqing, head of the price department at the NDRC, was quoted by Xinhua News Agency as saying. The country's consumer price index (CPI), the major gauge of inflation, reported a slower-than-expected growth rate of 4.9 percent in January, which may have partly contributed to the government's decision, analysts said.

China, the world's second-largest oil consumer, reported an overseas oil dependence ratio of 55 percent in 2010. Figures from the National Bureau of Statistics show that China imported 239 million tons of crude oil last year, up 17 percent from a year earlier. With such large percentages, "the impact of international crude price changes on the Chinese market carries increasing significance", the NDRC said.

With oil prices rising and likely to rise in the future it is important that consumption is monitored to enhance efficiency, the NDRC said.

In addition, as global oil prices are still on an upward trend, analysts said greater efforts to develop clean energy are essential to alleviate China's reliance on fossil fuels. "To ensure energy security, China has to cut its dependence on oil and make more use of non-fossil fuels such as solar power for sustainable growth," said Wang Jiacheng, a researcher at the Academy of Macroeconomic Research under the NDRC.

Oil prices may increase further in the future if the global economy continues to recover, said Zhou Dadi, former director of the Energy Research Institute under the NDRC. Industry experts estimated that more fuel price increases will come this year.

**64. China Plans To Spend Big On Nuclear Power, High-Speed Rail**

Nuclear power and high speed rail will top the focus of China's plan to invest $1.5 trillion in seven key industries and shift the world's number two economy away from its role as a supplier of cheap goods, sources said. State-owned enterprises, rather than the government, will play the main role of channeling the investment, said one source with ties to the leadership.

China envisages high-end equipment manufacturing, including high-speed rail and aviation equipment, becoming a pillar of economic growth alongside energy-saving and environmentally friendly technologies, biotechnology and new generation information technology such as telecoms and the Internet. The other strategic sectors are alternative energy, advanced materials and alternative-fuel cars.
"China needs to innovate if it is to compete against multinationals in the international arena," said Qiu Gang of the Beijing office of Samsung Economic Research Institute. "China hopes to become an industrial giant by 2015."

It is that push by emerging economies and China in particular, into high-end manufacturing that was seen as behind U.S. President Barack Obama's call in his speech to Congress for a "Sputnik moment," fed by spending in education and research, to make sure the United States does not lose its technological edge.

A source with ties to the leadership told reporters in December that the State Council is considering investing up to $1.5 trillion in the sectors. The government has not publicly stated any figure. The amount is part of a 2011-2015 five-year plan which needs approval the National People's Congress which holds its annual full session in March.

Some analysts have reportedly expressed skepticism over the size of the investment which equates to about 5 percent of China's gross domestic product on an annual basis. But they say it is an indication of the government's determination to force a structural shift in the economy. A second source with leadership ties dismissed the doubts and said nuclear energy and high-speed rail would be the flavor of the decade, rather than wind or solar power. "State-owned enterprises will play the leading role," the source reportedly said, requesting anonymity due to sensitivities.

The private investors will be given incentives such as tax breaks and low interest bank loans, with national and local governments chipping in. The government is expected to unveil preferential policies later this year, possibly allowing private enterprises to use intellectual property rights as collateral to obtain loans.

China's high-speed rail network has been developing rapidly over the past decade, reaching a total of 8,358 km (5,182 miles), the world's longest. The government plans to invest up to 4 trillion Yuan in high-speed rail between 2011 and 2015, according to the China Securities Journal.

During Chinese President Hu Jintao's U.S. visit in January, General Electric Co signed a deal to bring Chinese high-speed rail technology to the United States, and for GE to manufacture locomotives for China. A spending spree on railways was an important part of China's 2008-2010 stimulus package.

China has lumped nuclear, solar and wind energy in one group as new, or alternative, energy. China had just 10.8 gigawatts of nuclear power capacity at end-2010. The official nuclear target for 2020 of 40 GW is still less than 5 percent of its current installed electricity generating capacity. However, officials said that goal is likely to be raised to 80 GW or more for 2020. The National Development and Reform Commission, the country's powerful economic planner, has said that the wind-power industry is already suffering from overcapacity.

And, the Ministry of Industry and Information Technology warned against blindly pursuing the development of new strategic sectors.

Nomura International (HK) Ltd said in a research paper that the five-year plan could give boost research and development investment by over 4 trillion Yuan. "The re-industrialization is designed to move China away from an export-industrial model to a domestically focused one," Nomura said. "This will not be all through cash disbursements but achieved by tax credits,
privileged import tariff reductions and presumably easier credit and trade finance terms." R&D spending currently accounts for 1.5 percent of GDP in China. That figure is expected to increase to 2.0-2.5 percent over the next five years, Nomura said.

The value-added output of the seven strategic industries together account for about 2 percent of GDP now. The government has said it wants them to generate 8 percent of GDP in 2015 and 15 percent by 2020. By pushing these sectors, China would be making a big bet that technology can help bridge the gap between limited supplies of commodities and the rapidly growing demand that has propelled it to become the world's second-biggest economy.

65. China Delays Diesel Vehicle Standards

Because the GB IV Diesel Standard hasn’t been released and one cannot be sure that low sulfur diesel fuel (50 ppm or less) can be supplied through the whole country, China’s Ministry of Environment concluded that it’s difficult to apply GB IV to all vehicles. So China is making some changes in the implementation schedule of GB IV standards.

- Except compression Ignition engines and vehicles, all other vehicles covered in “Limits and measurement methods for exhaust pollutants from compression ignition and gas fuelled positive ignition engines of vehicles (III, IV, V)” will use GB IV from 01/01/2011. All gas fuelled positive ignition engines and vehicles that don’t meet standard cannot be sold and registered.
- For compression ignition engine vehicles, GB IV will be delayed one year. GB IV will come into force on 01/01/2012. So starting from 01/01/2012, all compression Ignition vehicles that don’t meet the standard cannot be sold and registered and all compression ignition engines that don’t meet standard cannot be sold and used.
- Except light duty diesel vehicles, all other vehicles covered in “Limits and measurement methods for emissions from light duty vehicles (III, IV)” will use GB IV from 07/01/2011. All light duty gasoline vehicles, natural gas vehicles and bi-fuel vehicles that don’t meet the standards cannot be sold and registered.
- For light duty diesel vehicles, GB IV will be delayed two years. GB IV will come into force on 07/01/2013. So starting from 07/01/2013, all light duty diesel vehicles that don’t meet the standard cannot be sold and registered.

66. China to Set Regional Targets for Air Pollutants, Energy and Carbon Intensity

China will set provincial targets to reduce four pollutants and energy and carbon intensity in its 12th Five-Year Plan (2011-2015), with eastern coastal areas having higher goals than provinces in the central or western part of the country, a Ministry of Environmental Protection official told the state-run People's Daily newspaper on January 13th.

Ministry Director Zhou Shenxiang said “nationally binding” targets for the reduction of sulfur dioxide and nitrogen oxides in the air and ammonia nitrogen and chemical oxygen demand (COD) levels in water, as well as for reduction of carbon and energy intensity in certain industries, will be determined according to region.

Targets will be lower for the less-developed central and western provinces to “reduce stress” on their overall economic development, according to People's Daily.

Carbon intensity is a measurement of carbon dioxide emissions per unit of gross domestic product. Energy intensity is a measurement of use per unit of GDP.
China has set a goal to reduce its carbon intensity by between 40 percent and 45 percent compared to 2005 levels by 2020. It is attempting to incorporate policies to meet the goals in its next national planning document to be revealed around the time of the annual National People's Congress meeting in March in Beijing.

The state-run Xinhua news agency reported on January 4th that officials from the less-developed central and western provinces had lobbied for lower targets. The Xinhua report said preliminary estimates are that a national goal of reducing energy intensity by about 16 percent from 2010 levels has been set for the next national planning document and that the four key pollutants would all have reduction targets of 10 percent compared to 2010 levels.

**67. Official Says China Regions to Have Binding CO2 Targets**

The Chinese government will impose binding emission targets on its regions as part of its efforts to meet 2020 national carbon intensity goals, according to a senior Chinese climate official. Su Wei, the director general of the climate change department at the National Development and Reform Commission, said a working group would be set up to draw up specific targets and policies.

"Since China has a binding carbon intensity target, each region will have a sub-target and the major carbon-intensive industry sectors should have their own responsibilities," Su was quoted as saying.

He said China was currently studying ways of introducing a domestic carbon trading platform but did not give a timetable for when a market could be introduced, saying that "certain steps" had to be taken before the country was ready.

China aims to reduce 2005 levels of carbon intensity -- or the amount of carbon dioxide produced per unit of GDP growth -- by 40-45 percent by 2020.

High energy consuming industries across China were forced to restrict output in the second half of 2010 as regions sought to meet their mandatory 2006-2010 efficiency goals, but Su said such methods were not the way forward. "We saw extreme actions in 2010 like switching off power and limiting electricity supply. If we stick to the same methods in the following five years we will see abuse, such as statistical fraud," Su said.

China said last October that it would study the use of "market mechanisms" to cut its carbon emissions, and pilot carbon markets are expected to be introduced in sectors such as steel, cement and power generation within five years.

**68. Auto Executive Says China Readies 10 Million EV Parking Spots By 2020**

The Chinese government is said to be looking to prepare at least 10 million car parking spots for electric vehicles by 2020 in a new comprehensive policy due to be announced soon, a top executive at a local automaker said recently. China relies on foreign oil for more than half of its oil consumption and is looking to promote alternative fuel vehicles in the world's biggest auto market, whose growth topped 30 percent last year to 18 million units.

"The government is working on a plan -- and I think it will be announced very, very soon -- and is basically calling for having, in 10 years, electric car parks of 10 million (units) or above," Wang
Dazong, president of Beijing Automotive Industry Holding Co (BAIC), told an industry conference on the sidelines of the Detroit auto show.

Another industry executive said Beijing is expected to focus its efforts most on pure electric vehicles, as opposed to gasoline-electric hybrids or hydrogen fuel-cell vehicles.

Automakers from BAIC to Volkswagen AG, General Motors Co and China's Geely are all looking to tap what looks set to become a huge market for battery-powered electric vehicles, with some global automakers already announcing a timeline for producing them locally in China.

China's Minister of Science and Technology was quoted by state-owned Xinhua news agency in October as saying the country's production of electric vehicles could reach 1 million units by 2020, when many expect a total new-vehicle market of 40 million.

Consumers can now get incentives worth 120,000 Yuan ($18,170) to purchase an electric car in 10 to 20 cities, Wang said. He said BAIC expects its own ratio of electric cars to be around 5 percent by 2020, which he said is among the most aggressive projections.

To support the electrification of cars, China is also looking to cut back on coal, the cheapest but dirtiest fossil fuel. It has already launched a major drive into hydropower and, to a lesser extent, wind, gas and nuclear power to supplement the coal sector, which provides about 70 percent of China's electricity. The government is due to unveil a new alternative energy plan within months to raise its targets for power generating capacity from such sources by 2020. China is planning to invest up to $1.5 trillion over five years in seven strategic industries, sources have said.

Beijing had come under criticism from the auto industry late last year for crafting a policy draft that would have required foreign automakers to produce at least one of the three core, high-tech components of electric vehicles in order to qualify for incentives in China. Wang said that requirement has since been dropped from the policy outline given its controversial nature.

69. China Power Sector to Boom As Oil Sector Goes Slower

China has unveiled a raft of targets for its energy and power sectors, revealing a plan for a rapid increase in power generation but a much slower rise in the country's oil refining capacity over the next five years. China, already the world's top energy user, faces the challenge of keeping its growing economy fueled while cutting back on its staple fuel, cheap but dirty coal.

Although energy use is certain to grow, the government wants energy consumption to rise much more slowly than the economy overall, and hopes to bolster supplies of cleaner energy sources. China has already said it will spend 5 trillion Yuan ($755 billion) on clean energy over the next decade to lift the non-fossil fuel component of its supply to 15 percent of primary energy demand by 2020, up from 8 percent in 2009.

Recently, Zhang Ping, the head of the top economic planning body, said the country had met its five-year target to reduce energy consumption per unit of gross domestic product by 20 percent by the end of 2010.

Chinese officials are still deliberating energy intensity targets for the next five years, but media reports have said the figure for 2011-2015 could be 17.3 percent, one of the many targets to be set under a five-year plan which will be launched by the country's parliament in March.
Power generating capacity is expected to hit 1,440 gigawatts by 2015 and 1,760 GW by 2020, Liu Zhenhua, general manager of the State Grid Corp of China, was quoted as saying by state media. Zhang Guobao, the head of the National Energy Administration, said generating capacity stood at 950 GW at the end of 2010, so Liu's forecasts imply growth of 52 percent in the next five years and then a further 22 percent rise in the following five years. Thermal power capacity, which includes coal, oil and gas and accounts for the bulk of China's electricity generation, will rise by 80 GW in 2011 and 260-270 GW by 2015, Zhang Guobao said. He said by 2015 China should add 38 gigawatts of nuclear power capacity and 140 gigawatts of hydropower capacity. That compares to capacity of about 10 GW and 200 GW respectively at the end of 2010 and signals a much faster roll-out of those power sources than many had expected. Some media reports had put the 2015 target for total nuclear power capacity at 39 GW and for hydropower at 250 GW.

Zhang did not give a target for wind power, the other big component of alternative energy, but his agency has previously said it should have 90 GW of capacity by 2015.

Although the targets show renewables taking a much bigger share of the overall energy mix, thermal power will continue to be a bigger absolute source of new power generating capacity. But Zhang also said China had made cuts in coal use over the last five years by replacing outdated thermal power plants with environmentally-friendly ones, which saved more than 300 million tons of coal, and by pushing clean energy, which saved a further 1.5 billion tons of coal.

The government is also trying to make coal work more efficiently by building new power plants in the coal-rich western regions of China and by investing heavily in ultra-high voltage power lines, a new technology which allows the power from coal to be sent over long distances. It plans to invest more than 500 billion Yuan in the technology by 2015, building 40,000 km of UHV lines.

The targets for power supply are much more aggressive than the planned growth in oil refining capacity, which Zhang Guobao said would hit 600 million tons, or 12 million bpd, by 2015, with annual refined oil output of 310 million tons. That signals a rise of about 20 percent in refining capacity over five years, less than estimates from industry officials and local media, which showed China was likely to add more than 3.0 million bpd of new refining capacity between 2011 and 2015.

China's oil demand has hit record highs in 2010, rising 13.9 percent in November to more than 9.3 million bpd, but the country's top refiner Sinopec Corp expects it to grow 5-6 percent per year over the next five years.

Although refining growth may be modest, it is widely expected to outpace the growth of China's own oil production, making the country more dependent on foreign oil. Zhang Guobao said China's oil output may hit 190 million tons (3.75 million bpd) in 2011, barely more than the 185.557 million tons produced in the first 11 months of 2010.

Gas production is growing faster, with output likely to exceed 100 billion cubic meters in 2011, Zhang said, compared to 86.74 bcm of gas produced in the first 11 months of 2010. Gas demand is rising fast and Zhang said 60 million rural households would use gas by 2015.

70. Beijing Substantially Expands Subway System; More to Come
Beijing opened five new subway lines recently; an urban planning show of force highlighting the investment the city has thrown behind public transport to curb its notorious air pollution and traffic congestion. Costing nearly 61 billion Yuan ($9.2 billion), the newly constructed lines -- most connecting the distant and dusty suburbs to the city center -- bring Beijing’s subway network to 336 km (209 miles).

That distance is just a fraction of what the city government has planned, the Beijing Municipal Commission of Transport told reporters at the unveiling of the city's No. 15 line. Beijing aims to have a 561-km-long subway network by 2015, and is planning for between 700 and 1,000 km by 2020, Li Xiaosong, the deputy director of the commission told reporters.

At rush hour on some of Beijing’s central subway lines, queues with Beijing’s 5.3 million daily riders can be three and four trains deep, with platform attendants pressing arms and legs in behind closing train doors.

The city has invested more than 250 billion Yuan in rail and road links over the past five years, 51 percent of which went to public transport, Li said.

With the flurry of subway construction, city leaders are attempting to make good on promises to clean up Beijing's skies and clear traffic gridlock. In January, Beijing Mayor Guo Jinlong promised to give greater priority to public transport by building bus lanes and new subway lines and removing high-emission vehicles from the road.

Beijing’s plans to boost public transport are all the more urgent with the announcement of a quota on new passenger vehicles in 2011, limiting new registrations to 20,000 a month.

The growth of the city's subway network matches the rapid expansion of the city itself. Large swathes of treeless land wait for the development that will likely sprout beside an elevated portion of the new No. 15 line, which arcs through the suburbs northeast of Beijing. Less densely developed areas by the new lines have been paired with 21 park-and-ride lots.

But indicative of the woes of planning transportation in a city of 19 million, increased subway access for Beijing's suburbanites may exacerbate the network's overcapacity issues before it makes them better, the Beijing Municipal Commission of Transportation said. Passengers transferring from new to central subway lines could raise the number of riders to 155 percent of capacity during peak hours on some lines, potentially forcing temporary station closures on overcrowding fears, the commission said.

71. Chinese Cities Mull Traffic Control Options to Reduce Congestion, Emissions

Major Chinese cities such as Beijing and Guangzhou have begun imposing or studying new ways to reduce traffic congestion as a way to limit automobile emissions, including restricting new license plate registrations, charging higher parking fees, and imposing possible congestion fees, recent state media reports show.

Guangzhou, capital of Guangdong province in southern China, is considering a draft plan with 30 new measures, such as higher parking fees, new congestion fees, restrictions on vehicles not registered in the city, and allowing only certain cars to travel on major roads during peak traffic hours depending on the final digit of their license plate, state-run Xinhua news agency said on January 9th.
In December, Beijing said it would restrict the number of new license plates to be issued in 2011 to a total of 240,000, well below the roughly 800,000 license plates given out last year. Xinhua reported on January 9th that 215,425 people already had applied for license plates in Beijing in January, although only 20,000 per month will be issued under the new lottery system. According to the Xinhua report, Guangzhou is not considering this option.

Before the 2008 Olympic Games in Beijing, the capital implemented traffic control measures that allowed only certain cars to enter inside the city’s 5th Ring Road based on the last digit of their license plate, rules that were kept in place after the games ended.

The new license plate program started on January 1st in Beijing. That same day, the city also started banning cars without local license plates from entering within the 5th Ring Road during morning and evening rush hour periods unless they apply for special permission. The 5th Ring Road circles Beijing about 25 kilometers (15.5 miles) from the city center.

Drivers caught breaking either the “no drive” policy based on license plate number or the non-local vehicle ban can now be fined immediately if caught, according to the new rules. Fines have been set at 100 Yuan ($15.16) for the first offense. Drivers found inside the 5th Ring Road in violation of rules again are subject to another 100 Yuan for each offense. Repeat offenders are subject to being banned from ever driving within Beijing again, but the number of offenses that would prompt the driving ban has not been set yet.

There are no official estimates yet on how much these measures will reduce or limit emissions of particulates, nitrogen oxides, carbon monoxide, or greenhouse gases from motor vehicles.

72. Severe Smog Linked to Deaths in Hong Kong

A new study recently released by the University of Hong Kong Li Ka Shing Faculty of Medicine released said that declining visibility and air pollution were linked to 1,200 deaths in the city annually from 2007 to 2010. The researchers found that concentrations of particulate matter and nitrogen dioxide were closely tied to visibility.

Visibility in Hong Kong has deteriorated so sharply over the last 50 years because of air pollution that variations in levels can even be used to predict mortality rates, health experts warned. Visibility is now 12.6 km (7.8 miles) on an average day, well below that of cities such as Paris, Berlin, Auckland and Vancouver, where visibility stands at 20 to 25 km or beyond.

Using government data, researchers at the University of Hong Kong found that the number of hazy days when visibility fell to below 8 km shot up to 54 in 2007 from 6.6 in 1968. For every 6.5-km reduction in visibility, there was a corresponding 1.13 percent increase in the number of non-accidental deaths, such as from heart and respiratory causes. These additional deaths worked out to a total of 1,200 per year between 2007 and 2010, the experts told a news conference.

"Loss of visibility is a direct measure of serious harm to health. Loss of visibility kills people," said Anthony Hedley, Honorary Professor at the School of Public Health. Poor visibility was due to the concentration of pollutants such as respirable suspended particulates and nitrogen dioxide, Hedley said.

While the amount of particulates in places like Vancouver and Auckland measured between 10 to 12 micrograms per cubic meter of air, Hong Kong had 80, or seven times more. “The higher
the pollutant concentrations, the lower the visibility," Hedley said, adding that even short exposure to such pollutants was particularly dangerous for those suffering from underlying heart or lung illnesses.

"Air pollutants increase the stickiness of elements in the blood ... With increased stickiness, blood cells stick together, they form a clot. If you form a clot, you may obstruct a vessel and if the vessel is in the heart or the head, you get a heart attack or a stroke," Hedley said.

"In people who are susceptible, such as those with diabetes, they begin to experience serious degradation to their health, they will become sick and may have a shorter life expectancy."

Numerous surveys have found Hong Kong residents to be worried about smog. And pollution levels in the central business district and in popular shopping areas like Causeway Bay and Mongkok are classified by the environment department as "very high" with depressing regularity.

Whether the study will prompt more rapid action by the government remains to be seen. Anthony Hedley, a principal researcher in the study, for one, is pessimistic. "Air quality is unlikely to improve in the near future because the government refuses to adopt international guidelines for air quality management and health protection," Dr. Hedley said in a statement.

73. Air Pollution Tops Hong Kong Region’s Agenda for 2011

While the Hong Kong Special Administrative Region faces a host of environmental concerns, air pollution from motor vehicles, ships, and industry in the Pearl River Delta region is among the top issues for residents. A survey released on December 1st by the Hong Kong-based think tank Civic Exchange indicated that one-quarter of residents have considered moving away because of worsening air quality, up from one-fifth just two years ago. Most of those wishing to leave are wealthier, educated professionals, which Civic Exchange says could lead to a “brain drain” if air quality is not improved.

A Motor Vehicle Idling (Fixed Penalty) Bill is pending in the Legislative Council but will have much less impact on air pollution than originally planned because exceptions have been granted for all kinds of vehicles according to environmentalists.

Environmental groups and trucking companies in Hong Kong issued a joint statement on December 7th calling for increased subsidies to help remove older, higher-emitting trucks and buses from service. The statement also urged creation of a scrapping subsidy that would allow truck owners to receive money for scrapping old vehicles without having to purchase new ones.

In his 2010–2011 annual policy address to the Legislative Council in October, Hong Kong Chief Executive Donald Tsang laid out several initiatives the government will take in the next year to address concerns about roadside air pollution. These include requiring bus companies to switch to zero emission vehicles when replacing old ones, funding the retrofit of buses meeting Euro II and III standards with devices to reduce emissions of nitrogen oxides, and funding six hybrid buses for franchised bus companies to test. The government also will designate several low-emissions zones and will aim to have only low-emission buses operating in those zones by the end of 2015, Tsang said.

The government has also been drafting updated Air Quality Objectives that would be more closely aligned with World Health Organization standards, but there has been little progress on this since public consultation on the objectives ended one year ago, environmentalists point out.
Meanwhile, Hong Kong's Office of the Ombudsman has launched an investigation into why the government has yet to set new air quality objectives. According to Friends of the Earth (FOE) Hong Kong, which filed a complaint in late 2010, the Office of the Ombudsman has asked the Environmental Protection Department to respond to its initial query by the end of January. The office then plans to launch a three-to-six-month investigation into the delay.

Sulfur dioxide emissions from the marine shipping industry may eventually be targeted with requirements for ships to use low-sulfur fuel while in Hong Kong waters. Since October, 15 shipping lines operating in Hong Kong have signed the Fair Winds Charter, a two-year voluntary agreement to use low-sulfur-content fuels in some of their ships. But shipping companies would rather see a mandatory agreement and subsidies to cover some of the additional costs of the cleaner fuel. The companies also would prefer that the agreement include the entire Pearl River Delta region of Hong Kong and mainland China ports to "level the playing field."

To combat climate change, Hong Kong has proposed measures that would reduce its carbon intensity—or emissions per unit of gross domestic product—by between 50 percent and 60 percent compared to 2005 levels by 2020. In his policy address, Tsang said Hong Kong is aiming for about 40 percent of its energy to come from natural gas and about 50 percent from nuclear power by 2020. Coal burning should account for no more than 10 percent of Hong Kong's energy by then, and 3 percent or 4 percent of energy should come from renewable sources.

Increasing energy efficiency, promoting energy-saving building design, developing more low-carbon transportation, and using incineration for some power generation would all be part of the overall climate change action plan, Tsang said. A Buildings Energy Efficiency Bill is pending in the Legislative Council.

In spending for 2011, Hong Kong has earmarked HK$300 million ($38.6 million) for a Pilot Green Transport Fund, HK$17 billion ($2.2 billion) for improving water quality in Victoria Harbor and for improved wastewater treatment facilities on Hong Kong Island, and HK$500 million ($64.3 million) to pay for conservation and ecological restoration projects.

74. Tata Motors to Launch Nano Diesel

Tata Nano with a diesel engine will be rolled out in August or September, vendor sources told the Times of India. The diesel Nano could be crucial to the turnaround of the Nano brand which has taken a beating in the recent months due to poor sales, price increase and some safety concerns.

"The diesel engine will be in the 600-700 cc range like the petrol version and could be priced at a slight premium over the current variants," said the vendor source. Component makers expect the diesel Nano to sport a price tag between Rs 1.8-2.2 lakh. Tata Motors spokesperson refused to comment.

The diesel Nano will be the smallest and cheapest diesel car in the market and sport a sub-1000 cc engine, but with output and performance 20-30% better than is usual for that engine size, sources said.
Honeywell has developed the world's smallest turbo systems for Nano, while Bosch will fit the smallest common rail direct injection (CRDi) system. The other partners in the project include AVL, FEV and Ricardo.

The diesel Nano, which was to have debuted immediately after the petrol versions, got delayed on account of moving the car's mother plant from Singur to Sanand in Gujarat.

After Nano sales dwindled to just over 500 units in November, Tata Motors announced a host of marketing incentives. From last week, the car is also available in all the 874 Tata Motors outlets across the country. It was earlier available in only 12 states. The company's decision to offer longer warranties at less than Rs 100 per month maintenance offers and easy financing schemes helped increase sales to nearly 6,000 units in December, a near tenfold rise from the month before.

The demand for diesel vehicles has been robust with diesel versions of the Suzuki Swift and Dzire and Ford Figo on long wait lists. Nearly every carmaker is now launching diesel models and even Honda, traditionally a petrol player, is developing a small diesel engine which it will introduce in the Indian market. Currently there are no diesel models in the A (M800, Nano) and A+ (Alto) segments. With the diesel Nano that gap will be plugged.

75. Japanese Companies to Start Producing Commercial Fuel Cell Vehicles by 2015

On January 13th, thirteen top Japanese companies announced that they will start large-scale commercial production of fuel cell vehicles by 2015 and will increase the number of hydrogen refueling stations to at least 100, up from 14 now. The companies plan to locate new refueling stations in Japan's four largest urban areas—greater Tokyo, Nagoya, Osaka, and Fukuoka. The three automakers in the group plan to boost annual fuel cell vehicle output into the thousands from only dozens produced each year now, while lowering fuel cell vehicle prices closer to gas-powered-vehicle levels, according to a Toyota Motor Corp. official.


Fuel cells vehicles can now achieve a speed of about 160 kilometers (99.5 miles) per hour or faster and a driving distance about the same as gasoline-powered vehicles, officials at Honda and Toyota reportedly have said. They also have resolved problems relating to cold starts and freezing of batteries, once considered the tallest technological barrier, they said.

Honda's and Toyota's fuel cell vehicles now run more than 600 kilometers (370 miles) per refueling even when the air conditioner is on, spokesmen for the companies said. They said the range could be extended if motor and battery technology is improved, such as raising the motor voltage and using lithium-ion instead of nickel-oxide batteries.

The hydrogen-gas-powered vehicles have no harmful tailpipe emissions such as air pollutants or greenhouse gases. Upstream emissions related to the production of hydrogen of course remain a concern.

Although the two automakers currently are leasing or selling their fuel cell vehicles primarily to government offices, the officials said that by 2015 they expect to sell next-generation fuel cell vehicles to fleet owners and later to individual drivers.
The key is how fast hydrogen stations can be built at prices that can be justified, they said. Currently, the hydrogen station construction cost is about eight times that of gasoline stations.

A big incentive for fuel cell vehicle users is that hydrogen prices are approximately half of gasoline prices and should come down even lower if production increases, a Toyota Motor engineer told the press. Regular gasoline in Japan costs about $6 per gallon, including about $2.60 in gasoline tax.

The Ministry of Finance and the Ministry of Land, Infrastructure, and Transport may resist a shift from gasoline- to hydrogen-fueled vehicles out of concerns about losing that precious tax revenue source. While fossil fuel can be taxed with relative ease, for example in the crude oil import or refining stages, taxing hydrogen can difficult since the raw material is water, he said.

76. Mazda to Enter Electric Car Market in Japan in 2012

Mazda Motor has announced that it would join a growing list of automakers entering the electric car market, starting with lease sales of a battery-run subcompact in Japan in the spring of 2012. The Japanese automaker's first zero-emission, battery-run model will be based on the Mazda2/Demio subcompact and will have an estimated driving range of about 200 km (124 miles) on a full charge, the company said. Mazda will lease the car mainly to local government bodies and fleet customers in Japan.

The plan marks a slight change in course for Japan's fifth-biggest automaker, which had said it would focus on improving the fuel economy of its gasoline and diesel cars until 2015.

"We want to be able to respond right away" if there turns out to be demand for electric cars for short-range travel, Mazda Chief Executive Takashi Yamanouchi told reporters in Tokyo. He added that Mazda would aim for a price tag of less than 3 million yen ($36,350) after subsidies, and declined to disclose a sales target or identify the supplier for the car's batteries.

While electric vehicles' expensive batteries and limited driving range remain a weakness, many automakers including Volkswagen AG and Toyota Motor Corp have joined pioneers Mitsubishi Motors Corp and Nissan Motor Co in announcing plans to sell the zero-emission cars as governments tighten environmental regulations.

77. Sri Lanka to Test All Vehicles for Emissions Before Licensing

The Sri Lankan government has decided to remove the three-year concessionary period provided to brand new vehicles to undergo emission test before annual licensing.

Accordingly, all brand new vehicles will have to pass an emission test and submit a report to obtain the license after the first year.

Sri Lanka Commissioner of Motor Traffic B.D.L. Dharmapriya said that a committee appointed to look into the outcome of the emission test had recommended the three-year grace period for brand new vehicles needed to be removed as it was found in a survey that most vehicles were not properly maintained during this period since no emission report was required for the licensing.

SOUTH AMERICA
78. Brazil Unveils First National Inventory of Vehicular Pollution

On February 9th, the Environment Ministry unveiled Brazil's first national inventory of vehicular pollution. The country's 27 states are expected to use the inventory's guidelines and methodology to draft mandatory plans to control vehicle emissions.

The inventory, which covered the years from 1980 to 2009, measured emissions of carbon dioxide, carbon monoxide, nitrogen oxides, particulate matter, methane, and non-methane hydrocarbons. It found that diesel fuel, which emits large amounts of sulfur, was the main source of vehicular emissions. In 2009, diesel accounted for 53 percent of carbon dioxide emissions, followed by gasoline (26 percent), ethanol (17 percent), biodiesel (2 percent), and natural gas (2 percent).

The national inventory said that 58 percent of Brazil's cargo was transported via highway, 25 percent via railway, and 17 percent via waterway. It recommended that states make massive investments in cargo railways to reduce diesel-fueled truck transport. It also recommended investments in subways and buses to reduce car emissions, the startup of annual vehicle emission inspections, and establishment of state tax incentives for companies that replace antiquated small-truck and car fleets.

A 2009 resolution (No. 418) by the National Environmental Council (CONAMA) requires states to draft preliminary Vehicle Pollution Control Plans (PCPV) to show how they plan to control vehicular emissions and to publish them by June 30, 2011. After a 30-day public consultation period, the states must send their definitive plans to state environmental councils for approval.

São Paulo state, which accounts for 33 percent of Brazil's gross national product, is drafting a PCPV that will use the methodology of the national inventory, along with its own 2010 inventory, to pinpoint cities and regions with the worst air pollution, Vanderlei Borsari, manager of the vehicular emissions division of CETESB, the state's environmental enforcement agency, told reporters. “The state's PCPV will also recommend investments in railways and public transport, especially in the most air-pollution-saturated cities and regions of the state. More importantly, it will require the implantation, by 2012, of annual statewide vehicular inspections, with nonrenewal of registrations if cars do not pass or do inspections.” Currently Rio de Janeiro state is the only Brazilian state with mandatory annual vehicle emissions inspections.

The inventory projected that, because of a 2008 CONAMA resolution (No. 403) requiring trucks and buses to reduce diesel emissions by 2012, diesel in 2020 would account for 49 percent of carbon dioxide emissions, followed by gasoline (21 percent), ethanol (24 percent), biodiesel (3 percent), and natural gas (3 percent).

Carbon dioxide emissions from vehicles increased from 65.1 million metric tons per year in 1980 (when there were 9.3 million vehicles), to 85.7 million metric tons in 1990, to 126.8 million metric tons in 2000, and to 167.1 million metric tons in 2009 (when there were 38.2 million vehicles), according to the inventory. It projected that in 2020, some 48.7 million vehicles would emit 267.5 million metric tons of carbon dioxide.

79. Cosan, Shell Form Joint Ethanol Venture in Brazil

On February 13th, Cosan, Brazil's largest producer and exporter of sugar cane ethanol, and the Anglo-Dutch energy giant Shell, one of Brazil's largest fuel distributors, announced they have
formed an ethanol fuel joint venture. The new company, Raizen, will have a market value of $12 billion. It is expected to boost Cosan’s current ethanol output from 2.2 billion liters (581 million gallons) per year to 5 billion liters (1.321 billion gallons) per year in the next five years, with the help of a $1.6 billion investment from Shell. Cosan currently has 23 ethanol plants, 21 of them in southeastern São Paulo state, the center of Brazil’s sugar and ethanol production. Raizen’s ethanol will be distributed to 4,500 gas stations in Brazil, most of which are owned by Shell and Cosan, and will be exported. Over 90 percent of Brazil’s new cars are flex-fuel models that run on ethanol or gasoline, which at the pump is a 25 percent ethanol/75 percent gasoline mix. “With the new venture, Brazil, the world’s second largest ethanol producer and its largest ethanol exporter, will significantly increase production of a much cleaner automotive fuel than gasoline, one that emits less pollution and greenhouse gases,” according to a Cosan spokeswoman. She said Raizen will also improve Brazil’s position in global biofuels trading.

80. Chilean President Signs Rules to Limit PM2.5, Emissions from Power Plants

On January 18\textsuperscript{th}, Chilean President Sebastian Piñera signed two regulations setting permissible atmospheric levels of breathable particulates and emissions from thermoelectric power plants. The first regulation will set average limits for levels of fine particulate material measuring 2.5 microns or less in diameter at 20 micrograms per cubic meter (µg/m\(^3\)) annually and 50 µg/m\(^3\) daily. The standard will come into force in 2012, 10 years earlier than planned under the draft version of the regulation that was published in late 2009.

The regulation on thermoelectric power plants sets limits on average hourly emissions of particulate material, sulfur dioxide, and nitrogen oxides that vary depending on when the plant was built and what type of fuel it burns. Under the rule, existing and new gas-burning plants must emit less than 50 µg/m\(^3\) of nitrogen oxides. New oil-burning plants must emit less than 120 µg/m\(^3\) of nitrogen oxides, 10 µg/m\(^3\) of sulfur dioxide, and 30 µg/m\(^3\) of particulate material. Existing oil-burning plants must emit less than 200 µg/m\(^3\) of nitrogen oxides, 30 µg/m\(^3\) of sulfur dioxide, and 30 µg/m\(^3\) of particulate material.

New coal-burning plants must emit less than 200 µg/m\(^3\) of nitrogen oxides, 200 µg/m\(^3\) of sulfur dioxide, and 30 µg/m\(^3\) of particulate material. Existing coal-burning plants must limit nitrogen oxide emissions to less than 500 µg/m\(^3\), sulfur dioxide emissions to less than 400 µg/m\(^3\), and fine particulates to 50 µg/m\(^3\) or less.

The new standard for existing coal-fired power plants marks the only change in emissions limits from the draft version of the bill presented by the previous administration. That draft set upper limits of 400 µg/m\(^3\) for nitrogen oxides and 200 µg/m\(^3\) for sulfur dioxide emissions.

Limits are also set for emissions of heavy metals, such as mercury and nickel.

Thermoelectric plants located outside saturated zones will have five years from publication of the norm to meet these standards, a reduction of six months from a version of the regulation approved by ministers in late 2009.

The norms will be published after the general comptroller of the republic assesses their constitutionality, generally a routine procedure.

Chilean electricity consumption is expected to double over the next decade, with new coal-fired units expected to meet much of the additional demand.
81. Brazil Revises Ratings for Emissions, Fuel Use

Brazil will move in the second half of 2011 to a program that gives new vehicles a single rating covering both fuel consumption and emissions of air pollutants, including carbon dioxide. The enforcement and licensing arm (IBAMA) of the Environment Ministry will establish optimum emissions levels, and the National Institute of Metrology, Standards, and Industrial Quality (INMETRO) will establish optimum fuel consumption levels for 2012 models, according to Gustavo Kuster, INMETRO's quality manager. Carmakers that volunteer for the “green seal” program will test their 2012 models' emissions and fuel consumption levels in INMETRO-certified laboratories. INMETRO will then issue a table with a single rating from A (best) to E for each model. Carmakers will be allowed to display this rating on their 2012 models when they begin rolling off the assembly line in late 2011. The plan, outlined in a joint norm (No. 2) that IBAMA and INMETRO issued on December 16th, is designed to guide consumer purchases and encourage carmakers to make more fuel-efficient, less-polluting vehicles. The program builds on INMETRO's 2009 development of fuel efficiency stickers that listed gasoline and ethanol consumption in urban areas and on highways.

MIDDLE EAST

82. Israel Approves $410 Million Plan to Find Oil Alternatives for Global Transport

Israel's Cabinet has announced that the government will invest 1.5 billion shekels ($410 million) over the next decade to develop technologies that reduce the use of oil in global transportation. Total investment in the effort, including private capital, is expected to reach 4 billion shekels ($1.1 billion) between 2011 and 2016 and at least 10 billion shekels ($2.7 billion) between 2016 and 2020, the Cabinet said.

Initial efforts are expected to focus on the development of electric and other alternative engines as well as oil substitutes like ethanol, biodiesel, and natural gas for transportation.

The government also said Israel hopes to generate 10 percent of its electricity from sources other than coal and natural gas by 2020, and noted the benefits of investing in clean options.

“This is a national and strategic goal of the State of Israel,” Prime Minister Binyamin Netanyahu said in a prepared statement. “Oil addiction has led to the world’s dependence on the oil-producing countries. That harms the standing and security of the State of Israel as well as the world environment.”

The national plan aims to make Israel a global knowledge center in oil substitutes, former Israeli Chief Scientist Eli Opper said at a news conference. Opper was a member of the inter-ministerial steering committee that prepared the investment plan. “The developed world's dependence on oil for transportation is a major problem not only on the environmental level, but also on the economic and political levels,” he said.

Opper said the target is to establish more than 100 startups and research projects into oil substitutes as well as 100 related scientific and academic research groups by 2016, and in parallel to help 20 Israeli companies break into the international market for such products. As an incentive, an annual Prime Minister's Prize of 1.5 million shekels ($410,000) will be awarded for “global innovation in the field of oil substitutes.”
Structurally, the plan calls for the Office of the Chief Scientist to create a program to encourage investment in alternative fuel technologies, to streamline the bureaucratic and regulatory process to support the development of startups, to enable large-scale field trials of promising experiments, and to consider tax benefits for alternative technology companies.

The Prime Minister’s Office will appoint a director to oversee the project; coordinate activity among at least seven Israeli government ministries; and collaborate with foreign governments, private companies, and other organizations.

The steering committee, headed by National Economic Council Chairman Eugene Kandel, spent the past year preparing the plan. It submitted a list of 48 Israeli companies already working to develop alternative energies: 19 investigating biofuels, 12 examining alternative chemical fuels, 13 creating infrastructure for electric cars, and four addressing more innovative transport systems.

The committee recommended the pursuit of cooperative international agreements, particularly with countries of high technological research capacity and those with the strongest interest in finding alternatives to oil. The report specifically noted Israeli interest in India and China, which expect a significant increase in motor vehicle use in the coming years.

Uri Ben-Porath, economic adviser to President Shimon Peres, also urged Israel to join forces with developing countries that export oil, such as Kazakhstan, anticipating their interest in diversifying their resources and economic risk.

The recent discovery of offshore gas and oil shale reserves notwithstanding, Israel currently depends almost entirely on imported coal and natural gas for its energy needs. It lags behind countries like the United States, Japan, and Germany in clean-tech initiatives, including alternative energy, a spokesman for the Environmental Protection Ministry told the press. This is despite Israel’s worldwide recognition as a leading exporter of water desalinization and recycling systems, as well as cutting-edge solar technology.

Between 2000 and 2005, the small country known for its high-tech prowess was not even among the top 10 countries requesting patents for environmental inventions, according to an analysis of the European Union’s World Patent Statistical database issued in January.

But that could be changing. The Cabinet’s decision follows dramatic financial growth in the clean-tech sector, which accounted for almost half of all private-equity investment in Israel in the second half of 2010, according to the Israel Venture Capital Research Center.

In another bullish sign, requests to the Chief Scientist’s Office for support of clean-tech research and development projects increased by more than 150 percent between 2007 and 2010. Eight Israeli companies have been named in each of the past two years to the Global Cleantech 100. And in 2010, the Israeli-American electric car venture Project Better Place raised $350 million in one of the largest clean-tech investments in history.

83. 10,000 Will Die Prematurely In Iran in 2011 As A Result Of Pollution

The World Health Organization has announced that more than 10,600 people will die prematurely in 2011 as a result of air pollution, the state-run ISNA has reported. One third of the deaths are expected to occur among residents in Tehran and the rest from other provinces grappling with air pollution.
An official from WHO said the most important problems contributing to pollution in Tehran are a large population and high rates of consumption, including for fuel. Official statistics suggest that more than 4,000 people have died as a result of pollution in 2010.

84. Cairo Upgrades Battered Taxis, Cleans Up Image

Old Fiats and Ladas have long been a defining feature of Cairo's taxi fleet, clogging the city's streets and spewing out fumes. Now the black-and-white cabs are giving way to metered, air-conditioned cars assembled in Egypt using kits from firms like General Motors, Hyundai of South Korea and China's Chery. Taxis under the French brand Peugeot originate from factories in Iran.

This transformation is all part of a government-backed renewal plan aimed at changing the face of the Egyptian capital.

The program has boosted sales for Egypt's vehicle makers, hit hard by the global downturn. It is also creating a smarter image for tourists, a mainstay of Egypt's economy, while making a start at tackling choking pollution in the capital.

The program, launched in April 2009, came as a welcome fillip to Egyptian firms. It only covers cars assembled in Egypt, although the kits to build them are foreign.

It's not only the taxi fleet being renewed. Demand from private buyers has gained momentum, reflecting greater spending power of Egyptian consumers, buoyed by sturdy economic growth. Though the demand slid during the world financial crisis.

Under the Finance Ministry's taxi program, drivers can replace taxis that are 20 years old or more, earning 5,000 pounds for the most worn out wreck and receiving a loan from one of Egypt's state-run banks for a new vehicle. Perks include tax exemptions on imported parts and repayment of loans by installments at a modest rate of interest over five years. In future, repayment will be possible over seven years.

Under the plan, the ministry aims to replace 50,000 of Cairo's fleet of 70,000 taxis. The ministry has earmarked a budget of 560 million pounds for the program's first two years of operation.

Beneficiaries include GB Auto, Egypt's biggest listed car assembler, which supplied 64 percent of the new taxis in September, up from 52 percent at the start of 2010. GB Auto distributes and assembles vehicles supplied by international firms. It has tie-ups with companies such as Bajaj Auto Ltd, Hyundai, Mazda Motor Corp, Mitsubishi Motors Corp and Volvo AB.

Passenger car demand in Egypt overall is growing, driven by robust economic growth of around 6 percent, the taxi plan and relatively low car penetration. Beltone investment bank says there are about 30 cars per 1,000 people in Egypt, versus about 108 in South Africa, 90 in Turkey and 73 in Tunisia.

Passenger car sales were about 134,000 in 2006 and peaked at 199,000 in 2008, before falling in the financial crisis. Beltone estimates sales of 194,000 in 2010, back near 2008 levels, and forecasts 220,000 and 250,000 in 2011 and 2012.
Meters in the old cabs usually don't work but, if they do, they are routinely ignored because they have not been recalibrated to keep up with soaring inflation. Haggling has long been common, either over the price before the journey or at the end over how much a cabby deserved, regardless of how clunky the ride or scruffy the seats. That ritual has changed with the new white cabs, with their smart checkered line down the middle. They have working meters that are regularly reset with official oversight.

Cairenes have also been won over by the novelty of a cab where air-conditioning doesn't mean simply opening a window -- often a challenge in old vehicles where handles are often busted.

The scheme is helping clean up Cairo's image for tourists. Millions visit Egypt each year, often passing through the capital to see the pyramids on the city outskirts. The industry accounts for 11 percent of Egypt's gross domestic product.

The scheme has done nothing to ease the traffic jams that cause the city to seize up on a daily basis. The government is partly trying to tackle those by adding new buses and metro routes. The city of 20 million has just two metro lines now.

But newer cars mean gridlocked vehicles are not spewing out so much poisonous exhaust in a city where a haze of smoke and dust hangs over the capital for most days of the year.

The ministry aims to have the program endorsed by the U.N.'s Clean Development Mechanism (CDM). Under the CDM, worth some $20 billion in 2009, companies and governments can invest in carbon-cutting projects in emerging economies and in return receive offset credits which can be used against their own emissions.

AFRICA

85. Kenya Transitions to Low-Sulfur Diesel to Improve Air Quality

Kenya has launched a low-sulfur diesel initiative to reduce vehicle emissions of air pollutants and to improve air quality. At a February 18th news conference at United Nations Environment Program headquarters in Nairobi, Assistant Energy Minister Magerer Langat said the new limit on sulfur in diesel fuel will be 500 parts per million (ppm), substantially lower than the previous 10,000 ppm. “But this is just an interim level as we expect in the near future sulfur levels to be at 50 ppm” once refining capacity is upgraded, Langat said at the news conference. The cleaner fuel is now available at a limited number of stations but soon will be expanded to pumps nationwide.

According to UNEP Executive Director Achim Steiner, Kenya’s new standard is the lowest in East Africa. “However, Kenya’s low-sulfur levels will have a significant impact in countries that it exports diesel to, such as Burundi, Democratic Republic of Congo, Rwanda, and Uganda,” Steiner said at the news conference.

Steiner said switching to low-sulfur diesel and other clean fuels could save sub-Saharan Africa $6 billion in health costs each year. “Low-sulfur fuels reduce the levels of pollutants emitted by vehicles, such as sulfur oxides, soot, and smoke particles, which can trigger respiratory and heart diseases and pose increased risk of lung cancer,” Steiner said in a prepared statement.
Quoting statistics from the World Health Organization, Steiner said 800,000 people die prematurely each year globally due to urban air pollution. “The majority of those deaths occur in developing countries,” he said.

The transition to low-sulfur diesel in Kenya is the result of collaboration between UNEP; the Partnership for Clean Fuels and Vehicles, which is based at UNEP headquarters; the U.S. Environmental Protection Agency; the Petroleum Institute of East Africa; and the local National Environmental Management Authority.

OCEANIA

86. New Zealand Plans to Phase in Revised Limits for Particulates

A revised air quality standard for particles smaller than 10 microns in diameter (PM-10) is due to take effect in New Zealand in March. The new standard has been in the making since June 2009, when the government promised a review of the 2004 standard in response to industry complaints about its economic impact. Industry said the existing rules were unfair because companies had to bear the entire burden of implementing the coarse particulate standard, even though domestic solid-fuel consumption was the primary source of PM-10 pollution during winter, when all violations of the limit occur. Of particular concern were rules requiring regional councils to stop issuing air emission permits in noncomplying air sheds by 2013.

Households use solid fuel to heat via open fires, wood burners, and coal and multi-fuel heaters. Environment Minister Nick Smith said on January 29th that under the existing standard, 15 air sheds—including Auckland, Christchurch, and many provincial centers that together cover 40 percent of the population—were unlikely to comply with the 2013 deadline. He said the blunt enforcement provision of halting the permitting or re-permitting of air emissions would only penalize industry and put an estimated 17,000 jobs at risk. Smith said New Zealand needed “to strike a careful balance between the pace [at which] we improve air quality and the impacts on jobs and household costs.” He said that improvements “need to be paced to maximize the health benefits while minimizing the economic costs.”

The limit for the concentration of PM-10 in ambient air will remain at 50 micrograms per cubic meter, measured as a 24-hour mean. This is also the limit suggested in air quality guidelines published by the World Health Organization. The main change is that compliance deadlines will be spread out depending on the state of air quality in each air shed. Air sheds that, based on a five-year average, currently violate the limit less than 10 times per year must not go above one exceedance by September 1, 2016. Air sheds with more than 10 violations a year must not go above three violations per year starting September 1, 2016, and not above one violation per year starting September 1, 2020.

Also new is that the regulations exclude exceptional natural events (e.g. dust storms, volcanic eruptions) from counting as violations of the PM-10 standard. Furthermore, starting in September 2012, new industries having significant PM-10 discharges and located in polluted air sheds will be required to make offsets, meaning they will receive a permit only if they reduce emissions from elsewhere so that overall emissions in the air shed stay the same or are reduced.

As of the same date, new solid-fuel open fires in homes in polluted air sheds will be prohibited. Gas open fires will still be permitted.
Regional councils, as local environmental regulators, will be required to publicly report PM-10 monitoring data and to provide information on remedial plans for polluted air sheds.

At a national scale, the Ministry for the Environment will develop a national compliance strategy to monitor progress and follow-up on noncompliance. This will include education on the health impacts of PM-10 and will provide best practice guidelines for air shed action plans and for managing offsets.

The amended regulations are expected to be published in New Zealand's official gazette in March. The air quality standards are part of the National Environmental Standards, set under the country's main environmental statute, the 1991 Resource Management Act.

87. New Zealand Transport Agency Chided Over Pollution Figures

Independent air-quality specialists have criticized a Transport Agency assessment of its $1.75 billion Waterview motorways project for using average vehicle volumes to predict pollution levels. They say the agency should instead have modeled the impact of vehicle emissions on a heavy traffic day, when hourly emissions of harmful tiny particulates could be four times higher than its predictions for surface road sections of the project.

The Emission Impossible consultancy also says in a report prepared for a consents hearing next month that it is "extremely concerned" about an assumption that a 4.5km extension of the Southwestern Motorway to be joined to a widened Northwestern Motorway will not create much extra traffic demand.

But in their evaluation, commissioned by the Government's Environmental Protection Authority, consultants Jayne Metcalfe and Rachael Nicholl agree with the Transport Agency that filtering vehicle fumes from a 2.5km length of twin motorway tunnels is unlikely to be cost-effective. That follows another report commissioned by the authority, from the Environmental Management Services consultancy, which suggests the agency consider filtering fumes as a way of reducing the height of proposed 25m to 27m venting towers, to make them more visually acceptable to neighboring communities.

Although the Emission Impossible consultants "generally agree" with an agency expert that ground-level concentrations of untreated contaminants from the tunnels will be well within acceptable levels, they are in accord with Environmental Management Services that alternative tower heights have not been adequately considered. They say limited information provided by the agency suggests a 15m tower may result in similar effects to a 25m stack.

And despite their satisfaction that localized contamination from the two towers will not be significant, they indicate strong concern about the potential pollution impact from surface sections of the new and enlarged motorways. The consultants are concerned about potential impacts of more traffic on homes close to the Northwestern Motorway and near Alan Wood Reserve and Hendon Park in Owairaka, which the surface part of the new link will subdivide. They note the most harmful type of vehicle pollution exceeded a regional air quality target in Alan Wood Reserve four times between June and August last year.

Although much of the pollution was blamed on domestic fires, they say that effectively means "the airshed is over-allocated ..."
The consultants are particularly scathing of an estimate in Transport Agency documentation that "induced" traffic - meaning vehicles which would not otherwise be driven without access to new roads - will amount to an increase in vehicle trips of just 0.06 per cent, or 2400 more trips a day. "This does not seem realistic," they say, noting a reference in an Auckland Regional Public Health Service submission to United States research estimating that nearly three quarters of every percentage increase in road capacity is absorbed by induced traffic.

88. Wind-Powered Car Succeeds In Hard Australian Voyage

A car powered primarily by wind and kites has made it across a vast swath of Australia, enduring searing heat and freezing cold along the way -- and all for roughly $10 Australian. The more than 5,000 km (3,100 mile) journey of the "Wind Explorer" was the first major test for the prototype car, which its German inventors hoped would show that the technology already exists to power cars with renewable energy even through tough trips like this one.

"It is the first 'road worthy' wind-generated car that can travel these distances, and definitely the first kite-propelled car to drive on the roads anywhere in the world," said Dirk Gion, who with Stefan Simmerer built the vehicle. "We wanted to show that if you build a light-weight electric efficient car, they are ready today."

The open, vaguely racer-style car has a carbon-fiber body and bicycle tires and was powered primarily by a lithium ion battery that was recharged at night by a mobile wind turbine, although a kite similar to a parasail was used at times instead.

While the car weighs only 80 kg (177 lbs.) without the batteries, even with the batteries loaded it totals only around 200 kg -- still far below the weight of an average car. It can reach speeds of over 90 km per hour.

During the journey which ended in Sydney, Gion and Simmerer hit temperatures of 50 C to 60 C (122 F to 140 F) as they crossed the Nullarbor Plains, raising concerns that the batteries would overheat. Their comfort also suffered at times due to the fact that the car sits only 15 cm (6 inches) off the road, Gion said. "The hot air was coming into the car almost burning our skin, then three days later we had 7 degrees (45 F) and we were freezing," he added.

Winds occasionally failed, forcing the pair to plug the car into the power grid at campsites and launderettes along the way to recharge. They ultimately ran 2,480 km on wind power, 480 km on kite power, and 2,100 km on electricity.

"The component of electricity powered from the grid cost about $10 Australian for the whole trip," Gion said, adding that while the car still isn't ready for practical use he has great expectations for the future. "I hope within the next ten years, you see a big development there."

GENERAL

89. EIA: Global Oil Demand to Rise by 1.5 Million B/D In 2011

Worldwide oil demand will increase by 1.5 million b/d in 2011 and by 1.6 million b/d in 2012, with continued tightening of global oil markets over the next 2 years, EIA said in its latest Short-Term Energy Outlook (STEO). In its previous STEO, released a month ago, EIA forecast this year's global oil demand growth at 1.4 million b/d.
Developing countries outside the Organization for Economic Cooperation and Development will account for almost all of the growth in consumption over the next 2 years, with the largest contributions coming from China, Brazil, and the Middle East. Among the OECD regions, EIA expects that only North America will consume more oil over the next 2 years, as demand declines in OECD Europe and Asia.

In the US, EIA expects oil demand to increase by 140,000 b/d in 2011, up 0.8% from last year, and by another 170,000 bbl/d in 2012 to average 19.5 million b/d. Motor gasoline and distillate fuel will account for much of the growth in consumption, the report said.

EIA forecasts that total oil and liquid fuels production from nonmembers of the Organization of Petroleum Exporting Countries will increase by 310,000 b/d this year, then decline slightly in 2012. Increases this year in non-OPEC oil production will be concentrated in a few countries, particularly in China and Brazil, where EIA expects each to post average production growth of 170,000 b/d.

Projected US oil production will decline by 50,000 b/d in 2011 and by a further 190,000 b/d in 2012. EIA expects Canadian crude production growth to average 170,000 b/d next year, while China and Brazil grow next year by 130,000 b/d and 110,000 b/d, respectively.

Mexico’s oil production will decline by about 210,000 b/d in 2011, followed by a further dip of 80,000 b/d in 2012. Production from the North Sea will fall by 220,000 b/d this year and by 160,000 b/d in 2012, according to the STEO.

EIA forecasts that OPEC crude production will increase by 400,000 b/d in 2011, followed by a further increase of 1.2 million b/d in 2012 in response to the increase in global demand for oil and limited growth in production in non-OPEC countries.

OPEC natural gas liquids production will increase by 700,000 b/d this year and by 400,000 b/d in 2012, and EIA expects that OPEC surplus production capacity will remain above 4 million b/d during the next 2 years.

Onshore commercial oil inventories in the OECD countries remained high last year, but reports indicate that volumes of floating oil in storage fell sharply, EIA said. Now that floating storage has been reduced, EIA expects that OECD onshore inventories will decline over the forecast period.

Projected OECD stocks will fall by about 55 million bbl in 2011, followed by an additional 60 million bbl decline in 2012. The number of days of supply will fall to 55 days from 57 days between December 2010 and the end of 2012, near the middle of the previous 5-year range, EIA said.

EIA expects the price of WTI crude oil to average about $93/bbl in 2011, up $14/bbl from last year. For 2012, EIA projects that WTI prices will continue to rise, averaging $98/bbl.

EIA’s forecast assumes that US real gross domestic product (GDP) will grow by 3% in 2011 and by 2.8% the next year, while global GDP will grow by 3.9% and 4%, respectively, in 2011 and 2012.

“There are many significant uncertainties that could push oil prices higher or lower than current expectations. Among the uncertainties are decisions by key OPEC member countries regarding
their production response to the global recovery in oil demand; the rate of economic recovery, both domestically and globally; fiscal issues facing national and subnational governments; and China’s efforts to address concerns regarding its growth and inflation rates,” the STEO said. “In addition, even though Egypt is not a major supplier of crude oil or natural gas to world markets, the recent unrest in that country raises the concern that unrest could spread to other countries in the region with a larger role in supplying world energy markets or that key transit routes for energy and other goods could be disrupted,” EIA said.

EIA expects regular-grade motor gasoline retail prices to average $3.15/gal this year, up 37¢/gal from 2010, and to average $3.30/gal in 2012. And EIA forecasts that average household expenditures for space-heating fuels will total $991 during this 2010-11 winter season, $24 higher than a year earlier. EIA projects higher expenditures for heating oil and propane, flat expenditures for electricity, but lower expenditures for natural gas. A forecast of milder weather in the South and the West compared with the 2009-10 winter leads to lower fuel consumption in those areas, EIA said.

EIA expects that 2011 US natural gas consumption will remain flat from 2010 but grow by 1% next year to 66.8 bcf/d.

An increase in gas demand by electric power producers of 2.9% and a 1.2% increase by industrial users will be partially offset by slight declines in residential and commercial consumption, EIA said, but electric power and industrial demand next year will grow by 2.9% and 1.2%, respectively.

Total marketed natural gas production grew strongly throughout 2010, with 4.4% annual growth. Production in 2011 will slow considerably to just 0.8 %, EIA forecasts, as an increase of 1 bcf/d in the Lower-48 states is partially offset by a decline of 0.4 bcf/d in the Gulf of Mexico.

Increasing consumption, especially in the electric power segment, will contribute to higher prices and more economic incentive for producers to resume drilling, according to the STEO. Total US gas production will increase 1.1% in 2012, as Lower-48 production is expected to increase throughout 2012 and federal Gulf of Mexico production is forecast to decline by 0.4% in 2012.

The Henry Hub spot price averaged $4.49/MMbtu in January, up 24¢/MMbtu from the previous month. EIA forecasts that the Henry Hub spot price will average $4.16/MMbtu in 2011, down 22¢/MMbtu from the 2010 average. EIA said it expects the gas market to begin to tighten in 2012, with the Henry Hub spot price increasing to an average of $4.58/MMbtu for the year.

90. Support Grows for Global Governance of Air Pollution as U.N. Releases Reports

Recent advances in the understanding of particulate matter and ozone as globally transported pollutants as well as agents of climate change have led to calls for coordinated regional air pollution policies, complementing those to reduce greenhouse gas emissions. One key U.N. study was published in January and a second report was released in February (see below). The first report confirmed the growing significance of transported air pollution over time, both as an obstacle for individual countries struggling to comply with increasingly strict air quality mandates and for the significant short-term cooling effects that control policies could have.

A number of platforms to address transported air pollutants have been suggested, from inclusion of so-called short-lived climate forcers, like black carbon, in policies under the United Nations Framework Convention on Climate Change, to the creation of a new mechanism to
coordinate air pollution reductions globally. However, experts say the more likely prospect is creating a “confederation” among regional groups already focused on reducing particulate matter and ozone and its precursors.

The move in December by the Convention on Long-Range Transboundary Air Pollution to add black carbon and particulate matter to the Gothenburg protocol—which includes limits for emissions of sulfur, nitrogen oxides, volatile organic compounds, and ammonia—is seen as a crucial first step to address climate effects and air pollution transport at a broader level. Black carbon, also known as soot, is formed by incomplete combustion of fossil fuels, biofuels, and biomass and is a potent contributor to climate change despite its short atmospheric life. Parties to the convention include the United States, Europe, and Russia, but Asian and Southern Hemisphere countries are thinly represented, if at all.

Advocates of the new approach to air pollution management say that combining air quality and climate change policies can bring significant co-benefits in reducing the rate of near-term warming as well as the overall costs of pollution reduction measures.

The Task Force on Hemispheric Transport of Air Pollution, or HTAP, a workgroup set up under the Convention on Long-Range Transport of Air Pollution, published in January the final results of a study to assess the range, impacts, and sources of transported ozone, particulate matter, mercury, and persistent organic pollutants (POPs) across the Northern Hemisphere. The report broke ground in using satellite and other data to track the flow of pollutants and in testing possible future outcomes using four models under various emissions scenarios.

“[W]ithout further international cooperation to mitigate intercontinental flows of air pollution, many nations are not able currently to meet their own goals and objectives for protecting public health and environmental quality,” the report said. The HTAP 2010 Assessment Report was completed under the leadership of the United States and European Union, but involved experts from many countries over the course of its production since 2004.

“With changing global future emissions, it is likely that over the next 20 to 40 years it will become even more difficult for nations to meet their own environmental policy objectives without international cooperation to address transboundary and intercontinental flows of air pollution,” the report concluded.

Ozone and its precursors, especially nitrogen oxides and methane, and particulate matter, especially black carbon, are the main pollutants of concern identified in the report. Although they are global, there is currently no global agreement to address them, as there is for POPs, nor is there any effort to create a new treaty, as there is for mercury.

Over time, advancing understanding of air pollution has shifted the locus of the problem from local to regional and from regional to interregional. The latest findings suggest the need for global atmospheric governance.

The HTAP report recommended a confederation of existing regional programs: “[A] global confederation of regional cooperative programs on air pollution could help develop a better and globally-shared understanding of air pollution problems and their solutions at the local, regional and global scale while maintaining autonomy and flexibility for regions to develop policies and programs appropriate for their circumstances.”
A confederation, or partnership, of regional air pollution efforts could build on existing infrastructures and intergovernmental relationships, as there is already near-global coverage of air pollution efforts through regional programs.

Africa is covered by the Air Pollution Information Network for Africa, which creates regional policy framework agreements and conducts emissions inventories. Latin American and Caribbean countries are currently working to form an Inter-Governmental Network on Air Pollution. Asian countries participate in a number of subregional groups. China, India, Japan, South Korea, Maldives, Nepal, and Thailand are partners in the Atmospheric Brown Cloud program. Central Asian countries are building projects under the Convention on Long-range Transport. The Acid Deposition Monitoring Network in East Asia (EANET) includes Cambodia, China, Indonesia, Japan, Laos, Malaysia, Mongolia, Myanmar, Philippines, South Korea, Russia, Thailand, and Vietnam.

The South Asian countries of Bangladesh, Bhutan, India, Iran, Maldives, Nepal, Pakistan, and Sri Lanka are parties to the Malé Declaration on Control and Prevention of Air Pollution, which stressed the importance for countries to study air pollution and to document current knowledge and capacity to take action. An even broader platform exists in the Joint Forum on Atmospheric Environmental Issues in Asia and the Pacific.

No matter what a new world atmospheric regulatory regime might look like, the focus is on UNEP to help deliver an instrument. Following the strong conclusions of the HTAP report, as well as others in the past and the UNEP report, “the crucial implications … cannot be ignored,” said a December 2010 GAP Forum discussion paper on the development of global approaches. “New global initiatives will be needed for which UNEP is the only appropriate source.”

Experts say international efforts to confront the twin challenges of health and climate effects of air pollution are gaining urgency in part due to rapid changes taking place in the Arctic. Mitigation of short-lived climate forcers is predicted to help slow the melting of ice in the short term, before reductions of long-lived carbon dioxide begin to take effect.

A September declaration from the International Union of Air Pollution Prevention and Environmental Protection's World Clean Air Congress called for a “one atmosphere” approach to policymaking and offered an example of how the Arctic is often used as a driver for global air quality-climate change policies. “A stronger focus on control of methane, ozone and black carbon sources could have a profound cooling effect as well as a salutary effect on human health and agricultural systems. Moreover, because these substances, unlike CO2, have short atmospheric lives, controlling them potentially provides quick cooling in the next few critical decades to buffer the warming underway from CO2 past and future. This is especially critical for climate-sensitive areas like the Arctic, which has warmed in recent decades twice as much as the planet as a whole, and the Himalayas, which are rapidly losing critical snow and ice cover.”

91. UNEP Report Says Black Carbon, Ozone Affect Pace of Climate Change,

Cutting emissions of black carbon and concentrations of ozone in the atmosphere’s lowest level, the troposphere, would have significant effects on climate change and health, a multiyear study by the United Nations Environment Program of black carbon and other short-lived pollutants concluded. Black carbon, also known as soot, and tropospheric ozone have a wide range of harmful effects on the environment and human health. Those effects include contributing to climate change, as black carbon limits the ability of snow cover and ice to reflect heat back into
the atmosphere; changes in tropical rainfall patterns; respiratory disease and premature deaths; and ozone-caused reductions in crop yield and food security.

The report, Integrated Assessment of Black Carbon and Tropospheric Ozone: Summary for Decision Makers, highlighted several efforts that could reduce the short-lived pollutants, such as capturing methane in waste management and recovering methane from fossil fuel extraction and transport. Reducing methane emissions would in turn reduce ozone concentrations, because methane is an integral part of the chemical reaction that creates ozone in the troposphere. Black carbon could be significantly reduced by switching to clean-burning stoves for residential cooking, “banning of field burning of agricultural waste,” and requiring the use of “particulate filters” on vehicles, the report said.

The report was released in conjunction with 26th session of the UNEP Governing Council, held in Nairobi on February 21st to 24th.

If the recommended measures are fully implemented, the report authors predicted that future warming could be reduced by about 0.5 degrees Celsius (0.9 degrees Fahrenheit). The measures could also help to avoid about 2.4 million premature deaths and prevent the loss of about 52 million tons of corn, soybeans, and wheat.

Different solutions would be best suited for different regions, the report said. Clean-burning stoves, for example are still scarce in developing countries, while vehicle-based solutions such as mandating particulate filters or offering incentives for trading in older cars for less emissions-intensive ones would be implemented in regions with high transportation emissions.

“Achieving widespread implementation of the identified measures would be most effective if it were country- and region-specific, and could be supported by the considerable existing body of knowledge and experience,” the report said. Though many of the solutions proposed already have been implemented in parts of the world, “[m]uch wider and more rapid implementation is required to achieve the full benefits identified in this Assessment,” the report said.

The report also stressed that reducing short-lived pollutants is only part of the action necessary to slow climate change. “Both near-term and long-term strategies are essential to protect climate,” the report said. “Reductions in near-term warming can be achieved by control of the short-lived climate forcers whereas carbon dioxide emission reductions, beginning now, are required to limit long-term climate change.”

92. ‘Eco-Driving’ Devices Can Trim Fuel Use, IEA Says

Use of “eco-driving” devices could trim fuel consumption by an estimated 10 percent and could help to reduce the environmental impact of driving, according to a report released on February 15th by the International Energy Agency. The Paris-based agency, which advises 28 of the world’s wealthiest countries, made its comments in a report on the efficacy of car-feedback instruments designed to help drivers reduce their fuel use. The report said an IEA expert tested fuel consumption indicators, gear shift indicators that prompt drivers at the optimal shifting time in a manual transmission car, and eco-indicators that show when a car is efficiently driven. The expert found the devices can help reduce fuel consumption 10 percent and, combined with other measures like fuel-efficient tires, could significantly reduce the carbon footprint of driving. The devices were included in 70 percent of new cars in Japan in 2009 but are not required by law there. The European Union in 2009 required all new cars to have gear shift indicators and South Korea plans a law and budget to promote such devices, the report said.
Dirty Air Triggers More Heart Attacks than Cocaine

Air pollution triggers more heart attacks than using cocaine and poses as high a risk of sparking a heart attack as alcohol, coffee and physical exertion, according to a new report. Sex, anger, marijuana use and chest or respiratory infections and can also trigger heart attacks to different extents, the researchers said, but air pollution, particularly in heavy traffic, is the major culprit.

The findings, published in The Lancet journal, suggest population-wide factors like polluted air should be taken more seriously when looking at heart risks, and should be put into context beside higher but relatively rarer risks like drug use.

Tim Nawrot of Hasselt University in Belgium, who led the study, said he hoped his findings would also encourage doctors to think more often about population level risks.

"Physicians are always looking at individual patients -- and low risk factors might not look important at an individual level, but if they are prevalent in the population then they have a greater public health relevance," he told reporters. The World Health Organization (WHO) describes air pollution as "a major environmental risk to health" and estimates that it causes around 2 million premature deaths worldwide every year.

Nawrot's team combined data from 36 separate studies and calculated the relative risk posed by a series of heart attack triggers and their population-attributable fraction (PAF) -- in other words the proportion of total heart attacks estimated to have been caused by each trigger. The highest risk PAF was exposure to traffic, followed by physical exertion, alcohol, coffee, air pollution, and then things like anger, sex, cocaine use, smoking marijuana and respiratory infections.

"Of the triggers for heart attack studied, cocaine is the most likely to trigger an event in an individual, but traffic has the greatest population effect as more people are exposed to (it)," the researchers wrote. "PAFs give a measure of how much disease would be avoided if the risk was no longer present."

A report published late last year found that air pollution in many major cities in Asia exceeds the WHO's air quality guidelines and that toxic cocktails of pollutants results in more than 530,000 premature deaths a year.

While passive smoking was not included in this study, Nawrot said the effects of second-hand smoke were likely to be similar to that of outdoor air pollution, and noted previous research which found that bans on smoking in public places have significantly reduced heart attack rates. British researchers said last year that a ban on smoking in public places in England led to a
swift and significant drop in the number of heart attacks, saving the health service 8.4 million pounds ($13 million) in the first year.

94. Toyota to Outline Long-Term Management Direction

Toyota Motor Corp President Akio Toyoda will announce on March 9th management's vision for where the world's top automaker is headed over the next decade as it turns a corner on its worst ever safety crisis. Toyota officials said they could not provide any details on the so-called Toyota Global Vision until the presentation. With the recall crisis dissipating, Toyoda had said last month he wanted to outline his corporate vision for 2020, flagging the announcement around spring.

Toyoda's predecessor, Katsuaki Watanabe, had outlined in late 2007 a general direction for the company under Toyota Global Vision 2020 that included the spread of hybrid technology to all models, a vision for next-generation mobility on a community-wide basis, and the commercialization of its humanoid robot business.

It had also included the introduction of spreading its next-generation manufacturing technology to its factories around the world. Last week, Toyota subsidiary Central Motor inaugurated a new factory in Japan packed with the latest production techniques that Toyota hopes to adopt in its other factories.

Toyoda, 55, has kept a low profile with investors since taking the top post in June 2009 as he scrambled to pull the company founded by his grandfather out of the recall mess, and investors have said they are keenly awaiting the announcement of the long-term corporate vision.

The Nikkei business daily reported this month that Toyota would slash the number of directors on its board to 10-15 from 27 to take faster decisions in the face of rising global competition -- a plan that could be part of the long-term vision.

95. Amazon Drought Caused Huge Carbon Emissions

A widespread drought in the Amazon rain forest last year was worse than the "once-in-a-century" dry spell in 2005 and may have a bigger impact on global warming than the United States does in a year, according to British and Brazilian scientists. More frequent severe droughts like those in 2005 and 2010 risk turning the world's largest rain forest from a sponge that absorbs carbon emissions into a source of the gases, accelerating global warming, the report found.

Trees and other vegetation in the world's forests soak up heat-trapping carbon dioxide as they grow, helping cool the planet, but release it when they die and rot. "If events like this happen more often, the Amazon rain forest would reach a point where it shifts from being a valuable carbon sink slowing climate change to a major source of greenhouse gases that could speed it up," said lead author Simon Lewis, an ecologist at the University of Leeds.

The study, published in the journal Science, found that last year's drought caused rainfall shortages over a 1.16 million square-mile (3 million square km) expanse of the forest, compared with 734,000 square miles (1.9 million square km) in the 2005 drought.

It was also more intense, causing higher tree mortality and having three major epicenters, whereas the 2005 drought was mainly focused in the southwestern Amazon.
As a result, the study predicted the Amazon forest would not absorb its usual 1.5 billion metric tons of carbon dioxide from the atmosphere in both 2010 and 2011. In addition, the dead and dying trees would release 5 billion metric tons of the gas in the coming years, making a total impact of about 8 billion metric tons, according to the study.

In comparison, the United States emitted 5.4 billion metric tons of carbon dioxide from fossil fuel use in 2009.

The combined emissions caused by the two droughts were probably enough to have canceled out the carbon absorbed by the forest over the past 10 years, the study found.

The widespread drought last year dried up major rivers in the Amazon and isolated thousands of people who depend on boat transportation, shocking climate scientists who had billed the 2005 drought as a once-in-a-century event. The two intense dry spells fit predictions by some climate models that the forest will face greater weather extremes this century, with more intense droughts making it more vulnerable to fires, which in turn could damage its ability to recover.

Under the more extreme scenarios, large parts of the forest could turn into a savannah-like ecosystem by the middle of the century with much lower levels of animal and plant biodiversity. Although human-caused deforestation in Brazil has fallen sharply in recent years, scientists say the forest is still vulnerable.

A crucial question is whether the droughts are being driven by higher levels of greenhouse gases or are an anomaly, Lewis said. If they are driven by global warming, a vicious cycle of warmer temperatures and droughts could conceivably lead to a large-scale transformation of the forest over a period of decades.

The research was a collaboration among scientists at the University of Leeds and the University of Sheffield in Britain and Brazil's Amazon Environmental Research Institute.

96. WWL to Award Grants Promoting Zero-Emissions Technologies

WWL has announced plans to award $100,000 in grants this year to entrepreneurs working on zero-emissions technologies for shipping and port logistics. WWL has also expanded the eligibility criteria for the Orcelle Grants, to include alternative energy sources and energy-efficient technologies with applications for 1) commercial shipping and 2) terminal operations. This reflects WWL’s own research and development into the E/S Orcelle, a zero emissions concept vessel, and the Castor Green Terminal, a zero-emissions terminal and cargo processing center.

“A raft of new environmental regulations are coming to shipping and logistics over the next decade,” explains Arild B. Iversen, CEO Wallenius Wilhelmsen Logistics. “By funding the Orcelle Grants, our aim is to stimulate innovation needed to meet these tough new environmental standards.”

Melanie Moore, Vice President of Environment at WWL, observed, “WWL is focused on supporting early-stage innovation with serious prospects for long-term marketability. The Orcelle Grants are a commitment to entrepreneurship, but also the future of WWL and our customers. Our goal is to provide funding that will help us realize our ambition of a zero emissions supply chain, and sooner rather than later.”
The winner of the 2010 Orcelle Grant, Mr. Marcello Segato of Milan-based Seagate Commercial Marine, welcomed the announcement. “WWL’s foresight in investing in next generation technologies is very welcome among the world’s engineer-inventors. Winning an Orcelle grant last year allowed me to invest in a feasibility study for collapsible delta sail technology. As an Orcelle Grant recipient, I was also provided data needed (actual wind/sea conditions collected on real vessels on real routes) to calculate reliable estimations of the savings involved with our technology. We are very excited to complete the development and have the first applications installed on real vessels this year.”


A new analysis of sulfur emissions appearing in the journal Atmospheric Chemistry and Physics shows that after declining for a decade, worldwide emissions rose again in 2000 due largely to international shipping and a growing Chinese economy. An accurate read on sulfur emissions will help researchers predict future changes in climate and determine present day effects on the atmosphere, health and the environment.

"Sulfur dioxide is an important component of the atmosphere. It changes the radiative balance of the earth by influencing the amount of the sun’s energy that warms the globe. We need to understand how much sulfur dioxide is emitted, and when and where it is emitted. This study will help us do that,” said lead author Steven Smith of the Joint Global Change Research Institute in College Park, Md., a collaboration between the Department of Energy’s Pacific Northwest National Laboratory in Richland, Wash., and the University of Maryland.

Unlike similar studies, the new analysis also provides an estimate of how accurate this study’s emissions tally is. Referred to as "uncertainty," the accuracy estimate arises from difficulties inherent in tracking sulfur. This study estimates that actual emissions for recent decades lie within 10 percent of the average global emissions reported by Smith and his colleagues. Regional values could potentially be off by a much higher degree — up to 30 percent in China, for example.

"The regional uncertainty can be moderately high, but the global numbers are much more accurate,” Smith said. "Understanding the uncertainty will help us determine how sensitive the earth’s atmosphere and land are to changes in sulfur content.”

The Industrial Age ushered in widespread combustion activities that spew sulfur into the atmosphere. Sulfur dioxide has the potential to acidify rain, soil and lakes, and it can counteract some of the warming effect of carbon dioxide, making it an important component of the environment to understand.

Sulfur’s climate role is complicated. In the air, it can form tiny particles called aerosols, creating new ones or building up old ones. Aerosol particles help form cloud drops, potentially changing rainfall amounts as well as affecting the acidity of the raindrops. Both clouds and the aerosols themselves reflect sunlight, reducing the amount of energy absorbed by the planet.

To determine how much sulfur has been emitted between the approximate beginning of the Industrial Age, 1850, and 2005, Smith and colleagues analyzed data about sulfur-emitting activities such as coal burning, copper smelting, or the use of petroleum. The data came from more than 140 countries and went back as far as the 1800s, when publications even at that time tallied how much coal and copper were produced.

The team collected the datasets, evaluated the quality of the records and plotted the data over time, breaking them down by region, source — such as coal or oil burning — and economic use such as heating or cooking, power production, and others. The team estimated emissions data both by calculating sulfur release based on how much was contained in sources as well as from actual data on emissions collected from modern power plants. In the United States, government agencies such as the Environmental Protection Agency and the Department of Energy collect such data.

The factors that determine total emissions are the amount of fuel consumed, its sulfur content, and any pollution controls employed. The team found that manmade sources of sulfur emissions eclipsed natural sources by 1870, two decades after the start date of this analysis. By the year 2000, however, refineries were removing half the sulfur from crude oil, reducing emissions, the researchers estimated.

Since 1980, the fraction of sulfur coming from petroleum — 50 percent — and coal — 30 percent — has remained constant. In a reflection of desires for cleaner fuels, emissions as a fraction of fuel consumption began decreasing around 1970, due to shifting to lower sulfur fuel sources, different end uses, and emissions controls.

Total global emissions rose dramatically from 1850 to the 1960s, plateaued and then decreased after 1990, and then started rising again in 2000. Although the contribution from major emitters of the past — North America and Europe — has been declining since the 1970s, sulfur emissions are rising in much of the rest of the world. Especially noteworthy is China with its phenomenal growth. By 2005, China’s share of sulfur emissions came in at 28 percent of the global total, up from about 2 percent in 1950.

The international shipping industry generally uses a lower quality, higher sulfur content fuel than other transportation modes, and emissions from this activity have been growing in importance. They now constitute 10 percent of the global total. Although rising during the study’s time frame, a recent international agreement referred to as MARPOL promises to dramatically reduce these emissions in future years.

Although there is no central repository or process to keep this kind of information up-to-date, Smith reports that this data is being used by other researchers from climate modelers to social scientists. An earlier version of the data has already been used in models that are exploring
possible futures of global climate, results that will be used in the next assessment by the Intergovernmental Panel on Climate Change (IPCC).

In addition, Smith is curious to see recent emissions data from China, the largest sulfur emitter in the world. "The most recent numbers in this study are from 2005, six years ago," said Smith. "Since this data was collected, China's emissions-control efforts have gotten much stronger. In China, the government is well aware of the impacts of sulfur emissions on health and ecosystems, and they've started to control them."

98. IMO to Seek Cuts in Shipping's Greenhouse Gas Emissions

The International Maritime Organization's top priority this year is to gain "full support for a truly international solution to the global problem of reducing greenhouse gas emissions from shipping," David Balston, director of safety and environment at the United Kingdom's Chamber of Shipping, told the press. John Aitken, secretary general of the British industry group Shipping Emissions Abatement and Trading (SEAaT), agreed that coming up with "meaningful emissions reduction targets" is the most pressing issue facing the United Nations-backed body.

But the last few meetings of IMO's Marine Environment Protection Committee (MEPC), which is responsible for steering the world's ships into global consensus on greenhouse gas emissions, have yielded few results.

Shipping accounts for over 2.7 percent of total carbon dioxide emissions and the industry—like its aviation counterpart—is attempting to devise its own mechanisms to reduce emissions. "International shipping cannot afford to wait any longer or else unilateral measures will be imposed in various regions of the world that will skew world trade and damage the global shipping industry," Balston said.

The next opportunity for IMO to reach some sort of agreement is MEPC's July meeting in London.

At the end of the U.N. Framework Convention on Climate Change in Cancun, Mexico, in December, IMO Secretary-General Efthimios E. Mitropoulos urged IMO to "double its efforts" to reach a "successful outcome" in July, so the body can present "tangible results" for the UNFCCC's next summit in Durban, South Africa, at the end of 2011.

The "first test of the IMO's resolve" will come in March when MEPC's "Working Group on GHG Emissions from Ships" presents its findings on the potential for market-based measures to reduce greenhouse gas emissions, Balston said.

Simon Walmsley, marine manager at WWF-International who represents the environmental network at IMO meetings, said it is crucial for the July meeting that all new ships be required to comply with a so-called Energy Efficiency Design Index. In July 2009, IMO approved interim guidelines outlining methods of calculation and voluntary verification of the index for new ships. The main stumbling block to making verification mandatory has been developing countries' reluctance to contribute as much as wealthy countries for these costs.

But environmentalists and the shipping lobby have long argued that drawing economic and geographic distinctions in shipping is complicated because wealthy ship owners can choose to build, flag, and crew new ships in developing countries. Any mandatory requirement must "be done regardless of flag and in line with the IMO principle of 'No More Favorable Treatment}
which accords the same treatment to all ships from all nations, the Chamber of Shipping's Balston said.

SEAaT's Aitken said NMFT must be "enshrined in any regulation to make certain it has global coverage and to reduce 'leakage,'" or the loss of business to shippers not subject to requirements. However, he added that any regulation "must make provision for least developed countries and small island states to prevent them being disadvantaged by any regulations."

Walmsley said he also wants to see progress on adopting the Energy Efficiency Operational Index, which has been in trial use since 2005. It allows ship operators to measure the fuel efficiency of a vessel. "It is also an essential next step to reduce carbon by increasing the operational efficiency of the global fleet," Walmsley said.

**Market-Based Measures**

According to Aitken, market-based measures are essential to meeting any agreed upon targets. But agreeing on whether mechanisms such as a global levy on carbon dioxide emissions from shipping or an emissions trading system are necessary and viable has proved even more difficult at recent MEPC meetings.

To garner more support for market-based mechanisms from developing countries, Walmsley said that "a substantial amount of the 'profits' from any MBM should go to climate adaptation funding for developing countries, and some should go into advancing and sharing efficiency technology." "This would hopefully in some way alleviate the mismatch of NMFT and Common But Differentiated Responsibility, which has been the downfall regarding these developments," he said.

**Questioning Low-Sulfur Fuel**

Balston said an urgent priority for IMO should be to review the availability of low-sulfur fuel and the possibility of delaying regulations on its use "to allow reliable technological solutions to be developed and introduced." In 2008, MEPC adopted a staggered timetable to reduce emissions of sulfur oxides from ships. Starting Jan. 1, 2012, the allowable sulfur content in fuel for vessels will fall from the current 4.5 percent to 3.5 percent, with a further drop to 0.5 percent due by Jan. 1, 2020. But Balston questioned how much low-sulfur fuel is available to meet these demands.

Even if this cleaner fuel is available, Balston said, "Recent studies have clearly demonstrated that the likely significant price increase of low-sulfur fuel will lead to a massive modal shift from sea to land and thus totally undermine the environmental benefits that these regulations are trying to achieve."

**99. Wartsila to Deliver First Marine Retrofit Scrubber**

Wartsila announced an order from Containerships Ltd Oy to retrofit a Wartsila fresh water scrubber for the vessel Containerships VII equipped with a Wartsila W7L64 main engine. This is Wartsila's first commercial marine scrubber project for a main engine. The scrubber will be delivered in August 2011.

The conversion will enable the vessel to meet future sulfur oxides (SOx) emission requirements in IMO Sulfur Emission Control Areas (SECA). Scrubbing is a potentially attractive means of meeting the IMO and EU regulations. Scrubbers--which effectively reduce exhaust emissions of
SOx and, to some degree, PM--can be used in lieu of low sulfur fuels in IMO-designated SECAs. Therefore, scrubber-equipped ships that operate in SECAs could continue to use the less expensive, high sulfur heavy fuel oils.

Wartsila--who gained experience developing scrubbers for stationary diesel power plants--was the first manufacturer awarded a marine scrubber certificate by the classification societies Det Norske Veritas and Germanischer Lloyd. The Wartsila scrubber works with fresh water in a closed-loop system in which sulfur oxides are neutralized with sodium hydroxide. A small stream of the scrubbing water is redirected to an onboard treatment unit to remove contaminants. In a "zero discharge" mode, the clean effluents are collected in a holding tank for scheduled, periodical discharge. Contaminants are always disposed of at reception facilities in port. The system complies with the IMO guidelines for cleaning of exhaust emissions from 2- and 4-stroke engines and oil-fired boilers (IMO Resolution MEPC.184 (59)).

Exhaust scrubbers are being developed by a number of other marine engine makers and subsystem suppliers. A scrubber developed by Aalborg Industries--in cooperation with MAN Diesel and other partners--was installed onboard Tor Ficaria in May 2010.

Another scrubber application actively developed by marine engine manufacturers is the high pressure scrubber used in exhaust gas recirculation technology. This type of scrubber would purify the recirculated exhaust gas to enable the use of EGR on IMO Tier III (2016) marine diesel engines.

100. **New Study Finds Healthy Young Adults Are at Risk from Breathing Ozone**

A new study published online in the American Journal of Respiratory and Clinical Care Medicine adds the strongest evidence yet that levels of ozone air pollution found throughout the United States pose widespread harm to public health. According to the study, conducted by U.S. Environmental Protection Agency (EPA) and the University of North Carolina Chapel Hill, ozone, the major component of smog, damaged the lung tissues of healthy young adults exposed in a laboratory setting despite being at levels well below what is currently considered safe. This new information provides a strong warning that people with asthma or other lung diseases, including children and older adults, face even greater health threats from this most common air pollutant.

The American Lung Association has called on the EPA to strengthen the national air quality standards for ozone pollution to the most protective limit currently under review, 60 parts per billion. That level is the same that triggered a harmful response in the lungs of healthy young adults in the study.

“This study provides even greater evidence for a stronger ozone standard to protect the public from the nation’s most widespread air pollutant," said Norman H. Edelman, M.D., Chief Medical Officer of the American Lung Association. “Ozone today remains a threat that we need all the tools in the Clean Air Act to combat.”

Ozone is an invisible gas made of three oxygen atoms (O3). Ozone reacts chemically with internal body tissues, such as those in the lung, irritating and inflaming the respiratory system. Ozone causes shortness of breath, chest pain inflammation of the lung lining, wheezing and coughing, and increased risk of asthma attacks, need for medical treatment and for hospitalization for people with lung diseases. Ozone also increases the risk of early death. People most at risk include children, senior citizens, those with lung diseases such as asthma and chronic obstructive pulmonary disease, as well as those who work or exercise outdoors.
The study was the first test of ozone at these levels in a setting that controlled for the complications from other pollutants.

“Tests like this are considered the ‘gold standard’ of trials, because they can specifically control the exposures under study. Finding harmful effects on healthy young adults indicates that children, older adults or people with lung disease—who aren’t usually in such tests—would mostly likely face even greater harm and harm at lower levels,” Dr. Edelman continued.

The Clean Air Act requires the EPA to set national air quality standards at levels that protect the public from harmful air pollutants including an “adequate margin of safety.”

“Thanks to the Clean Air Act, we have less ozone air pollution now than we’ve ever had in the past 40 years,” said Dr. Edelman. “But this study shows clearly that we still have a long way to go to provide air quality that truly protects public health.”

101. Lung Cancer Incidence and Long-Term Exposure to Air Pollution from Traffic

Previous studies have shown associations between air pollution and risk for lung cancer. The purpose of this study was to investigate whether traffic and the concentration of nitrogen oxides (NOx) at the residence are associated with risk for lung cancer.²

The authors identified 592 lung cancer cases in the Danish Cancer Registry among 52,970 members of the Diet Cancer and Health cohort and traced residential addresses from 1 January 1971 in the Central Population Registry. They calculated the NOx concentration at each address by dispersion models, and calculated the time-weighted average concentration for all addresses for each person. They used Cox models to estimate incidence rate ratios (IRRs) after adjustment for smoking (status, duration and intensity), environmental tobacco smoke, length of school attendance, occupation and dietary intake of fruit.

For the highest compared with the lowest quartile of NOx concentration at the residence we found an IRR for lung cancer of 1.30 (95% confidence interval (CI): 1.05-1.61) and the IRR for lung cancer in association with living within 50 m of a major road (> 10 000 vehicles per day) was 1.21 (95% CI: 0.95-1.55). The results showed tendencies of stronger associations among non-smokers, among those with a relatively low fruit intake and among those with a longer school attendance; only length of school attendance modified the effect significantly.

This study supports a conclusion that risk for lung cancer is associated with different markers of air pollution from traffic near the residence.

102. Traffic Air Pollution Linked To Onset Of COPD.

Long-term exposure to traffic related air pollution is linked to the development of chronic obstructive pulmonary disease (COPD), especially in people who have diabetes and asthma. People exposed for more than two and a half decades to high levels of air pollution created mainly by traffic are more likely to develop chronic obstructive pulmonary disease (COPD),

report researchers in the Netherlands who tracked more than 50,000 Danes during the study. Those who had diabetes and asthma were more susceptible to developing the disease.

This is the first report of the risk of long-term air pollution on the development of COPD. The results support findings from prior studies that link the two anecdotally and add more solid, clinical evidence that air pollution causes COPD.

COPD is a progressive lung disease. It is a leading cause of death in the U.S. and worldwide. Cigarette smoking causes the majority of COPD, but other job and environmental exposures are likely to cause the disease, too. Air pollution can exacerbate COPD symptoms in those who already have the disease, but whether air pollution causes COPD is not known.

In an attempt to find out, researchers followed people aged 50 - 64 years old, beginning in 1993. They examined the date of first admission to a hospital for COPD. The scientists also estimated the levels of air pollution – nitrogen dioxides and nitrogen oxides – at the participants' homes beginning in 1971. Of the more than 50,000 subjects, 3.4 percent developed COPD between 1993 and 2006.

Exposure for 25 and 35 years to high levels of nitrogen-based air pollution that is created by traffic was a significant risk factor for COPD, but exposure for 15 years was not. The risk for COPD was about seven percent higher in those exposed to high levels of air pollution for more than 25 years, even after adjusting for smoking and other risk factors. The impact of air pollution was greater in those who had asthma and diabetes.

103. High Cholesterol and Air Pollution Linked

A new study reported on January 20, 2011, at the Public Library of Science web site correlates high cholesterol and traffic air pollution. The high incidence of atherosclerosis in Birmingham may not be the result of diet alone. This is the second study to independently link air pollution and high cholesterol.

Epidemiologic studies indirectly suggest that air pollution accelerates atherosclerosis. The authors hypothesized that individual exposure to particulate matter (PM) derived from fossil fuel would correlate with plasma concentrations of oxidized low-density lipoprotein (LDL), taken as a marker of atherosclerosis. They tested this hypothesis in patients with diabetes, who are at high risk for atherosclerosis.

Methodology/Principal Findings

In a cross-sectional study of non-smoking adult outpatients with diabetes they assessed individual chronic exposure to PM by measuring the area occupied by carbon in airway macrophages, collected by sputum induction and by determining the distance from the patient's residence to a major road, through geocoding. These exposure indices were regressed against plasma concentrations of oxidized LDL, von Willebrand factor and plasminogen activator inhibitor 1 (PAI-1). They could assess the carbon load of airway macrophages in 79 subjects.

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percent). Each doubling in the distance of residence from major roads was associated with a 0.027 µm² decrease (95% confidence interval (CI): −0.048 to −0.0051) in the carbon load of airway macrophages. Independently from other covariates, we found that each increase of 0.25 µm² [interquartile range (IQR)] in carbon load was associated with an increase of 7.3 U/L (95% CI: 1.3 to 13.3) in plasma oxidized LDL. Each doubling in distance of residence from major roads was associated with a decrease of −2.9 U/L (95% CI: −5.2 to −0.72) in oxidized LDL. Neither the carbon load of macrophages nor the distance from residence to major roads, were associated with plasma von Willebrand factor or PAI-1.

Conclusions

The observed positive association, in a susceptible group of the general population, between plasma oxidized LDL levels and either the carbon load of airway macrophages or the proximity of the subject’s residence to busy roads suggests a proatherogenic effect of traffic air pollution.

104. UN Says Cost of Natural Disasters Reached $109 Billion In 2010

Natural disasters caused $109 billion in economic damage last year, three times more than in 2009, with Chile and China bearing most of the cost, according to the United Nations. The 8.8-magnitude earthquake that struck Chile in February cost $30 billion. Landslides and floods last summer in China caused $18 billion in losses, data compiled by the Center for Research on the Epidemiology of Disasters (CRED) showed.

Although Haiti’s January 12 earthquake was the deadliest event of 2010, killing 316,000 people according to the government in Port-au-Prince, its economic toll was $8 billion. The July-August floods in Pakistan cost $9.5 billion.

Margareta Wahlstrom, the U.N. assistant secretary-general for disaster risk reduction, said fast-developing countries were facing increasing price tags from natural disasters.

Cities are particularly vulnerable to big economic losses when poorly-maintained infrastructure is rattled by earthquakes or exposed to big storms, Wahlstrom said. The most populous cities on earthquake fault lines include Mexico City, New York, Mumbai, Delhi, Shanghai, Kolkata, Jakarta and Tokyo, according to the U.N.’s International Strategy for Disaster Reduction.

Many people also live in parts of urban areas vulnerable to landslides and floods, which are anticipated to occur more often as a result of climate change, Wahlstrom said, also warning of rising risks from "silent events" like droughts.

Of the 373 disasters recorded last year, 22 were in China, 16 were in India and 14 were in the Philippines, CRED said.

The storms, earthquakes, heat waves and cold snaps affected 207 million people and killed 296,800, according to the data, which does not incorporate an increase of Haiti’s death toll announced earlier this month by Prime Minister Jean-Max Bellerive. The global toll estimates that 55,736 people died from a summer heat wave in Russia which led to crop failures and helped drive up food prices. It also says 2,968 people were killed in an April earthquake in China and 1,985 died from the Pakistani floods.
The 2009 economic price tag of $34.9 billion was unusually low because of the lack of a major weather or climate event in the period, which nonetheless saw floods and typhoons in Asia and an earthquake in Indonesia.

A major earthquake in China in 2008 caused $86 billion in damage, bringing that year's economic toll to approximately $200 billion. In 2005, the hurricanes that struck the southern United States drove up the global disaster toll to nearly $250 billion.

The economic cost estimates are based on data from national authorities as well as insurance companies including Swiss Re, Munich Re and Lloyd's. CRED is part of the University of Louvain in Belgium and maintains a database of international disasters for the United Nations.

105. **New Climate Data Shows Warming World**

Last year tied for the hottest year on record, confirming a long-term warming trend which will continue unless greenhouse gas emissions are cut, the World Meteorological Organization (WMO) said. The first 10 years of the millennium proved to be the hottest decade since records began in the 19th century, it said.

"The main signal is that the warming trend continues and is being strengthened year after year," WMO Secretary-General Michel Jarraud told a news conference. "The trend, unfortunately, will continue for a number of years but the amplitude will depend on the amount of greenhouse gases released," the Frenchman added. "It will depend on action taken to minimize the release of greenhouse gases."

Jarraud said the latest data should convince doubters about the growing evidence for man-made climate change. "If they look at it in an unbiased way, it should convince them, or hopefully a few of them, that the skeptical position is untenable."

2010 was also marked by further melting of Arctic ice -- in December its extent was at its lowest on record, the WMO said -- and by extreme weather, including Russia's heat wave and devastating floods in Pakistan.

Rising temperatures, already about 0.8 degree Celsius above pre-industrial times, mean the world will struggle to limit warming to below 2 degrees Celsius, a target agreed by almost 200 nations at U.N. talks last month in Mexico. Many experts see 2C as a threshold for dangerous climate change, like more heat waves, droughts, floods and rising seas.

"Data received by the WMO show no statistically significant difference between global temperatures in 2010, 2005 and 1998," the United Nations body, which compiles its ranking from data provided by British and U.S. agencies, said in a statement. Data from British institutes showed last year was the world's second warmest behind 1998, while the other two main groups tracking global warming, based in the United States, said 2010 was tied for the hottest on record.

Over the 10 years from 2001 to 2010, global temperatures have averaged 0.45 degrees Celsius (0.83 degrees Fahrenheit) above the 1961-1990 average and are the highest ever recorded for a 10-year period since climate records began, WMO said.
The difference between the three hottest years was less than the margin of uncertainty in comparing the data, according to WMO, whose assessment is based on climate data from land-based weather and climate stations, ships, buoys and satellites.

Global surface temperatures in 2010 were 1.12 degrees Fahrenheit (0.62 Celsius) above the 20th century average, tying the record set in 2005, the National Climatic Data Center at the National Oceanic and Atmospheric Administration said. Last year was also the wettest on record and a warmer atmosphere holds more water, which in general can result in more floods.

The report did not predict weather in the future. But the U.N. climate science panel says weather is likely to be more extreme this century because of a buildup of gases released by burning fossil fuels and forest destruction.

James Hansen, the director of NASA's Goddard Institute for Space Studies, said "if the warming trend continues, as is expected, if greenhouse gases continue to increase, the 2010 record will not stand for long." His office also released a report that said 2010 was tied for the warmest year on record with 2005.

Frigid winters in parts of Europe and the United States in 2010 may be a paradoxical side effect of climate change, some scientists said. Rising temperatures mean a shrinking of sea ice in the Arctic, heating the region and pushing cold air southwards during the winter, according to a study last month in the Journal of Geophysical Research. Warming of the air over the Barents and Kara seas, for instance, seems to bring cold winter winds to Europe. "This is not what one would expect," said Vladimir Petoukhov, lead author of the study and climate scientist at Germany's Potsdam Institute for Climate Impact Research. "Whoever thinks that the shrinking of some far away sea-ice won't bother him could be wrong."

The release of the NOAA report itself was delayed one day by an unusually hard snowstorm in North Carolina.

"These anomalies could triple the probability of cold winter extremes in Europe and northern Asia," he said. "Recent severe winters like last year's ... do not conflict with the global warming picture, but rather supplement it."

106. Four Key Trends Emerge From 2010 Oil, Gas Deals

Oil and gas deals reached $73 billion in the 4th quarter of 2010 with deals for the year totaling $238 billion, compared with $151 billion in 2009. The total deal value in the last quarter of 2010 is second only to Q3 2010 in recent years, even outscoing Q4 2009 - a quarter that included ExxonMobil's $41 billion acquisition of XTO Energy.

At least four key trends emerge from the pattern of oil and gas deals in 2010.

- A marked shift in Chinese activity away from Africa towards the Americas.
- A growing interest in shale plays containing liquids and some interesting new innovative approaches to monetizing shale resources, prompted by the widening gap between gas and oil prices.
- A trend towards taking companies private.
The nearing completion of a dramatic series of divestitures by BP

Following a quarter of inactivity in Q3 2010, Chinese state companies satisfied their appetite for foreign assets with a flurry of deals in Q4 2010, ending the year with a total of $31 billion in acquisitions. This compares with a total of $19 billion spent by Chinese companies on assets in 2009. In this time the Chinese government has been agnostic towards the location of their acquisitions, with major deals being conducted across 14 different countries. Whilst Africa was the main focus of acquisitions in 2009, Canada and South America dominated China’s deals in 2010, accounting for 8 of the top 10 deals by Chinese companies during the year.

Amongst the key drivers of deal value during the fourth quarter was the spending by Chinese companies in Latin America. The largest deal of the quarter came from Sinopec acquiring a 40% stake in Repsol Brasil for $7.1 billion and gaining a foothold in the increasingly popular Brazilian offshore pre-salt reserves. This sector is about to undergo major development with the massive $43 billion deal by Petrobras and consequent financing paving the way for a development charge.

The second largest deal of the quarter came from the acquisition by Bridas Corp. (50% owned by CNOOC) of BP’s 60% stake in Pan American Energy, the second largest oil and gas producer in Argentina for $7 billion. Sinopec added further to China’s Argentinean assets by acquiring Occidental’s Argentinean portfolio for $2.5 billion. The final major deal by a Chinese company came from CNOOC farming into a 33% stake in Chesapeake’s liquids rich Eagle Ford Shale assets. The deal marks the first major Chinese acquisition in the US since CNOOC’s failed attempt to acquire Unocal in 2005.

In the effort to secure energy supplies to China’s booming economy the government has also entered into various loans for oil agreements. This strategy capitalized on the disparity of economic performance between China and the majority of the rest of the world, without the risk of potential hostility from another Chinese asset grab. Agreements are now in place with Brazil, Russia, Kazakhstan, Ecuador and Venezuela, with the latter receiving a loan of $20 billion.

Whilst shale gas emerged as a key driver of US mergers and acquisitions (M&A) in early 2010, shale oil has now started to take a more prominent position amongst the shale focused deals, with the Eagle Ford shale play in particular attracting a lot of interest during the quarter. There were 10 deals during the quarter involving the liquids rich portion of the Eagle Ford shale play, with a total value of $4.5 billion. The switch from gas bearing shale to liquids rich shale is due to the large difference in realizations from oil and gas in the US.

Talisman has taken another route to attracting increased realizations from one of their shale properties. Talisman accepted a $1 billion farm-in from the South African integrated company Sasol in their Montney shale play in Canada. The key reason why Sasol was taken on as a partner is due to the company being amongst the global leaders in gas-to-liquids technology. The companies will be conducting a feasibility study for the construction of a gas-to-liquids plant and the case for the construction will gain strength should the gas prices remain low relative to liquids realizations.

Shale gas deals still took the majority of the value amongst shale deals in the 4th quarter however with $7.4 billion worth of deals. The value was considerably boosted by the $4.3 billion acquisition by Chevron of Atlas Energy, a company with holdings in the Marcellus and Utica shale plays.
BP continued their asset divestiture program with $10 billion of asset sales in various countries during the quarter. The most significant sales by BP includes the $7 billion sale of the company’s 60% stake in Pan American Energy to Bridas Corp., the $1.8 billion sale of the company’s Venezuelan and Vietnamese assets to TNK-BP, the $775 million sale of the company’s Pakistan assets to United Energy Group and the $650 million sale of certain Gulf of Mexico assets to Marubeni.

Since BP’s Macondo oil spill in April 2010 which prompted a $30 billion provision to be made by the company, $21 billion worth of divestitures have now been conducted by BP. In July BP reported that they are aiming for $30 billion of asset sales, which coupled with the company’s dividend freeze is aimed at fully satisfying the oil spill costs.

As North American gas prices continued to remain suppressed hovering around $4 per mcf for much of the quarter, EXCO’s CEO Douglas Miller launched a bid to capitalize on the company’s relatively low valuation by launching a $5 billion bid to take EXCO private. The offer stands at a 38% premium to the day prior share price and at $5.30 per proved mcf of gas equivalent the offer represented a 60% premium to the day prior Henry Hub benchmark price. Fellow US gas producer, Quicksilver Resources also received an approach during the quarter from an investor group which includes the current CEO Glenn Darden to become private although an official offer has yet to be made. While gas prices in the US remain low, the owners of EXCO and Quicksilver will find it easier to cut back their capital spending and production away from the scrutiny of public shareholders until trading conditions improve.

107. BP Energy Outlook 2030

BP projects that world energy consumption will grow by 39%, or 1.7% per annum, by 2030. This is driven primarily by strong population and income growth in non-OECD countries, which are predicted to increase energy consumption by 68% (2.6% p.a.) and account for 93% of the global energy growth. OECD energy consumption will be just 6% (0.3% p.a.) higher than today by 2030. The fuel mix will change slowly, but gas and non-fossil fuels will gain share at the expense of coal and oil. The growth of global CO2 emissions from energy will be 1.2% p.a. over the next 20 years (compared to 1.9% p.a. in 1990-2010), leaving emissions in 2030 27% higher than today.