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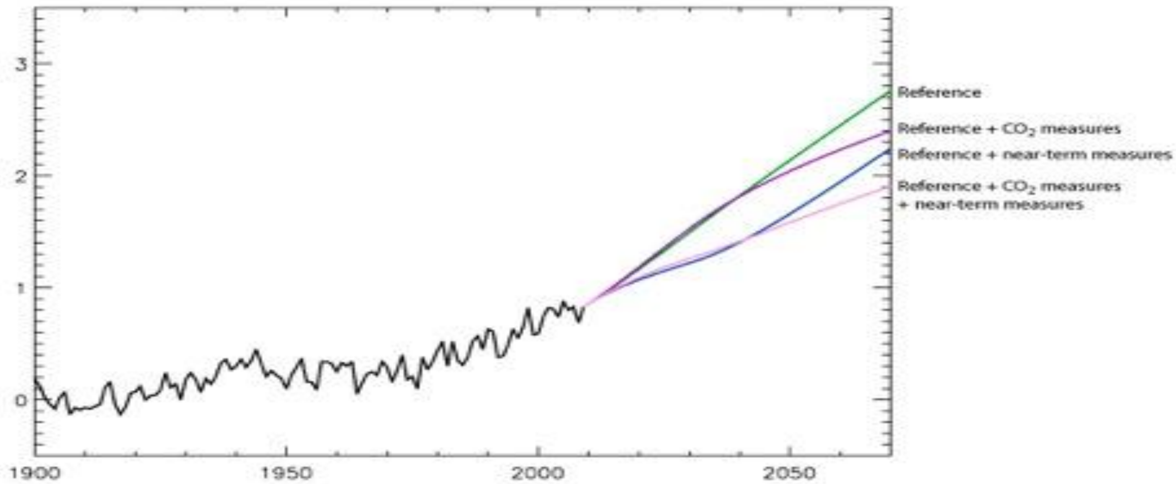
Global temperature 1900-2070



Source: UNEP Short Lived Climate Forcers Assessment

EUROPE

1. EU Lawmakers Back Proposal to Charge Trucking Operators for Pollution, Noise

On June 7th, members of the European Parliament backed a revision of the European Union's framework for levying road tolls on heavy-goods vehicles, allowing member states to charge haulage operators for the air pollution and noise they cause. The revision will extend the harmonized EU charging framework established by the 1999 Eurovignette Directive (1999/62/EC), named for the road-usage stickers issued to truckers when they pay charges, which already allows member states to reclaim some of the costs of infrastructure maintenance from haulers.

The air pollution levy is designed to penalize truckers for the particulate matter, nitrogen oxides, and volatile organic compounds they generate, rather than for carbon dioxide emissions or other forms of pollution. In most cases, the revised directive will add 3 to 4 euro cents (4 to 6 cents) per kilometer traveled to the charges levied on trucks weighing 3.5 metric tons or more. However, for older, high-emission vehicles, the charge could be up to 16 euro cents (24 cents) per vehicle-kilometer. Lorries with the least-polluting Euro V-class engines are exempt from pollution charges until 2014, the parliament said.

Lawmakers voted 505-141 in favor of the revision at a plenary session in Strasbourg, France.

The Eurovignette Directive **does not require** EU countries to levy tolls on heavy-goods vehicles, but those that do must stay within the framework. Road charging is most used in central and northern European countries.

The revised legislation also would impose an obligation on EU countries to use at least 15 percent of the revenue from the increased tolls for measures to improve the environmental performance of the transportation sector, such as mitigating pollution and or developing cleaner vehicles.

The vote formalized a provisional deal approved on May 23rd by negotiators from the European Parliament and the EU Council, which represents member states. The legislation will be finalized when the EU Council gives its approval, although a date for this has not been specified. The revised directive will come into force three months after its publication in the Official Journal of the European Union.

Road charging has proved an unusually troublesome three-year fight for the EU, but opposition from southern European governments fell away during the economic crisis as they saw the opportunity to bolster their strained finances. Mountainous countries such as Austria, with many people living in narrow valleys, had pushed for haulers to pay for the damage trucks do as they rumble through, but were opposed by outlying EU states that rely heavily on road freight.

"These new EU rules will send the right price signals to operators so they will invest more in efficient logistics, less polluting vehicles and more sustainable transport," EU transport commissioner Siim Kallas said in a statement. "They also give member states new tools to fight congestion, with possibilities to vary charges at different times of the day to get heavy lorries off the roads at peak periods," he added.

Rail operators welcomed the new rules. "The revised directive will go some way toward creating a more level playing field between road and rail," said Johannes Ludewig of the Community of European Railways.

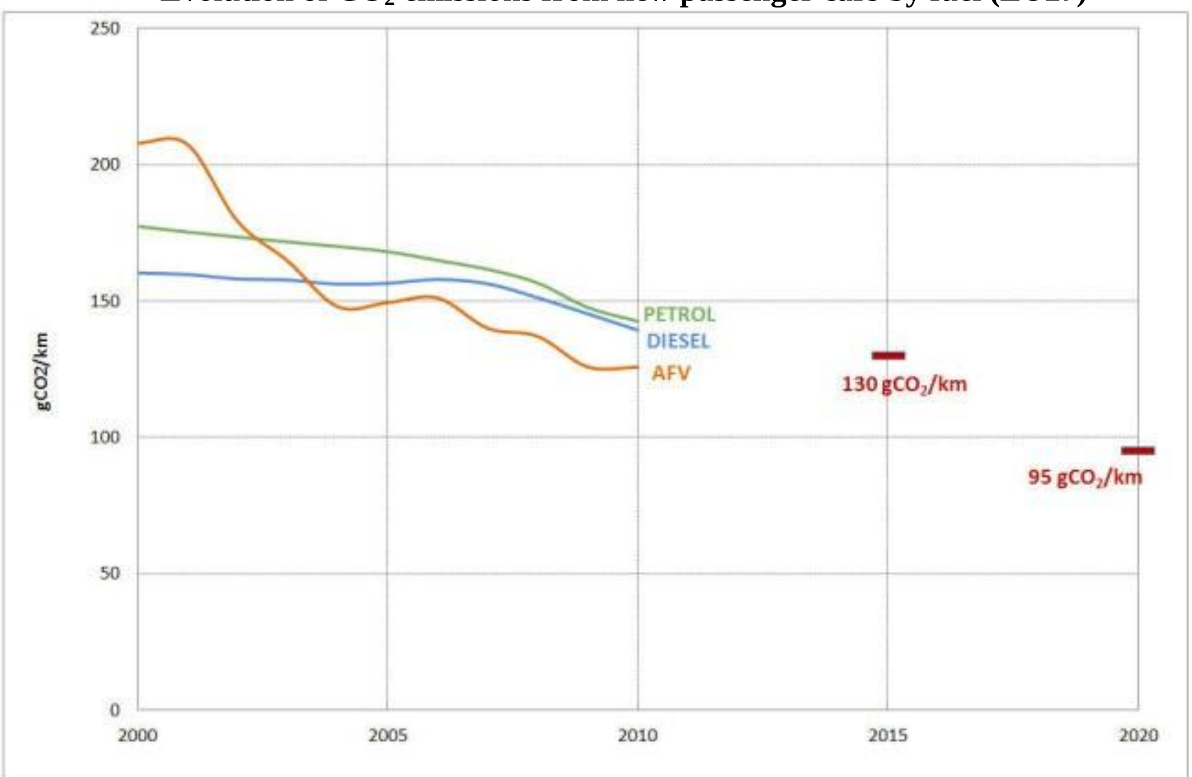
Road authorities will also be able to vary tolls by up to 175 percent during the day in an attempt to control congestion, for instance by charging more during rush hours.

Congestion charging zones like those of London and Stockholm would be unaffected by the laws, which apply mainly to motorways.

2. Carbon Efficiency of New Cars Is Increasing

Preliminary data published by the European Environment Agency (EEA) show that new passenger cars registered in the European Union (EU) in 2010 are emitting 3.7 % less CO2 per kilometer travelled than new cars from 2009. The transport sector is the second largest source of CO2 emissions in the EU. Road transport alone accounted for about one fifth of total EU CO2 emissions in 2009 and its emissions increased by 23% between 1990 and 2009.

Evolution of CO_2 emissions from new passenger cars by fuel (EU27)



AFV: alternative fuel vehicles; gCO_2/km: grams CO_2 per kilometer.

In 2009, the EU adopted targets for average CO2 emissions of new passenger cars as part of its strategy to reduce emissions from transport. The legislation sets target values of 130 grams CO2 per kilometer [gCO2/km] to be met by 2015 and of 95 gCO2/km by 2020. These target values will be phased in gradually.

An analysis of detailed data submitted by EU Member States shows that:

- The average CO2 emissions of a new passenger car in the EU27 were 140.3 gCO2/km in 2010. An average new passenger car emitted 5.4 gCO2/km, or 3.7% less than in 2009 when average emissions were145.7 gCO2/km.
- The difference between average CO2 emissions of new diesel and new gasoline vehicles is 3.3 gCO2/km. This gap is considerably lower than a decade ago, when the difference was 17 gCO2/km.
- Vehicle registrations decreased by 2.3 million in 2010 compared to 2007, considered to be the last year before the economic recession. The majority (95%) of the registration took place in the EU-15, where a new passenger car emits 7.9 gCO2/km less than a new car registered in the EU-12.
- Alternative fuel vehicles (AFV) can be tracked in more detail. In 2010, approximately 13000 flex fuel vehicles (vehicles working with several types of fuel such as ethanol and gasoline) and 700 electric vehicles were registered in the EU.
- The dieselization of the fleet continued in 2010. The share of alternative fuel vehicles did not vary significantly compared to the previous year.

But the data also shows that the average weight of cars has risen by 28kg or 2% as carmakers increasingly market SUVs and so-called crossover vehicles. Had weight not increased, the CO2 reduction would have been 5%, or one third better said Transport & Environment (T&E), the EU sustainable transport campaigners.

Arne Richters, program manager for clean cars at T&E said: "This report shows that cars are getting heavier again. After a drop in average weight linked to government subsidies which favored cheaper, smaller cars, the SUVisation of the EU fleet is back. And that is no surprise as EU rules favor heavier cars by allowing them to emit more CO2. That needs to change. The EU should be favoring more efficient saloons, estates and hatchbacks rather than encouraging gas guzzling, tall and heavy SUVs. Promoting heavier cars is holding back CO2 reductions."

The EEA is presently preparing for the reporting of CO2 emissions of light commercial vehicles (vans). The EEA expects the knowledge base on the vehicle fleet to improve over the next years with further legislation under consideration for emissions of other vehicle classes.

As the data on 2010 CO2 emissions from new passenger cars are provisional, they cannot yet be used for calculating the overall target for manufacturers under the Regulation on emission performance standards for new passenger cars (Regulation (EC) No 443/2009). Credits for low emitting vehicles and phase-in adjustments will be included at a later stage.

3. EU To Exceed Nitrogen Oxides Emission Ceiling, Mostly Due To Road Transport

The EU-27 and its Member States must meet legally binding limits for four air pollutants set by the National Emission Ceilings Directive (NEC Directive) to protect human health and the environment. The annual status report recently released by the European Environment Agency (EEA) shows that while EU-27 emissions for three air pollutants are projected to meet the ceilings, nitrogen oxides (NOx) emissions for the EU-27 as a whole will exceed its ceiling by 17 %. Ten Member States expect to miss their respective NOx ceilings.

The NEC Directive status report 2010 documents the most recent emissions (2009) and projection information (2010) for the four pollutants covered by the directive: sulfur dioxide (SO_2), nitrogen oxides (NO_x), non-methane volatile organic compounds (NMVOCs) and ammonia (NH_3). The pollutants covered by the report harm both human health and the environment by contributing to the formation of ground-level ozone and particulate matter and leading to acidification and eutrophication.

The road transport sector bears most of the blame for the anticipated exceedances, contributing to more than 40 % of total EU-27 NO_x emissions in 2009. Furthermore, although emissions from the sector have decreased since 1990, the reduction over the past 2 decades has not been as large as originally anticipated. This is partly because the sector has grown more than expected and partly because vehicle emission standards have not always delivered the anticipated level of NO_x reductions.

Even taking into account NO_x control measures already in place within the Member States, the NO_x emissions for the EU-27 are still projected to be 6 % above the aggregated Member States limits (known as the Annex I ceilings) and 17 % above the stricter ceiling for the European Union as a whole (the Annex II ceiling) set for 2010.

Some Member States, such as the Netherlands and Slovenia, expect to exceed their respective NO_x ceilings by only small margins (less than 5 %). In contrast, Germany and France expect to exceed their ceilings by 328 kilotons and 275 kilotons respectively - equivalent to exceedances of 31 % and 34 %. Austria, while expecting lower surpluses in absolute terms, anticipates exceeding its ceilings by an even larger margin (40 %).

For the other three pollutants (SO_2 – primarily from fuel combustion for electricity generation and by industry, NMVOCs – from the use of solvents and from the road transport sector, NH_3 – mainly from agriculture) the EU-27 projections are all below the emissions ceilings defined by the directive. Most Member States also anticipate meeting their emission ceilings for these pollutants as displayed in the following table.

Overview of 'with measures' (WM) projections [1] reported by Member States

Member State	**NO_x**	**NMVOCs**	**SO_2**	**NH_3**
Austria	×	√	√	√
Belgium	×	√	√	√
Bulgaria	√	√	√	√
Cyprus	√	√	√	√
Czech Republic	√	√	√	√
Denmark	√	×	√	√
Estonia	√	√	√	√
Finland	√	√	√	√
France	×	√	√	√
Germany	×	×	√	×
Greece	×	√	√	√
Hungary	√	√	√	√
Ireland	×	√	√	√
Italy	√	√	√	√
Latvia	√	√	√	√
Lithuania	√	√	√	√

Luxembourg	×	√	√	√
Malta	√	√	√	√
Netherlands	×	√	√	×
Poland	√	√	√	√
Portugal	√	×	√	√
Romania	√	√	√	√
Slovakia	√	√	√	√
Slovenia	×	√	√	√
Spain	×	×	√	√
Sweden	√	√	√	√
United Kingdom	√	√	√	√
√	**17**	**23**	**27**	**25**
×	**10**	**4**	**0**	**2**

A '√' indicates that the Member State anticipates meeting its emission ceiling for a pollutant, while 'x' indicates that a ceiling is expected to be exceeded.
([1]) Member State emission ceilings are compared against reported 'with measures' (WM) projections. WM projections take into account currently implemented and adopted policies and measures. The projections data can be considered as preliminary estimates of emissions in 2010. More detailed emissions data for the year 2010 will be reported at the end of 2011. These data will allow a more reliable assessment of the emission reductions achieved by Member States.

The European Commission has recently launched a comprehensive review of its air policy, building on the 2005 Thematic Strategy on Air Pollution (TSAP) and Clean Air for Europe (CAFE) initiatives. This follows discussions and agreement within the Commission that further actions to improve air quality are a pressing need. The Commission plans to focus on a number of immediate measures and a more comprehensive review of EU's air policy by 2013 at the latest.
This revision of policy, including the NEC Directive, is expected to propose stricter emission ceilings for 2020 in order to protect health and the environment further. It could also, for the first time, introduce a ceiling for fine particulate matter ($PM_{2.5}$). In the absence of new legislation, however, the NEC Directive remains in force and requires that future emissions stay below national ceilings also after 2010.

Separately, discussions over setting new 2020 national emission ceilings for European countries have started within the UNECE's Convention on Long-range Transboundary Air Pollution.

4. UK Seeks Public Input on Plans to Meet EU's Nitrogen Dioxide Standards

On June 9th, the United Kingdom's Department for the Environment, Food, and Rural Affairs (DEFRA) launched a consultation to seek comments on how it plans to meet the European Union's air pollution limits for nitrogen dioxide. Emissions from motor vehicles, power plants, and off-road equipment contribute to the formation of nitrogen dioxide. High levels can cause inflammation of breathing passages and long-term exposure may affect lung function and respiratory systems, according to DEFRA.

DEFRA said it will use the responses to prepare a so-called notification letter to the European Commission by September 30th to request additional time to comply with the nitrogen dioxide limit values, which were introduced in 1999. Under the EU Ambient Air Quality Directive (2008/50/EC), EU member states can ask to delay compliance by up to five years from the original Jan. 1, 2010, deadline as long as they submit air quality plans that say how they will achieve the targets, DEFRA said. To prepare its notification letter, DEFRA said it will be using feedback from separate consultations planned by the devolved administrations of Scotland, Wales, and Northern Ireland. The deadline for the England consultation is Aug. 5.

DEFRA is mainly seeking views on whether its air quality plans “represent correctly the efforts underway at national, regional and local level to achieve compliance with the NO2 limits as quickly as possible.”

DEFRA's draft plan sets out current and planned actions, along with projected costs, to meet the nitrogen dioxide limit values in 40 of the United Kingdom's 43 air quality zones where one or more of these values are currently being exceeded. Of these zones, 30 are located in England.

The DEFRA document describes 80 measures that are being tried in different areas, including providing grants for businesses to encourage more use of rail transport, offering tax incentives for ways to tackle pollution from road traffic, improving bicycle access and parking in cities, and supporting infrastructure plans for electric vehicles.

DEFRA said the plans also show the improvements the United Kingdom has made in the past decade, including reducing emissions of oxides of nitrogen by 39 percent between 2000 and 2009. DEFRA also said it expects 95 percent of U.K. roads to meet the nitrogen dioxide limits by 2015, up from 83 percent in 2010.

Once it submits its plans, the Commission has up to nine months to raise objections to any of the air quality zone plans, according to DEFRA.

5. Campaigners Reveal Schools Whose Children Are At Risk of Asthma

Clean air campaigners who claim traffic-related air pollution increases the risk of asthma in children have revealed that 18 Kingston schools are within 150m of busy roads. Ten infant, junior and primary schools, and eight secondary schools, are near roads used by more than 10,000 vehicles a day, including Tolworth Girls’ and Southborough near the A3.

Clean Air in London (CAL) said scientists’ research showed living near these roads could be responsible for between 15 and 30 per cent of all cases of asthma in children.

Siobhan Lowe, principal of Tolworth Girl’s School, said although the school is next to the main road, it looks out towards green fields, but it has taken action to reduce pollution from the A3. She said: “We double glaze, plant lots of bushes and maintain our trees and encourage students to walk, cycle or leave cars at home. “We do a lot of work in science about pollution and also our students regularly test levels around school, and we do encourage our students to think and engage and save energy around school.”

Simon Birkett, director of CAL, said: “Scientific research published by the Aphekom group of scientists has shown those living near roads travelled by 10,000 or more vehicles per day on average could be responsible for some 15-30 per cent of all new cases of asthma in children.

"Related research indicates associations of asthma with traffic-related pollution from nearby sources at schools were independent of estimated effects of exposures at homes.

"The Government and Mayor Johnson must tackle an invisible public health crisis harming as many people now as we thought during the Great Smog in December 1952. "We need one or more additional inner low emission zones that ban the oldest diesel vehicles from our most polluted roads, and a massive campaign to build public understanding of the dangers of air pollution with advice on how people can protect themselves and reduce air pollution for themselves and others."

6. Commission Takes France to Court Over PM10 Noncompliance

The European Commission is taking France to court for failing to comply with EU air quality limit values for airborne particles known as PM10. France has so far failed to effectively tackle excess emissions of these particles in several zones across the country. On the recommendation of Environment Commissioner Janez Potočnik, the Commission has therefore decided to take France to the EU Court of Justice.

Directive 2008/50/EC on ambient air quality and cleaner air for Europe requires Member States to limit the exposure of citizens to the tiny particles known as PM10. The legislation sets limit values for exposure covering both an annual concentration value (40 µg/m3), and a daily concentration value (50 µg/m3) that must not be exceeded more than 35 times in a calendar year.

Since the legislation entered into force in 2005, the limit values for PM10 have not been respected in 16 air quality zones across France. The regions concerned are: Marseille, Toulon, Avignon, Paris and Valenciennes, Dunkirk, Lille, the Nord Pas-de-Calais Territory, Grenoble, Montbéliard/Belfort, Lyon, the rest of the Rhône-Alpes Region, the urbanized coastal area of Alpes-Maritimes, Bordeaux, Réunion and Strasbourg. France has applied for time extensions for meeting the targets, but in the Commission's view, only Strasbourg has met the conditions for an exemption.

Despite an earlier reasoned opinion asking France to act, air quality standards are still exceeded in the 15 remaining air quality zones. Therefore, the Commission has decided to take France to the EU Court of Justice.

7. Setback for Czech Plan on Low-Emission Zones

Vaclav Klaus has vetoed an amendment to a Czech air quality law that would establish low-emission zones (LEZ) in the country's cities. The Czech president, who is not opposed to the idea, said the planned exemptions would create corruption. The plan would allow municipalities to authorize certain vehicles in low-emission zones. There are also exemptions from local emission ceilings. These types of exemptions would "deteriorate legal and business environment", he said.

It is unclear whether a new proposal will be put forward. The Czech parliament can override Mr Klaus' veto with an absolute majority of votes. This would be possible given that the government parties have a majority of 118 votes in the 200-seat assembly.

The legislative proposal was backed by Czech MPs earlier this year. The aim is to help combat air pollution from transport, particularly in the industrial region of Moravia. The capital, Prague, is currently the only city with a low-emission zone in place.

8. Ship Owners Favor Tax to Cut Maritime Emissions

The majority of ship owners want a global shipping fuel tax rather than an emissions trading scheme to cut their CO2 emissions, industry association ECSA told a seminar held by public affairs agency Edelman The Centre in Brussels recently. ECSA's secretary General Alfons Guinier said a tax would give predictability. The proceeds could be used to fund research and projects for reducing emissions. The International Maritime Organization (IMO) is holding talks on a global deal.

Although the association has no formal position on the issue, most of its members favor a tax as long as it includes all ships from all states. It has been suggested such a levy should only apply to ships from industrialized countries. But this could create a problem because ships can easily switch flags, said Mr Guinier.

A commission official said time spent debating this issue as part of the IMO talks was being wasted because many countries including the US and EU member states would never agree to a tax that goes to an international body. In the EU, agreements on fiscal measures are also difficult because they require unanimity.

The EU executive has no official position preferring a levy or emissions trading, said the official. But a consultancy report issued last year concluded that the maritime sector's inclusion in the EU's emissions trading scheme (ETS) was the best option.

Mr Guinier said regional action would not be workable because the majority of shipping emissions are outside EU jurisdiction. Ships could also easily change their routes to avoid EU ports by berthing in North Africa and sending smaller ships to Europe.

If no deal on CO2 is reached at the next IMO meeting in July – which is unlikely – the EU should sponsor another meeting in coming months, he added. But the EU official said this would not achieve much because countries are too far from an agreement.

9. EU Climate Chief Rejects Airlines' Criticism of Their Inclusion in ETS

On June 8th, the European Union's top climate policymaker rejected criticism from airlines that their inclusion in the EU Emissions Trading System (ETS) beginning in 2012 contravenes international law and would impose high costs at a time of tumbling profits. Speaking at a seminar in Brussels organized by the European Policy Center, EU Climate Action Commissioner Connie Hedegaard said inclusion of aviation in the ETS is justified because the International Air Transport Association has been unable to agree on measures to reduce greenhouse gas emissions, and because the European Union needs to lead by example in tackling climate change.

The European Commission realized "after many years" that "as long as [IATA] could not agree on how [to cut emissions] they could say, 'Leave us out,' " Hedegaard said. "We had to do something." "Everyone agrees the aviation sector has to contribute. There are many principles at stake," Hedegaard said.

Airlines flying within, into, or out of the European Union must participate in the ETS starting Jan. 1, 2012, with their emissions capped at 97 percent of their average level during 2004-2006 Airlines exceeding their caps must go to the carbon market to buy additional allowances. IATA Director General Giovanni Bisignani, speaking at the IATA Annual General Meeting in Singapore on June 6th, strongly criticized the inclusion of aviation in the ETS, saying the European Union has a “special place of dishonor” because it is “ignoring international law.” He added that the ETS is a “$1.5 billion cash grab that will do nothing to reduce emissions.”

Inclusion of international flights in the ETS is subject to planned legal challenges from the Air Transport Association of America and a number of U.S. airlines, and from the China Air Transport Association, which argue that the European Union has no power to include non-EU airlines in the scheme.

However, the Commission has maintained that the decision to include aviation in the ETS was made only after a legislative process during which objections from non-EU countries were taken into account, that it is in compliance with international law, and that IATA itself backed emissions trading, in preference to carbon taxes, at its annual meeting in 2004.

China is spearheading the opposition, saying it will cost Chinese airlines 800 million Yuan ($123 million) in the first year and more than triple that by 2020.

The Association of European Airlines (AEA) and aircraft maker Airbus wrote to EU climate commissioner Connie Hedegaard last month, saying they were worried the dispute would result in trade conflict and retaliatory measures. Hedegaard replied to Airbus Chief Executive Tom Enders and AEA chairman Steve Ridgway Monday, saying that to back down now on agreed legislation would in itself send out a dangerous signal of weakness. "If nations and regions do not defend their legitimate right to legislate and take appropriate non-discriminatory measures applicable to all economic operators, it would send an extremely unfortunate signal and create problems not just for the global climate, but also for European companies and businesses," Hedegaard wrote.

The laws on aviation emissions have long been approved by all 27 EU governments, the European Parliament and the EU's executive Commission. Nevertheless, the International Air Transport Association (IATA) has stepped up pressure on the EU to delay or scrap the plan. "The last thing we want to see is a trade war," said IATA director general Giovanni Bisignani. But Hedegaard's letter to Airbus and AEA gave a subtle reminder that the EU only chose to include aviation in its carbon trading scheme after IATA had given its support to carbon markets as the best tool for the job. She noted that in a 2004 submission to the United Nations, IATA had argued in favor of the principle of emissions trading.

The European Union is not considering changing its law obliging airlines flying to Europe to buy carbon emissions permits, according to European Commission President Jose Manuel Barroso. "The inclusion of aviation in the ETS is not a proposal, it is now European law. It was approved unanimously by the member states of the European Union, and it was adopted ... with a very strong backing by the European Parliament. So we are not thinking at all about the possibility of changing our legislation," Barroso told a news conference.

Barroso reiterated the EU's willingness to discuss the measures. EU law allows the exemption of airlines from countries that are making equivalent efforts to curb emissions from aviation. "The goal is to reduce emissions," he said. "All the world should unite in some kind of directive like this one."

10. EU States Skeptical Of Transport Plan For 2050

Member states have showed little enthusiasm for European Commission plans to reduce greenhouse gas emissions from the transport sector over the next decades, with many raising doubts over whether the proposed 60% reduction target will be achievable. Their initial responses to the commission's transport white paper were published by the Council of Ministers ahead of a debate at a ministerial meeting. They focus on three issues raised by the Hungarian presidency, including the 60% target.

Although there is some support for long-term reduction goals, the 2050 target is generally described as very ambitious and unlikely to be fully achieved. Some note that there is too much uncertainty over future technological developments.

Sweden emerges as by far the most enthusiastic supporter of the plans. It even believes the commission "underestimates the reductions that will be possible in the transport sector", adding that "with the right incentives [the sector] will be able to overshot the proposed levels". But this view is not shared by others.

Poland for example says aiming for a 60% reduction by 2050 compared with 1990 levels will inevitably reduce mobility and economic activity, which goes against the principles of the transport white paper itself. Some point out that the 1990 baseline is unfair on ex-soviet economies that have significantly grown since.

Member states also have reservations about detailed proposals made by the commission. In its response, Germany says some of the measures proposed "do not seem technology-neutral and appear to be formulated in a dirigiste manner".

Even Sweden highlights the "general risk" of setting sub-targets such as the proposed 30% modal shift for road freight, rising to more than 50% by 2050. "This in our opinion not a goal in itself since it is not the road transport but the negative effects of it that has to be reduced", according to the member state.

Hungary, Poland and the Netherlands complained the paper does not identify sources of funding for the actions proposed. Ireland and Malta pointed out that as island states a modal shift to rail would not be realistic or of much benefit to them.

11. EU Ban on HFC-23, NO2 Credits Enters Force

The European Commission has formally adopted a ban on the use of industrial gas credits in the EU Emissions Trading System (EU ETS) as of May 2013. The ban will apply to credits from projects which destroy two industrial gases: trifluoromethane (HFC-23), produced as a by-product of chlorodifluoromethane (HCFC-22) principally in air conditioners and refrigerators, and nitrous oxide (N_2O) from adipic acid used in the manufacture of nylon. HFC-23 and N_2O are both powerful greenhouse gases which contribute to climate change.

The recognition of credits from industrial gas projects has been controversial for some time. EU Member States approved the ban on 21 January 2011; the European Parliament then had three months to accept the measure.

The ban will begin on 1 January 2013 with a phase-out period of 4 months until 30 April 2013 for credits from existing projects. The European Commission is currently not considering any other specific use restrictions beyond industrial gases.

12. Zurich Buses Outfitted With Air Quality Sensors for Mobile Monitoring

Laboratories at the École Polytechnique Fédérale de Lausanne (EFPL) in Switzerland and one at ETH Zurich are working on a better way to collect data about cities' air quality. Researchers have started OpenSense, a project that will test out if using the existing infrastructures of public transportation and mobile phone networks could be a smart solution for monitoring pollution.

EPFL reports that since the bus system is "mobile, secure, predictable, and spread out over a given area, buses are an ideal data collection base." The assumption makes perfect sense, especially in light of other projects that are working on using cell phones as mobile units for air quality data collection.

The researchers are developing climate- and traffic-resistant sensors for vehicles, and designing ways to use mobile phones to access the data collected by the sensors. Prototypes have already been installed on the roof of a tram in Zurich and a bus in the Lausanne public transit system, which can collect atmospheric data, the presence of pollutants, and the quantity of particulates.

OpenSense could use the information from the sensors to accomplish things like tell asthma sufferers what time of day pollution is at its lowest in their particular neighborhood so they can enjoy the outdoors more comfortably. Parents could also be more aware of the quality of air in which their children are playing in a particular area of the city or time of day. The information could be accessed through text alerts or a smart phone app.

There are a few issues to overcome, such as making sure that the system can see exactly where the sensors are as they're picking up the information to ensure the data is attached to the location where it was collected. But if the team can iron out the kinks, this system could be useful worldwide.

13. Electric Car Study Advises Change to CO2 Rules

The EU should change its approach to regulating car and van emissions to ensure a level playing field for electric vehicles, Dutch consultancy CE Delft said in a new study. The study was mandated by the EU executive.

Rather than basing regulations for new cars on tailpipe emissions, Europe should look at the well-to-wheels impacts of each form of propulsion, according to the study. It also calls for more thorough research into the relative costs and benefits of electric cars as compared to other ways of reducing emissions.

Electric vehicles are likely to remain uncompetitive and in need of government support for at least five years, authors say. But they also point out the need to avoid unfair competition with other types of greener vehicles. At the moment, the methodology used by the EU treats electric vehicles as having zero emissions or gives them super-credits. This could limit the emission reductions made across the rest of manufacturers' fleets. This approach also ignores the full environmental impact of electric cars, says CE Delft.

A better methodology is also needed to calculate the amount of electricity used by electric cars and how much of it comes from renewable sources, the report says. Without this, there could be a distorting effect on the market for low-carbon fuels created by the fuel quality and renewable energy directives, it argues.

EU states should also consider measures to help kick-start the development of charging networks and ensure grids are prepared for the demands electric cars will place on them. Smart charging systems that manage electricity demand will be needed once a threshold of 5% market penetration has been reached in any region.

14. Germans Said To Be Resisting Low-Emissions Vehicles

While Germany has long been a leader in solar and wind technology and has set ambitious goals for renewable energy and carbon dioxide emissions reduction, electric cars, biofuels, and other measures that push climate-friendly mobility have been slow to take hold. The problem, analysts say, is Germans' love affair with their cars.

“We need a change in culture,” Werner Reh, a transportation expert at Friends of the Earth Germany told the press. He said the government has to become more aggressive and innovative regarding clean transportation strategies.

The transportation sector contributes one-fifth of Germany's total carbon dioxide emissions, according to the Environment Ministry, a share that has been rising over the past decade.

Germany has made green energy a priority over the past few decades, offering billions of euros in support to wind and solar industries. As a result, its wind energy market is the world's largest and its solar industry is the largest in Europe by a wide margin. Renewable energy contributes 17 percent of total electricity usage in Germany and the government aims to increase that share to 35 percent by 2020.

But because Germany—home to Mercedes, BMW, and Volkswagen—has a booming economy thanks in part to sales of luxury cars at home and abroad, getting carmakers and drivers away from six-cylinder engines with plentiful horsepower and into lighter cars has not been easy. German carmakers consistently lag in meeting carbon dioxide targets compared to manufacturers from other European nations and Japan, according to studies by Transport and Environment.

“The best thing Germany could do is through a speed limit,” Martin Rocholl, transportation director of the Europe Climate Foundation, told reporters. “It would send a clear signal that the days of oversized engines and extremely heavy cars are over.” “Just by setting a speed limit, we would reduce the carbon emissions from road transportation significantly,” said Max Grünig, a research fellow at the Ecologic Institute, an environmental think tank in Berlin. “It wouldn't need new technology or cost a lot more, just some road signs.” He recalled, however, that when the Green party called for an increase in gas prices in 1998 to try to change German driving habits, including getting motorists to slow down, the party dropped significantly in the polls. “This experience has informed politicians—never to come up with something like that again,” he said.

Instead, the German government is trying to meet ambitious carbon dioxide reduction targets with initiatives promoting the use of electric/hybrid cars and biofuels. But analysts are not optimistic about their chances of success.

In January, Germany became one of the first countries in the European Union to introduce E-10, a fuel made with 10 percent ethanol, at gas stations around the country. Consumers, unsure of its effect on vehicle engines, have shunned the biofuel. Ferdinand Dudenhöffer, an automotive analyst with the Center for Automotive Research at the University of Duisburg-Essen, said the government did not explain E-10 to consumers clearly enough. He also blamed ADAC, Germany's largest auto club, and the German media for fear-mongering. “ADAC has a strong influence over consumers and warning them that E-10 can damage their car without a strong basis fueled widespread panic,” he told the press. “The government didn't do enough … to promote E-10. And with no information available on exactly which cars were or weren't fit for the product, consumers were reluctant to fuel their tanks with the biofuel.” About 7 percent of Germany's 42 million registered cars cannot use the E-10 fuel, Dudenhöffer said.

As the German government, auto industry, and oil companies try to figure out what to do next, E-10 has already cost the oil industry hundreds of millions of euros in production and distribution costs, according to Dudenhöffer. These are already being passed on to consumers through higher gas prices.

Some environmentalists also do not support the use of E-10 because of ethical issues over land use. Cultivation of biofuel crops competes with cultivation of food products, often in developing countries, Reh said. Others say biofuels such as E-10 do not actually reduce carbon dioxide emissions over their entire life cycle, which takes into account emissions associated with biofuels' production processes. Still, in the end, German consumers decided any emissions benefits from using E-10 were not worth the risk to their vehicles. Dudenhöffer predicted that E-10 will not be able to establish a foothold in the German market. As a result, it is unlikely that Germany can meet its EU commitment to reduce carbon dioxide emissions to less than 130 g/km in new cars by 2015. This amount was already a concession by the European Union, which originally had set a goal for EU vehicles to emit an average of only 120 g/km of carbon dioxide by 2012. Still, Grünig believes consumers will eventually have to accept E-10: “It is the only way we can comply with the EU rules.”

E10 is only achieving a 17 percent share of German gasoline sales, oil industry lobby MWV said.

Some 52 percent of motorists avoiding the new fuel blend said they feared engine damage; others said they doubted its environmental benefit and also had concerns about burning food as fuel, the MWV added.

Germany's transport minister said in April the new fuel blend must stay on sale despite the hostile reaction and blamed oil companies for failing to explain the new fuel to motorists. But the MWV said that over three-quarters of German motorists were informed about whether their vehicles could take the new blend. This showed the oil industry was taking seriously its responsibility to inform motorists, the MWV said.

Germany's bioethanol industry hopes for a strong rise in 2011 sales because of the new blending level which in turn could raise demand for grains and sugar used as feedstock.

The German government hopes for more success with hybrid or electric vehicles. In May, officials announced they would double the amount of funding for research and development of those vehicles to €2 billion ($2.9 billion) by 2013. The goal is to have 1 million electric cars on the road by 2020, and to do so by improving battery technology and establishing powering stations across the country. Currently, 37,000 hybrids and 2,300 electric cars are in use in Germany, according to government figures. But Grünig said that even increasing the numbers to 1 million would equal just over 2 percent of all passenger vehicles in Germany. “This of course is not going to really shift things,” he said. “Those who are trendsetters, the ones that buy the first generation iPhones and iPads, they are already interested. The essential thing is to move from these people to the mass market and for now, there is no real clue on how to do that.”

One problem is cost: These vehicles are expensive, even accounting for rising gas prices. Also, the range of electric vehicles is still too small to make them practical for anything but the shortest distances. And the technology to improve batteries and bring down costs is likely 20 years away, analysts say. Also, the car industry lacks incentives to shift production. Grünig said the profit margins on bigger cars far exceed those on cars with smaller engines. Most profit on hybrids and electric cars would be eaten up by having to import engines, as German carmakers lack the capacity and know-how to manufacture these themselves. And certain sectors of the auto industry could suffer economically because electric cars do not need certain parts or as much maintenance as traditional gas-powered vehicles.

So far, it is mostly Japanese models on offer for those who want hybrids or electric cars. BMW and Volkswagen say they will offer their first electric vehicles in 2013. Daimler is set to unveil its electric Smart Car and a battery-powered alternative to its Mercedes A class later this year.

Reh said German strategy is flawed because it relies on the traditional carmakers and putting an electric or hybrid engine in a traditional vehicle. “They are really over-optimistic,” he said of the government. “They have to try out new things, not just make the same big heavy cars where the only difference is that it has a new electric engine. It would be more realistic to say, ‘Let's find new, innovative concepts in e-mobility.’ But they want to go ahead and give a lot of money to the conventional car industry and just prolong policies from the past.”

The only way for Germany to meet its national carbon dioxide reduction target—40 percent below 1990 levels by 2020—is for Germans to change their attitudes toward cars and driving, analysts say, with some expressing optimism that such a change in attitudes could occur. “The younger generation is moving away from thinking of the car as a status symbol,” Rocholl said. “They are more focused on what is the best way to organize their own mobility.”

Analysts say that in the future, they expect people living in urban areas to find more creative ways to move around, using fleets of cars, car sharing, carpooling, and combining electric cars for short distances with enhanced public transportation options. Rising gas prices and restrictions on cars operating in city centers are also expected to help shift car culture and behavior.

15. German Cabinet Approves Electric Vehicle Incentives

On May 18th, the German Cabinet approved a development strategy, including tax breaks, and plans to invest 1 billion euros ($1.4 billion) in the years until 2013 to help meet its goal to put 1 million electric cars on German roads by 2020, Chancellor Angela Merkel's deputy spokesman Christoph Steegmans told reporters at a briefing. According to the development plan the Cabinet discussed with industry representatives on May 16th, electric cars and vehicles with hybrid drives will be exempt from the car tax for 10 years. The tax rate for electric business cars will be lowered so it will not exceed that for conventional cars. “Mobility still needs to be affordable—this is also true for electric mobility,” Germany's Transport Minister Peter Ramsauer said on May 18th. “That's why we also want to offer incentives besides supporting research and development.” The German government's electric mobility investment will especially focus on battery technologies, Steegmans said. Germany's car industry wants to put another 12 billion euros ($17.1 billion) into research and development, industry officials said at the May 16th meeting at the Chancellery. Germany's Cabinet launched its electric car initiative in August 2009.

16. Spain Approves Subsidies for Electric Cars, Regulations to Encourage Charging Stations

On May 6th, Spain's Council of Ministers (cabinet) approved several measures aimed at promoting the purchase of electric vehicles and establishing a national recharging industry and network.

To promote electric vehicle purchases, one of the royal decrees will allow the Ministry of Industry, Tourism, and Commerce to provide €72 million ($103.8 million) in direct subsidies to private consumers through the end of November. These funds will subsidize up to 25 percent of the pre-tax value of a purchased vehicle.

In the case of cars for personal use or private fleets, subsidies will be limited to €6,000 ($8,650) per vehicle, with the cost of batteries included as part of that total. The purchase of electric buses or trucks may bring maximum subsidies of €15,000 ($21,620) and €30,000 ($43,240) per vehicle, depending on the specifics of the vehicle. Subsidy applications will be channeled through participating vehicle dealerships and addressed by the administration in the order in which they are received.

To promote development of charging stations nationwide, a second royal decree regulates the role of so-called “charge managers,” entities authorized to resell energy to their customers for the purpose of charging vehicles. Traditionally, only electric companies have been allowed to sell electricity to consumers. According to the government, the existence of these energy resale agents, who are themselves consumers of electricity, will facilitate the introduction of charging stations above and beyond what electric companies opt to install. By way of example, the government said parking garages and shopping centers might bring in secondary income as charge managers.

In a separate measure, the Council approved a reduced rate for nighttime vehicle charging from 1 a.m. to 7 a.m. According to the government, night charging will take advantage of “valleys in system demand,” when generation costs are lower, thus “reducing the energy cost of electric vehicle use as compared to that of traditional internal combustion.”

The separate royal decrees will be numbered and put into force with their publication in the Boletín Oficial del Estado, Spain's national register.

Spanish Prime Minister José Luis Rodríguez Zapatero has defended the use of electric cars as a means of fighting climate change through the development of compatible renewable energies, and he made the introduction of such vehicles a pillar of Spain's EU 2010 presidency. Both Greenpeace Spain and the European Federation for Transport and Environment have said that, without modification of EU regulations, the use of electric vehicles actually could lead to an increase in carbon dioxide emissions.

17. All-Electric Garbage Trucks To Sweep French Streets

The lumbering, polluting trucks that have collected garbage from French streets for years will soon become a noisy memory once a new generation of super quiet, all-electric vehicles starts making the rounds. The zero-emission, made-in France trucks are still large and bulky, but they promise to pack as much punch as their cousins with a vastly reduced impact on the environment and a relatively inoffensive, low humming engine sound.

The Paris suburb of Courbevoie, with over 70,000 residents, received the first all-electric trucks on May 12.

All existing trucks -- which operate on dual electric and thermal motors -- will eventually be replaced by the new vehicles, of which 11 will be in operation by the end of this year, according to SITA France, a subsidiary of waste management company Suez Environnement.

In the works for the past three years, the all-white trucks with the words "clean vehicle" proudly displayed on their flanks were developed by French company PVI, which makes electrical vehicles for industry, and Semat, a division of Zoeller that makes collection vehicles. The new generation of trucks operates on lithium-ion batteries made by Dow Kokam, a division of Dow Chemical that allows them to operate for eight hours without recharging.

A handful of French cities have experimented with electric garbage trucks in the past, but slow speeds and limited distances stood in the way of a wider rollout, SITA said.

The new garbage trucks are fully computer-operated and include a screen inside the front cabin so that the driver can see colleagues working behind the truck.

18. EU Climate Chief Confronts Challenge of Deeper CO2 Cut

The European Union can still deepen planned cuts to greenhouse gases beyond 20 percent, but the task is complex and has not been helped by controversy over nuclear power, the EU's climate chief said recently. Climate Commissioner Connie Hedegaard is planning to reveal new research in July on the costs and benefits of deepening carbon emissions cuts to 30 percent by the end of this decade, from the current target of 20 percent.

Big polluters, such as the steel industry, oppose going further, saying the added costs will drive the industry overseas.

Hedegaard said the recent move away from nuclear power by several European countries, such as Germany and Italy, "had not made it easier" to increase climate ambitions. But there were also new opportunities. "It seems many countries now understand that we could move beyond 20 percent by just delivering on our energy efficiency targets," she told reporters in an interview.

Hedegaard's report will be launched at an informal meeting of environment ministers in Poland on July 11th. A similar report last year was strongly rebuffed by industry, but this version takes a detailed look at the individual case for each country. "It is nearly there. It will confirm... that it is possible and doable to deliver on ambitious targets," she said. "But the cost-efficient potential is spread very unevenly across the 27 member states." "For example, Bulgaria is the most energy-intensive country in Europe. There are relatively many low hanging fruit and relatively many cheap reductions to be made there, but of course you do not find a lot of money to invest in this in Bulgaria... How do we handle that challenge?"

A group of 72 businesses, including household names such as Coca-Cola and Google, joined forces recently in support of deeper European cuts to greenhouse gases. They signed a declaration calling for the European Union to extend to 30 percent its planned emissions cuts, which are now targeted at 20 percent below 1990 levels by the end of this decade. The new goal could reduce the cost of oil and gas imports by 45.5 billion euros ($65.4 billion) by 2020, the group said in a statement.

The companies represent a wide range of sectors and include energy suppliers such as Britain's Centrica and Denmark's DONG Energy as well as retailers such as ASDA, Carrefour and Sweden's IKEA. Manufacturers such as Sony Europe and Nike were also on the list, the strongest call yet for more ambitious climate targets to encourage investment in green technology.

The companies' statement contrasts sharply with opposition to the EU's green strategy from heavy industry. Heavy energy users, such as the steel, cement and aluminum industries, argue that stricter emissions cuts give a competitive advantage to less-regulated rivals overseas. These industries also say the economic crisis has left many companies too weak to further reduce their carbon emissions.

Hedegaard also said the EU should start looking at what to do about energy supplies beyond the 2020 horizon. "If you are an investor, a pension fund for example, you are already now looking into the 2020s." "We should discuss -- do we also need targets for renewable energy for 2030? That would send a strong signal to a growing industry in Europe and would take away some of the uncertainty."

Hedegaard's team is wrangling with the European Commission's energy department to ensure that energy efficiency goals do not undermine the EU's carbon market -- its main tool in the fight against climate change. The Emissions Trading Scheme (ETS) covers about 11,000 factories and power plants, forcing them to buy permits for each ton of carbon dioxide they emit, and pushing down their combined emissions with a steadily decreasing cap. Experts warn that an overlying mandate for energy efficiency will reduce demand for permits -- by about 400 million tons in 2013-2020, EU sources say -- leaving them in the market, and exerting downward pressure on prices.

Hedegaard welcomed the plan for energy savings targets, saying that in her previous job as Denmark's environment minister a similar package of targets was "probably the most effective thing we ever did." But she added: "We have to create a correlation between the two different initiatives -- at some point we have to push this issue further."

19. UK To Halve Greenhouse Gases by 2025, If EU Follows

Britain recently committed to halve its greenhouse gas emissions by 2025 but made the binding target conditional on the European Union taking similar climate action. "By making this commitment, we will position the UK a leading player in the global low-carbon economy, creating significant new industries and jobs," Prime Minister David Cameron said.

The country's emissions in 2010 were 25 percent below 1990 levels. Its long-term goal, under a binding law, is to cut greenhouse gases by 80 percent by 2050.

In making the target the government accepted advice from its statutory climate advisers on emissions from 2023-2027, of a so-called fourth carbon budget, after accepting similar recommendations for previous years.

"This is an outstanding example of strong willingness to act despite difficult economic times," said Connie Hedegaard, the head of climate action at the European Commission. "With this decision, the UK seizes a huge economic and innovation opportunity that will make its economy more competitive in the future."

Britain is one of a handful of EU countries which want the bloc to sharpen its emissions cutting target to 2020, a shift many countries especially in Eastern Europe oppose.

At present the EU says that it will only increase its ambition if all countries including the top two emitters the United States and China agree a new global deal to succeed the present Kyoto Protocol after 2012. Many analysts say such a deal is out of reach, under U.N. climate talks long deadlocked over sharing the burden of emissions cuts between industrialized and emerging economies.

"We will review progress in EU climate negotiations in early 2014," said the UK government statement, adding that if the EU's industrial carbon emissions were falling slower than Britain's national trajectory then it would water down its own targets.

20. Coal-Reliant Poland to Hold EU Presidency During Climate Summit

Poland, a country strongly reliant on coal to generate electricity, is preparing to assume the six-month presidency of the European Union as the bloc ponders whether to raise its 2020 goal for reducing greenhouse gas emissions, possibly before the next U.N. climate summit at the end of this year. On July 1 Poland will succeed Hungary as president of the Council of the European Union. Andrzej Kraszewski, Poland's environment minister, will represent the European Union at the U.N. climate summit in Durban, South Africa, in November.

It is customary that the country holding the EU presidency does not use its period of office to settle its own interests. But Poland has a large stake in the discussions about greenhouse gas emissions goals. The European Union currently has a binding goal to reduce its greenhouse gas emissions 20 percent by 2020 compared to 1990 levels. EU Climate Action Commissioner Connie Hedegaard has pushed for a 30 percent target. In March, her Commission department published an analysis showing that, if the European Union is to reduce emissions by at least 80 percent by 2050, the most cost-effective option would involve cutting emissions 25 percent by 2020.

Magda Sikorska, spokeswoman for Poland's Environment Ministry said, “There is no definite time yet as regards the final decision to be made on the reduction ceiling.” But the upcoming summit in Durban could put pressure on the bloc to set a good example.

“The protection of climate will be the chief task of the Polish presidency,” Kraszewski said at a May 18th news conference. “But it will be the protection of climate in line with the specifics of the Polish economy.” He said coal is one such specific issue, as 92 percent of Poland's electrical power is generated from coal. Kraszewski said Poland “cannot afford” a 30 percent reduction goal, but he did not address a potential 25 percent goal. (See story below.) At least 10 nations that joined the European Union in 2004 oppose the tougher goal because their industries depend heavily on coal to produce electricity.

Another priority item on the agenda of the Polish presidency will be the adoption of an EU position for the U.N. climate summit. “Poland will be the face of Europe in Durban,” said Kraszewski, who will speak on behalf of the European Union. “Poland will have to find a way so that Durban is a success because the EU is a driving force in the area of climate protection in the world."

On May 31st, Poland's Council of Ministers approved a broad operational plan for Poland's EU presidency. It calls for stronger integration of the 27 member states and making EU institutions in Brussels more active in dealings with foreign energy suppliers, but it does not offer specifics about climate or environmental issues.

Poland's approach to climate targets has its critics. Lena Kolarska-Bobinska, a member of the European Parliament who represents Poland, was critical at a May 10th international forum of her country's attitude toward energy and its reluctance to raise the 20 percent EU emissions reduction goal. She said Poland is doing little to catch up with technological innovations in energy happening elsewhere. "We are late and we should change our way of thinking," she said.

21. Poland Says Cannot Afford Stringent Emissions Cuts by 2020

The CO2 reduction path outlined in EU's low carbon roadmap is not acceptable for Poland, Deputy Prime Minister Waldemar Pawlak has said following his country's rejection of the plan at an EU meeting. Deeper emission cuts by 2020 would have a dramatic impact on Poland's economy and particularly its energy sector, which still relies mostly on coal for power generation, said Mr Pawlak. European policy cannot be detached from reality, he added.

At the center of Poland's concern is the suggestion that the EU could cut its emissions by 25% by the end of the decade. Although this is just a recommendation, the member state fears that endorsing it would open the way to the adoption of more ambitious goals, possibly even 30%. There is growing support for such a target.

EU affairs minister Mikołaj Dowgielewicz said that his environment colleague Andrzej Kraszewski had acted responsibly at the EU ministerial meeting in Luxembourg. "We had no other choice especially because the discussion [on the roadmap] was interrupted [to proceed to the vote]," he told Polish press agency PAP.

The government says it did not want to be rushed on this issue, demanding more comprehensive talks on the likely impacts on different sectors and member states. The European Commission is due to publish such an analysis before the summer break.

The European Commission tried to temper suggestions that Poland's rejection of the roadmap put the EU's low carbon plan in jeopardy, noting its objection was only to one sentence in the text referring to the ability to move to 25%. It also believes that no other member state would have vetoed the plan had Poland not done so.

The European Parliament, which was due to vote on a resolution calling for a 30% cut, has delayed the vote until July.

22. Report Allegedly Finds Proof of Efficiency Rebound Effect

Though it is still difficult to measure, the percentage of resource efficiency gains lost to the so-called rebound effect is not insignificant, according to a report set to be published by the European Commission in June. The results of the consultancy report, which has been submitted to the commission and is awaiting publication, were presented at Green Week in Brussels.

Some experts are still unconvinced by the existence of a rebound effect. Even if this can be proven, it is likely to be a very marginal phenomenon, they believe.

Such an effect occurs when a driver who buys a more fuel-efficient car takes advantage of the lower costs to drive further and more often. Estimates for the potential rebound effect from commercial road transport efficiency measures vary between 30 and 80%. Although this is a wide range, the report shows a rebound is happening.

The report identifies three types of rebound effects: direct, where lower costs for a resource such as energy or water result in increased usage; indirect, where efficiency savings encourage a consumer to pollute more; and the cumulative effects of both types.

Direct effects have been the most studied, but estimates still vary widely. Governments do not take into account these rebound effects when developing policies, the report finds. Only the UK does so for its energy efficiency policy, it notes.

Green group CEEWeb has said capping resource use is the only way to stop the rebound effect. According to the authors of the consultancy report, this could also be avoided by maintaining prices at the same levels through fiscal measures. But this would be politically unpopular, they told Green Week delegates.

23. Netherlands Pushes Ahead With Gigaliner Lorries

The Dutch environment ministry has announced that it will allow so-called 'gigaliners' – trucks up to 25 meters long and 60 tons in weight – to operate within the country. But green transport group T&E says this violates EU law. Europe restricts the length of trucks to 18.75m and their weight to 40-44t. EU rules allow member states to use the large trucks on certain routes for a trial period. T&E says the plan, which allows national use with no expiry date, does not meet these conditions.

A Dutch ministry spokesman told the press that the member state had taken this measure to reignite debate over gigaliners and hopefully change EU rules to allow them. The plan must be submitted to the European Commission for approval.

The Netherlands and the Nordic countries have been pushing for the EU to revise its policy on lorry size for some time. But the issue has been stalled for several years. Stakeholders are split over whether to allow the gigaliner trucks in Europe. The road transport industry says longer trucks save fuel because two gigaliners can replace three regular trucks. But a 2009 German study warned increased use could lead to a 30% modal shift from rail to roads and a rise in CO_2 emissions.

24. EU Groups File Lawsuit Seeking Biofuel Sustainability Certification Details

On May 26th, nongovernmental organizations filed a lawsuit against the European Commission in the General Court of the European Union in an attempt to obtain information about voluntary certification schemes designed to ensure adherence to biofuel sustainability criteria. Biofuels are expected to play a major role in EU plans for renewable energy to provide 10 percent of the transport fuel mix by 2020. To ensure that producers adhere to biofuel sustainability criteria designed to prevent environmental degradation and biodiversity damage, the Commission is establishing a voluntary certification scheme to be administered by accredited groups.

The EU-based plaintiffs, including Friends of the Earth Europe, the environmental law organization Client Earth, and the lobbying watchdog group Corporate Europe Observatory, say they have sought information from the Commission on how it will determine which groups should be accredited but have been rebuffed in their request. They say the Commission has violated EU transparency laws.

The environmental advocacy groups maintain that the damage done by first-generation biofuels derived from grain crops to the environment and the social fabric of communities outweighs the greenhouse gas benefits that are supposed to be achieved. “The amount of money at stake over Europe's biofuels policy is colossal and so is the potential for environmental devastation,” said ClientEarth Director James Thornton. “These policies are too important to shield from scrutiny, and decision-making processes need to be more participatory. We need to know which organizations have applied to run voluntary certification schemes and how they have been chosen so that we can be certain that they will provide robust and reliable information.”

The lawsuit comes amid intense lobbying of the Commission on the issue of whether to incorporate “indirect land-use criteria” (ILUC) in the biofuel sustainability criteria. Industry groups say that could make production of biofuels economically unfeasible. The European Renewable Ethanol Association (iPURE) and the European farmers trade group Copa-Cogeca say models used to draw up ILUC covering issues such as biofuel production, impact on deforestation, food production, and greenhouse gas emissions are not based on sound science and are inadequate for making policy. The Commission is due to decide the matter by July.

25. Norway Renews Nitrogen Oxides Tax Scheme

On May 19th, a Norwegian government application to renew a nitrogen oxides tax exemption scheme was approved by the European Free Trade Association Surveillance Authority, the body charged with enforcing EU trade rules in European Economic Area (EEA) nations. The revised exemption scheme, covering the period 2011–2017, took effect immediately. Although Norway is not an EU member, its membership in the EEA requires it to adhere to EU trade laws.

Originally introduced for the period 2008–2010, the plan exempts participating businesses from the nation's nitrogen oxides tax, currently set at 16.43 Norwegian kroner ($2.96) per kilogram emitted. Instead, the companies pay a lesser amount into the Business Sector's NOx Fund, which finances projects to reduce emissions of nitrogen oxides in Norway. Most companies immune from the tax under the previous plan will retain their exemption.

On May 24th, the NOx Fund Manager told the press that the required contribution to the fund will remain at NOK 4 ($0.72) per kilogram of nitrogen oxides for most participating companies and NOK 11 ($1.98) per kilogram for offshore oil and gas exploration companies. However, he said, the revised scheme extends liability to include emissions from journeys between oil and gas installations made by so-called offshore service vessels. Previously, only such vessels' journeys to and from land were included in companies' emissions calculations.

Norway has committed to reduce its emissions of nitrogen oxides by 16,000 metric tons between 2011 and 2017, which is not as aggressive as the previous reduction period. The more modest target is due to the fact that many relatively cheap and easy solutions, such as the modification of engines to reduce nitrogen oxides emissions, have already been implemented.

While the previous reduction period covered more than 600 companies, or 93 percent of taxable emissions in 2010, 540 companies have joined the new scheme for 2011–2017. However, more companies are expected to join before the cutoff date of July 1, after which companies gain a tax exemption only from the date they join, as opposed to the current date of Jan. 1, 2011.

While the EFTA Surveillance Authority considered that the Norwegian exemption constituted state aid, it said in a May 19 statement that the plan was compatible with its permitted environmental exemptions.

26. Russia's Khimki Forest Threatened by Highway Project

Time is running out for Russian activists hoping to stop the construction of a highway through an old growth forest outside of Moscow. In an eleventh hour campaign, the Movement to Defend Khimki Forest is targeting the French company overseeing the controversial project. Vinci, one of Europe’s largest corporations, signed the contract for the Moscow-St. Petersburg motorway in 2009 and could shortly begin the first phase of development. The 43-kilometer section will slice through the heart of an old growth oak forest, an important corridor for large game and home to numerous endangered plant species, as well as a cherished greenbelt on the edge of one of the world’s most polluted cities.

The campaign to save the forest has met with strong reprisals from armed individuals and state security services. It has also been remarkably successful in rallying international attention as well as building broad based support within Russia (an overwhelming majority of Russians oppose the planned route). The activists are calling on Vinci to withdraw in the hope that it will force a reappraisal of the project.

After a week of international actions and a petition on Change.org that generated more than 20,000 responses, Defend Khimki’s leader traveled to Paris herself to deliver the petition to Vinci at the company’s annual shareholders meeting on May 2nd. Until recently the company, which made profits of more than $46 billion in 2010, has been conspicuously silent on the question of human rights abuses, corruption, and lack of transparency associated with the highway project, which is hailed as Russia’s first public-private partnership in the area of road construction.

Since its inception the highway project has been marred by vicious attacks directed at journalists who have investigated the issue and the opposition movement. Activists have been repeatedly attacked and arrested for simply demanding greater accountability. In late March Bankwatch Network and Defend Khimki appealed to the United Nations Global Compact, to which Vinci is a signatory, asserting that the company has violated its commitment to human rights and the environment. Vinci finally responded in a letter to the Business and Human Rights Network condemning the use of violence and denying any link whatsoever between the project and the attacks that have occurred.

In a statement last week French MEP and Green Party member Michèle Rivasi said that, “it's particularly shocking to see a French company - Vinci - participating in this harmful project. I ask the Russian authorities to stop violence against activists and Vinci to withdraw from this project.” Activists suggest rerouting, and have had an independent analysis conducted that proposes several other options.

For its part Vinci has shown no sign that it will reconsider its involvement in the project despite the fact that both the European Bank of Reconstruction and Development and the European Investment Bank have withdrawn their support. Vinci is due to sign a new contract for the first phase of development—valued at EUR 1.5 billion—at any moment.

In its notice to shareholders for the annual meeting in Paris, the Moscow-St. Petersburg motorway is referred to only in passing as one of the company's "commercial successes" in 2010. Indeed Vinci stands to profit for years to come; they've been granted a concession to operate the portion of the toll road that would cut through the Khimki forest for at least the next thirty years. And the company sees Russia as a major new market.

That is all true. But before even breaking ground on its first project Vinci has met an unlikely roadblock: a well-organized popular protest movement in a country that isn't supposed to have one. It's taken Vinci a while to respond, even indirectly, to the protesters' demands and questions. But even a visit to Paris, it seems, has left them undeterred. At the shareholders meeting Vinci Chairman and CEO Xavier Huillard said construction would begin in a few months and that the company bears no responsibility for the route selection or land acquisition.

On May 23, Russia's Presidential Council on Human Rights held an emergency session to discuss a resolution to the ongoing conflict between environmentalists and highway construction workers in the Khimki Forest. "This is going to be an emergency session that will include representatives of every law enforcement agency and legal entity. It's important to hear every side's position," said council member Kirill Kabanov. Materials from the meeting will then be sent to President Dmitri Medvedev. "He won't be at the session. But the president reacts to all legal violations very seriously. Private security companies don't have the right to beat people," Kabanov said.

President Medvedev temporarily halted construction of the highway through the forest this past August. However, several months later Vice Prime Minister Sergei Ivanov announced that construction would resume, citing reports by a government-organized commission.

NORTH AMERICA

27. Court Rejects Move To Stop California Clean Car Program

A federal appeals court has rejected a challenge to the government's decision to allow California to cut greenhouse gas emissions from new cars sold in the state. The U.S. Chamber of Commerce and National Automobile Dealers Association asked an appeals court to review a waiver the Environmental Protection Agency gave California from a federal clean air law to allow the state to implement its own vehicle emissions standards. The EPA waiver went beyond California as 14 others states eventually adopted the same clean car program.

Automakers agreed not to fight the EPA waiver, which resulted in higher vehicle fuel economy requirements. However, the two trade groups, acting on behalf of their automobile dealer members, argued it was unreasonable for EPA to give California a waiver for dealing with the world-wide environmental problem of global warming.

The appeal courts said it lacked jurisdiction to decide the lawsuit brought by the two trade groups against the EPA waiver and it dismissed the petition to review the agency's decision. The court said the Chamber lacked the authority to challenge the waiver because it "has not identified a single member who was or would be injured by EPA's waiver decision." The court also said the automobile dealers group could not show where any of its members had suffered an "actual injury" from the EPA waiver.

"We will not vacate the waiver decision granting California this enforcement authority simply because the particular petitioners before us lack the requisite personal stake to sustain their challenge," the court said. The appeals court also noted that California's emissions standard regulates automakers and not automobile dealers.

"This is a major victory for the millions of Americans that are working together to unleash smart policies to break our dependence on oil, save families money at the gas pump and reduce dangerous pollution," said the Environmental Defense Fund.

28. California Turns To Clean-Car Plans

California's clean air regulators, fighting to create a market for greenhouse gases and spur wind farms and solar projects around the state, are now shifting their focus to cars. State law requires California cut emissions of greenhouse gases to 1990 levels by 2020. To do that California aims to let polluters trade the right to emit, which planners believe would create a race to find the most effective way to cut carbon emissions, and to vastly increase solar power and wind generation. But the key, Air Resources Board Chair Mary Nichols told a recent conference in San Francisco, are vehicles which produce 40 percent of the state's greenhouse gases and a high percentage of other pollutants. "Most important for Californians, from an air quality perspective, is still the cars. After all these years, it's still the cars," Nichols, who is hammering out new standards and incentives for battery and fuel-cell vehicles, said by phone.

California is the biggest U.S. car market and also has the distinction of being able to set policy independent of federal rules, making it over the years into a laboratory for change. "The next big regulatory action that's going to be forthcoming both at the federal and the state level is the proposed emissions standards for passenger cars and light-duty trucks that will be published at the end of September," she said.

The state also has a program focused on so-called zero-emission vehicles, the cutting edge of clean cars. Regulators propose rules that in 2018 would put more than 81,000 clean vehicles on the road, or 5.5 percent of new cars sold, including vehicles which run at least 35 miles without emissions, such as the Chevrolet Volt plug-in hybrid, and pure zero-emission vehicles like the battery-only Nissan Leaf or a fuel cell vehicle. That would rise to more than 227,000 vehicles, or 14 percent of the new fleet, in 2025. By that year 8 percent of new cars, or 127,000 cars sold, would be pure zero emission, slides from an Air Board presentation forecast.

Only about 5,000 pure electric vehicles have been put into service so far in California.

The state, whose rules could be followed by about a dozen other states and likely would influence national policy, aims to offer incentives as well as rules, and Nichols said a successful market would need charging and fuel infrastructure, for example.

29. California Gets Carbon Market Court Win

A California appellate court has ruled that state regulators can proceed with plans to implement a carbon cap-and-trade system, a decision that puts them on track to launch the market as scheduled in January 2012. The ruling by the California First District Court of Appeal is the latest chapter in a months-long legal battle over plans by the state Air Resources Board to establish a carbon market to help California's biggest greenhouse gas polluters reduce emissions to 1990 levels by 2020, as required by state law.

On May 20th, a San Francisco Superior Court judge ordered state officials to halt work on the planned market, but the regulator was successful in getting a temporary stay on that order from the appellate court in early June. In its latest ruling, the court granted a state request that regulators be allowed to continue work pending the court's decision. The lower court ruled that the state had failed to adequately analyze alternatives to a carbon market when it approved a statewide greenhouse gas reduction plan in 2009.

A source with the appellate court reportedly said it could take well over a year before the busy court weighed in on the matter, which should give state regulators enough time to complete work on the details of a carbon market this year. The regulators had planned a series of key market design release dates and public stakeholder meetings throughout the course of the year.

Key decisions, including how to allocate billions of dollars worth of pollution permits to utility companies and how to use revenue raised from the auction of those allowances, have yet to be made.

The Air Resources Board has said the cap-and-trade system will be responsible for about 20 percent of the state's overall emissions cuts required to meet the 2020 target.

30. California To Delay 0.1% Sulfur Marine Fuel Deadline To 2014

The California Air Resources Board (ARB) has proposed to delay the implementation date of the 0.1% sulfur limit for ocean going ships in California waters from 2012 to 2014. This new deadline would be one year ahead of the 0.1% S limit adopted by the IMO and the federal US EPA regulations.

The California regulation, adopted in 2008, requires operators of ocean-going vessels to use less polluting marine distillate fuels instead of heavy fuel oil in their diesel engines and auxiliary boilers while operating within approximately 24 nautical miles of the California coastline. The fuel requirements are implemented in two phases. The Phase 1 fuel requirements, which began implementation on July 1, 2009, require the use of either marine gas oil (MGO) with a maximum sulfur limit of 1.5%, or marine diesel oil (MDO) with a sulfur limit of 0.5%. The Phase 2 requirements, which are scheduled to begin in 2012, specify the use of either MGO or MDO at 0.1% sulfur.

The Phase 1 of the regulation has triggered some undesirable route changes by ship operators. A large number of operators chose to move from the traditional route through the Santa Barbara Channel, which lies within the zone covered by the clean fuel regulation, to a route on the Southern side of the Channel Islands, an area outside of the regulated zone. Because vessels on the Southern side of the Channel Islands do not have to use low sulfur fuels, this change in routes has reduced the expected emissions reductions from the regulation. In addition, because the route on the Southern side of the Channel Islands goes through the US Navy Point Mugu Sea Range, the US Navy has raised concerns regarding the increased potential for vessels to interfere with military operations. The proposed amendments therefore also include changes to the geographical boundaries for the low sulfur fuel requirements, which are intended to lessen the economic incentive for ship operators to transit through the Point Mugu Sea Range instead of the Santa Barbara Channel.

31. EPA, Coast Guard to Enforce Pollution Requirements for Vessels

The U.S. Environmental Protection Agency (EPA) and the U.S. Coast Guard (USCG) today announced an agreement to jointly enforce U.S. and international air pollution requirements for vessels operating in U.S. waters. The requirements establish limits on nitrogen oxides (NOx) emissions and require the use of fuel with lower sulfur content. The most stringent requirements apply to ships operating within 200 nautical miles of the coast of North America.

“Today’s agreement forges a strong partnership between EPA and the U.S. Coast Guard, advancing our shared commitment to enforce air emissions standards for ships operating in U.S. waters,” said Cynthia Giles, assistant administrator for EPA’s Office of Enforcement and Compliance Assurance. “Reducing harmful air pollution is a priority for EPA and by working with the Coast Guard we will ensure that the ships moving through our waters meet their environmental obligations, protecting our nation’s air quality and the health of our coastal communities.”

"This agreement demonstrates the Coast Guard's long-standing commitment to protecting our nation's marine environment," said Rear Adm. Kevin Cook, director of Prevention Policy for the U.S. Coast Guard. "Aligning our capabilities with EPA enhances our commitment to the marine environment while minimizing the impact on shipping."

The large marine diesel engines that provide propulsion and auxiliary power on many ocean-going vessels emit significant amounts of pollution. Without further action, EPA estimates that by 2030, NOx emissions from ships will more than double, growing to 2.1 million tons per year. The memorandum of understanding (MOU) signed by EPA and the USCG outlines the agencies’ commitment to jointly enforce federal and international laws that EPA projects could prevent 12,000-31,000 premature deaths annually by 2030. Under the MOU, both the USCG and EPA will perform inspections and investigations, and will take appropriate enforcement actions if a violation is detected.

A letter to industry was also signed by USCG and EPA to provide the regulated community with notice that USCG and EPA will be taking measures to promote compliance with federal and international air pollution requirements and will be actively pursuing violations.

32. U.S. Asks EU to Exempt Airlines from Emissions Limits

The United States has asked that its airlines be exempt from an EU requirement that airlines have emissions credits to cover greenhouse gases stemming from flights originating in or departing from Europe. “We clearly stated our strong objections to the EU plans on both legal and policy grounds,” a U.S. administration official said on June 22nd during a background teleconference after a two-day meeting in Oslo about the EU-U.S. Open Skies agreements.

Under the European Union's Emissions Trading System, emissions from airlines will be capped at 97 percent of the average 2004-2006 annual emissions of airlines using EU airports starting Jan. 1, 2012. Airlines exceeding their caps must go to the carbon market to buy additional emissions allowances. The caps will be gradually tightened.

“We don't oppose market-based measures, but there are other ways to address climate change,” the administration official said. “We don't feel it is appropriate for the U.S. to apply its mechanism to all other countries. Each county is responsible for regulating the emissions of its airlines.”

Under the EU ETS, airlines instead could comply with equivalent requirements imposed in their own countries. The administration officials on the call said they did not discuss the definition of an equivalent measure, but they expressed concern about “discrimination potential” in the defining and application of those equivalent measures.

A hearing has been scheduled for July 5 before the Court of Justice of the European Union on a lawsuit filed by the Air Transport Association of America, American Airlines, Continental Airlines, and United Airlines regarding the application of the EU emissions program to U.S. airlines. A spokesman for the Air Transport Association of America said the association “strongly” supports the U.S. complaint.

33. EPA Delays Rollout of CO2 Rule on Power Plants

The Environmental Protection Agency, under pressure from Republicans and big utilities, said it had extended a deadline by two months on draft rules that would for the first time limit greenhouse gas emissions from power plants. The EPA said it had moved the date for proposing the rule from July 26 to September 30 after listening to businesses and states that will have to implement the regulation. The rule, known as a performance standard, would limit the amount of carbon dioxide that U.S. power plants may emit.

The move was expected as the EPA has taken on its most ambitious agenda in years. Republicans in Congress and big utilities have complained the rules could cost jobs and raise energy prices. The EPA said in a release that the "stakeholders have presented the agency with important input which deserves to be fully considered." The deadline for final standards remains May 16, 2012, the EPA said.

Ahead of next year's elections, Republicans, and some Democrats from energy-intensive states, have been trying to slow or stop the EPA from regulating several kinds of air pollution.

But President Barack Obama has pledged to cut greenhouse gas emissions about 17 percent from 2005 levels by 2020. Rolling out EPA rules on emissions from smokestacks and tailpipes has been the administration's main strategy to control pollution after a comprehensive energy bill failed in the Senate last year.

The EPA is expected to give states and companies a wide range of options for compliance, including through regional cap-and-trade programs on emissions, or switching from coal to natural gas and renewable power such as wind and solar. Electricity generators that burn a lot of coal, such as American Electric Power and Southern Co, would have to figure out how to cut their emissions.

The EPA said the deadline remained December for a proposed rule on greenhouse gas emissions from oil refineries.

34. NAS Says Better Communication Needed in U.S. Response To Climate Change

A comprehensive national response to climate change should be informed by reliable data coordinated through climate services and a greenhouse gas monitoring and management system to provide timely information tailored to decision makers at all levels, says a report by the National Research Council. The report recommends several mechanisms for improving communication about climate science and responses and calls for a systematic framework for making and evaluating decisions about how to effectively manage the risks posed by climate change.

"Global climate change is a long-term challenge that will require all of us to make many decisions about how to respond," said Diana Liverman, co-chair of the panel that wrote the report, co-director of the Institute of Environment at the University of Arizona, Tucson, and a senior research fellow at Oxford University. "To make choices that are based on the best available science, government agencies, the private sector, and individuals need clear, accessible information about what is happening to the climate and to emissions. We also need information on the implications of different options -- especially to assess whether policies are effective."

The federal government needs to establish information and reporting systems -- such as climate services and a greenhouse-gas accounting system --that provide a range of information on climate change and variability, observed changes and causes, potential impacts, and strategies for limiting emissions or adapting to impacts. Although the report does not specify a particular agency to lead federal efforts, it emphasizes the importance of coordination across the federal government and with state, local and private sector decision makers. Leadership might come through executive orders, existing units such as the Office of Science and Technology Policy, an expanded U.S. Global Climate Change Research Program, or new entities, the report suggests.

The new national system for providing climate services should inform decision makers and assist them in managing climate-related risks. It would coordinate data among several agencies and incorporate regional expertise. Information should be timely, authoritative, and based on rigorous natural and social science research and tailored to government- and private-sector users at the national, regional, and local levels. For example, agricultural producers trying to decide which crops to grow need timely seasonal forecasts, data on likely outbreaks of diseases or pests, and advice about long-term strategies for adapting to climate impacts; and forest and park managers need information to control fires and plan for longer-term ecosystem management.

The report identifies several key functions that should be included in climate services, such as enhanced observations and vulnerability analyses on a regional scale, sustained interaction with stakeholders and research to understand their needs, an international information component that provides data on global climate observations and impacts, and a central accessible web portal that encourages sharing of information. These functions might be overlooked if the services are based only on existing federal capabilities, the report says.

The proposed comprehensive greenhouse gas management system for monitoring, reporting, and verifying emissions should include a unified accounting protocol and a registry to track emissions at a detailed level. Monitoring is essential for developing effective emissions policies and verifying claims that emissions have been reduced, the report says. Such a system could build on the existing expertise of agencies such as the U.S. Environmental Protection Agency and the U.S. Department of Energy.

These systems should also be designed to evaluate and assess state and local government and private-sector responses, many of which already are occurring. For example, more than half of Americans live in states, counties, and cities that have enacted a goal to reduce greenhouse gas emissions, and many private companies are taking significant steps to reduce their carbon footprints. Federal policies should not unnecessarily supersede measures already being taken regionally or locally, the report says.

To effectively manage the serious risks posed by climate change, decision makers need to account for many uncertainties about the severity of impacts and options for responding to them and be able to modify their choices based on new information and experience. Therefore, decision makers in the public and private sectors need to implement an iterative risk management strategy that adapts to new information, conditions, or technologies that could affect climate change policies, the report says. To that end, the government could also review and revise programs such as federal crop and flood insurance in the light of the risks of climate change. The study panel endorsed steps already taken by federal financial and insurance regulators such as the Securities and Exchange Commission to require disclosure requirements for climate change risks.

Although public beliefs and attitudes about climate often shift from year to year, recent opinion polls indicate that many Americans are concerned about climate change and want more information about the causes, consequences, and potential solutions, the report says. It identifies several barriers to communication about climate change and recommends some strategies for overcoming them, such as urging federal agencies to support training for researchers on how to communicate complex climate change information and uncertainties to different audiences. In addition, a national task force of educators, government leaders, policymakers, and business executives should be established to improve climate change communication and education.

Consumers can play an important role in responding to climate change by choosing to reduce their energy use and selecting more energy-efficient products with lower emissions. The federal government should review and promote credible product standards and labels for consumers that provide information about energy efficiency and greenhouse gas emissions, the report says. The government should also consider establishing an advisory service on these issues targeted at the public and small businesses.

The report is part of a congressionally requested suite of studies known as America's Climate Choices, which also includes three other recently released reports. An overarching report to be released later this year will build on all four reports and other materials to offer a scientific framework for shaping the policy choices underlying the nation's efforts to confront climate change.

35. Republican Romney: 'The World Is Getting Warmer'

Presidential hopeful Mitt Romney broke with Republican orthodoxy recently by saying he believes that humans are responsible, at least to some extent, for climate change. "I believe the world is getting warmer, and I believe that humans have contributed to that," he told a crowd of about 200 at a town hall meeting in Manchester, New Hampshire. "It's important for us to reduce our emissions of pollutants and greenhouse gases that may be significant contributors."

The former Massachusetts governor fielded questions on topics ranging from the debt ceiling to abortion on his first official day of campaigning for 2012 Republican primary nomination.

Romney leads opinion polls in New Hampshire by a wide margin, and is among the top contenders nationally to win the Republican contest to challenge Democratic President Barack Obama.

In addressing climate change and energy policy, Romney veered from the party's usual skepticism on global warming, when he called on the United States to break its dependence on foreign oil, and expand alternative energies including solar, wind, nuclear and clean coal. "I love solar and wind (power) but they don't drive cars. And we're not all going to drive Chevy Volts," he said, referring to electric cars.

The United States cannot go it alone in attempting to trim emissions levels and give a free pass to countries such as China and Brazil, Romney said. "It's not called American warming, it's called global warming," he said.

Republicans in the U.S. Congress oppose cap-and-trade legislation to reduce carbon emissions and are generally cool to the idea that global warming is caused by human activity.

Software developer Michael Hillinger, 60, of Hanover, New Hampshire, posed the climate change question. Romney's answer provided plenty of wiggle-room, Hillinger said, but "he is taking a more forthright stand than any of the other candidates."

At a recent event in Manchester, former House of Representatives Speaker Newt Gingrich, also running for president, said that climate change is "the newest excuse to take control of lives" by "left-wing intellectuals."

36. Vancouver Suburb Requires New Gas Stations to Offer Alternative Fuel

On May 30th, the City Council in the Vancouver suburb of Surrey passed a bylaw requiring future service stations opening in the municipality to offer at least one alternative fuel source. New stations in the city will have to provide hydrogen fuel, electric car-charging stations, or compressed natural gas in addition to gas, diesel, and propane. “We want to build the alternative fuel infrastructure of the future,” Mayor Dianne Watts said in a news release. “It's important for governments to set an example and lead the way in terms of advancing new technologies.”

Surrey, which has about 474,000 residents, has two hydrogen fueling stations and is building a fleet of green city vehicles to cut greenhouse gas emissions. The vehicles are hybrids or run on biofuel, hydrogen, or electricity, Watts told the press. “We are also building a biofuel facility that will fuel our garbage trucks from our organic waste stream,” Watts said.

37. Rockies Snow Decline Bad Sign For Water Supply

Snowpack declines in the Rocky Mountains over the last 30 years are more significant than during any other period in past centuries and foreshadow a strain on summer water supplies for more than 70 million people across the Western United States, a U.S. government study said. Despite this year's record snowpacks in the Rockies and resulting floods, declines over the three decades have shown a an unusual pattern compared to reconstructions of snowpacks going back 1,000 years, according to the Geological Survey study released in the journal Science.

Runoff from winter snowpack, layers of snow that build up in mountains, accounts for 60 to 80 percent of the West's annual water supply, the study said.

The declines can be attributed to unusual springtime warming caused by man-made climate change and come during the summer, which is the period of highest demand for water in the West, it said. "The more we increase temperature, the earlier we melt out our snow pack and the less of it there is to get though our warm dry summers," said USGS scientist Gregory Pederson, the lead author of the study.

Pederson declined to predict how the declines would affect humans in the West, saying that people have long been creative in finding new ways to divert and store water when it is needed. But he said agriculture and industries that depend on annual allocations of water could suffer. In addition, cold water fisheries could be damaged as warmer water flows downstream.

Pederson and other scientists at the USGS and at the Universities of Arizona, Wyoming and Western Ontario reconstructed past snowpacks using tree ring data going back 500 to more than 1,000 years. Lower elevation trees such as ponderosa pines grow larger tree rings during big snowpack years as annual melts provide water downstream, while high elevation trees, including mountain hemlocks, grow small rings during big snowpacks because they impedes growth.

The data showed that with few exceptions northern Rocky Mountain snowpacks were large when southern Rocky snowpacks were small and vice versa. But since the 1980s there were simultaneous declines along the entire length of the Rocky Mountains, the study showed. "This scientific work is critical to understanding how climate change is affecting western water supplies," Secretary of the Interior Ken Salazar said in a statement. He said it helps land managers adapt to changing conditions, assists water managers with planning, and gives the public an understanding of the impacts that human-produced carbon emissions are having on U.S. resources.

38. EPA, DOT Unveil the Next Generation of Fuel Economy Labels

The U.S. Department of Transportation and the U.S. Environmental Protection Agency have unveiled new fuel economy labels that will help consumers take advantage of the increased efficiency standards recently achieved. The new labels will provide more comprehensive fuel efficiency information, including estimated annual fuel costs, savings, as well as information on each vehicle’s environmental impact. The new labels underscore the benefits of the historic, bipartisan passenger car and truck fuel economy rule adopted by the EPA and DOT in 2010.

These improvements will give consumers better, more complete information to consider when purchasing new vehicles that are covered by the increased fuel economy standards. Starting with model year 2013, the improved fuel economy labels will be required to be affixed to all new passenger cars and trucks – both conventional gasoline powered and “next generation” cars, such as plug-in hybrids and electric vehicles.

Upon taking office, President Obama directed DOT and EPA to prioritize the development of new fuel efficiency and greenhouse gas emissions standards, resulting in the standards that will be represented by these new labels. This is the latest step in EPA’s and DOT’s joint efforts to improve the fuel economy and environmental performance of vehicles and to provide consumers with useful information to inform their purchasing decisions.

The 2010 fuel economy rule, developed with input from major automakers, environmental groups, and the states, will dramatically increase the energy efficiency of cars and trucks built in model years 2012 through 2016, saving 1.8 billion barrels of oil over the life of the program and the average consumer $3,000 in fuel costs.

In July, the administration plans to finalize the first-ever national fuel economy and greenhouse gas emission standards for commercial trucks, vans and buses built in 2014 to 2018. These standards are expected to save hundreds of millions of barrels of oil over the life of these vehicles and promote the development and deployment of alternative fuels, including natural gas. The administration is also developing the next generation of joint fuel economy/greenhouse gas emission standards for model year 2017-2025 passenger vehicles and expects to announce the proposal in September 2011.

The new labels will help consumers take advantage of the new, more energy efficient fleet, allowing them to save money at the pump. Consumers will see the new labels in showrooms early next year, when 2013 models begin arriving. Automakers may also voluntarily adopt the new labels earlier for model year 2012 vehicles.

The new labels will for the first time provide:

- New ways to compare energy use and cost between new-technology cars that use electricity and conventional cars that are gasoline-powered.

- Useful estimates on how much consumers will save or spend on fuel over the next five years compared to the average new vehicle.

- Easy-to-read ratings of how a model compares to all others for smog emissions and emissions of pollution that contribute to climate change.

- An estimate of how much fuel or electricity it takes to drive 100 miles.

- Information on the driving range and charging time of an electric vehicle.

- A QR Code that will allow users of smartphones to access online information about how various models compare on fuel economy and other environmental and energy factors. This tool will also allow consumers to enter information about their typical commutes and driving behavior in order to get a more precise estimate of fuel costs and savings.

The new labels are required by the Energy Independence and Security Act of 2007.

39. API Warns EPA About “Unreasonable” Regulations; OMB Finds Opposite

The US Environmental Protection Agency needs to consider that “overly burdensome” regulations reduce investments by US businesses and cost jobs, an American Petroleum Institute spokesman said on June 1st, adding the EPA has not gone far enough to ease such regulations. API particularly is concerned about EPA implementing greenhouse gas regulations and ozone rules, Howard Feldman, API director of regulatory and scientific affairs, said during a June 1 conference call with reporters.

While acknowledging EPA took steps to reduce some regulations, API still believes US President Barack Obama’s administration needs to do more to help the recovering economy, Feldman said. "People need jobs, and in order to provide those jobs, American businesses need to be assured that the rules they must comply with are predictable and reasonable," he said.

Earlier this year, API submitted 30 pages of suggestions to EPA and 19 pages to the Department of the Interior in response to President Obama's request for comments on overly burdensome regulations.

In January 2010, EPA proposed a rule to lower the primary National Ambient Air Quality Standard (NAAQS) for ozone from the current standard of 75 ppb to 60-70 ppb. Although the rule typically gets reviewed every 5 years, EPA is pushing with this new standard 3 years after its previous review. "Reasonable ozone standards are appropriate, but EPA's proposals are anything but reasonable," Feldman said. The proposed standard is so low that it approaches natural background levels of ozone and even Yellowstone National Park would not meet the new standards, he said.

EPA's analysis shows that tightening the ozone standards will cause up to 96% of all US counties with air quality monitors to fail the standards, Feldman said. He cited research by the Manufacturers Alliance and MAPI that found EPA's ozone proposal could result in 7.3 million US jobs lost by 2020 and could add $1 trillion/year in regulatory costs during 2020-30.

Ironically, as big polluters such as API continue to bash the EPA, a new report appears to confirm the exact opposite, i.e. EPA's regulations are among the most cost effective in all of the government.

The report from the White House Office of Management and Budget on the costs and benefits of federal regulations looked back at thousands of rules issued during the past decade. http://www.whitehouse.gov/sites/default/files/omb/inforeg/2011_cb/2011_cba_report.pdf

And they found that EPA air pollution control requirements bring the biggest benefits!. As it states, "**It should be clear that the rules with the highest benefits and the highest costs, by far, come from the Environmental Protection Agency and in particular its Office of Air. More specifically, EPA rules account for 62 to 84 percent of the monetized benefits and 46 to 53 percent of the monetized costs. The rules that aim to improve air quality account for 95 to 97 percent of the benefits of EPA rules.**"

40. British Columbia Funds Hydrogen Liquefaction Plant

British Columbia will provide C$870,000 ($898,000) to help to develop a small-scale hydrogen liquefaction plant, the Canadian province's premier, Christy Clark, announced on May 16th. The North Vancouver plant will use local byproduct hydrogen to produce low-carbon liquefied hydrogen that will power hydrogen fuel cell buses and vehicles. B.C.-based Hydrogen Technology & Energy Corporation (HTEC) and Sacr-Davey Engineering, along with international partner Air Liquide, will build the plant, which should start production in about 18 months, Clark said. It is expected to produce 2,645 pounds of liquid hydrogen per day. The plant will help fuel the Pacific Coast Collaborative' s so-called Green Highway from British Columbia to southern California, envisioned in a 2008 memorandum of understanding signed by California, Washington, Oregon, and the Canadian province as a corridor for hydrogen, electric, biofuel, and natural gas vehicles with low greenhouse gas emissions. By 2016, global sales for the hydrogen and fuel cell sector are estimated to reach C$8.5 billion, creating an estimated 14,000 jobs in Canada, the government said.

41. Lawmakers May Back Electric Cars Bill Says White House Advisor

U.S. lawmakers may be able to pass a small energy package this year focused on popular measures such as electric cars and energy efficiency, White House energy adviser Heather Zichal said recently. Partisan squabbling has prevented significant movement on energy legislation during the Obama administration, but lawmakers could find common ground on developing alternative fuels and reducing energy use, Zichal said.

"We have a tremendous opportunity with electrification and efficiency," Zichal said at a National Journal event on fuel efficiency. "There is bipartisan support. You could see a package where this is the base."

With Republicans controlling the House of Representatives, the Obama administration has scaled back its ambitious energy agenda and turned its focus to policies that have broad backing on both sides of the aisle. Both Democrats and Republicans are facing pressure to look active on energy issues as U.S. consumers contend with gasoline prices near record highs for this time of year, which could provide an opening for compromise.

A bill sponsored by Republican Senator Lamar Alexander would offer $3 billion over five years to help build infrastructure and promote the use of electric vehicles. Components of this legislation, which is co-sponsored by Democratic Senator Jeff Merkley, could underpin a broader energy package, Zichal said when asked about the bill.

42. Big Oil Companies Face Growing Concern On Fracking

Large blocks of investors in the two biggest U.S. oil companies recently demanded more disclosure about the environmental risks of extracting oil and gas through hydraulic fracturing. Exxon Mobil Corp defended the practice at its annual shareholder meeting, even as investors peppered Chief Executive Rex Tillerson with concerns and questions about it. A proposal requiring more disclosure by Exxon on the impact of "fracking" received about 30 percent of the votes by shareholders in the world's largest publicly traded oil company.

At rival Chevron Corp, which became heavily involved in fracking through a recent acquisition, 41 percent of shareholders backed a similar resolution. "Breaking 40 percent on a first year resolution has only happened a few times in the last few decades, so it shows how seriously the company's shareholders are taking this issue," said Michael Passoff, who focuses on fracking at San Francisco-based corporate responsibility group As You Sow.

Hydraulic fracturing involves injecting a mix of water, chemicals and sand into the earth to break up shale rock, in order to release oil or natural gas. Environmentalists say it can contaminate groundwater with dangerous chemicals.

The industry insists it is safe, and Tillerson said there were claims about the 50-year-old technology that had no basis in fact. The company regularly meets with local officials and politicians, and is running an advertising campaign aimed at addressing public concerns.

While acknowledging the risks, Tillerson said Exxon works to bring together regulators in states with shale drilling to examine current rules and determine which are most effective. "We're not trying to characterize this as an activity that does not have risks," he told reporters after the meeting in Dallas.

Regulators in states where shale drilling is growing at breakneck speed are "stretched", but rules governing fracking should not be set at the federal level, he said. Chevron echoed a desire for regulation to stay at state level. However, Passoff said even regulators acknowledge that the current regulation by states is inadequate.

Exxon made a $35 billion bet on shale gas when it bought XTO in 201O, and aims to double U.S. natural gas output in a decade. As a result of this and other ambitious plans, oilfield service providers such as Schlumberger Ltd and Halliburton Co have seen huge growth in their fracking operations.

Chevron became involved in the Marcellus shale region centered on Pennsylvania through its $3 billion purchase of Atlas Energy and then an acreage deal with Chief Oil & Gas. Chevron is growing production from Atlas aggressively, with plans to expand output at least seven-fold.

But at the meeting at Chevron headquarters in San Ramon, California, speakers raised other environmental topics, including an $18 billion judgment against the company in Ecuador. Chevron is battling that ruling in a U.S. court, and accuses the plaintiffs of extortion. A few dozen protestors were outside the sprawling Chevron campus, including some dressed as turtles who are concerned about that creature's habitats near Chevron's Australian natural gas operations, as well as another dressed as a pig.

43. EPA To Study Natural Gas Fracking in Five U.S. States

The U.S. Environmental Protection Agency recently released the locations in five states where it will study the safety of a natural gas drilling technique some blame for polluting water. The EPA expects the initial results from its study on hydraulic fracturing, or fracking, which was mandated by Congress, will be released by the end of next year. The agency said it will study fracking in the Haynesville Shale formation in DeSoto Parish, Louisiana, and the Marcellus Shale in Washington County, Pennsylvania. The EPA said it will monitor "key aspects of the hydraulic fracturing process throughout the lifecycle of a well" at these sites.

It will also do retrospective case studies in North Dakota, Texas, Pennsylvania and Colorado. In those studies, the agency will gather information from reviews, states, industry and communities, and conduct its own field research.

During fracking, drillers blast pressurized water, chemicals and sand deep underground to break rocks and release the gas or oil that is trapped in them. The technique has been around for decades, but companies have expanded its use in recent years to extract abundant but hard-to-reach reserves of shale gas.

The case studies were selected by the EPA on criteria including the proximity of people and drinking water supplies to fracking sites. For the retrospective studies, concerns about impaired water quality and health and environmental impacts were also to be taken into account.

The EPA said its retrospective studies will take place in the following locations:

- Bakken Shale - Kildeer, and Dunn Counties, N.D.
- Barnett Shale - Wise and Denton Counties, Texas
- Marcellus Shale - Bradford and Susquehanna Counties, Pa.
- Marcellus Shale - Washington County, Pa.
- Raton Basin - Las Animas County, Colo.

44. U.S. EPA Demands Extensive Review of Oil Sands Pipe

The U.S. Environmental Protection Agency has raised new concerns about TransCanada Corp's proposed $7 billion Keystone XL pipeline that would bring oil sands crude from Canada to refineries in Texas. In a letter to the State Department, the EPA cited two small leaks on an existing Keystone line last month as cause for alarm. The letter came at the end of the public comment period for a second environmental analysis on the line, considered a crucial link for easing a growing glut of crude in the U.S. Midwest.

While it remains uncertain whether the EPA's views could cause further delays, they will stoke debate over a project that has become a flashpoint for environmentalists concerned over the carbon emissions related to oil sands and the dangers of a new oil line bisecting the United States.

The State Department expects to decide whether the 700,000 barrel-per-day pipeline can go forward before the end of the year, but has faced sustained opposition from the EPA. State's approval, which is required because it is an international line, has been pending since November 2008.

In its letter, the EPA reasserted familiar objections about potential leaks from the pipeline that would hurt groundwater and that the heavy oil it carries would raise health-damaging emissions at U.S. Gulf Coast oil refineries. But it also said that two recent leaks on TransCanada's existing line from Canada to Cushing, Oklahoma, known simply as Keystone, underscored the need for the State Department to "carefully consider" both the route of the planned expansion and what measures are needed to prevent and detect spills. "With respect to the spill detection systems proposed by (TransCanada), we remain concerned that relying solely on pressure drops and aerial surveys to detect leaks may result in smaller leaks going undetected for some time, resulting in potentially large spill volumes," the EPA said.

Requiring ground-level inspections of valves and other parts of the pipeline several times a year, in addition to plane patrols of the pipeline, could improve the ability to detect leaks or spill and limit any damage, the agency said.

The EPA said the State Department has made progress on its previous complaints that it did not study the environmental issues. The EPA added it expects State to address its concerns when it finalizes the environmental review at some point in the future. But if the disagreement continues, the EPA could force the White House's Council on Environmental Quality to make the ultimate decision.

The pipeline would help drain a buildup of crude in the U.S. Midwest that has grown as Canada and North Dakota boost production of unconventional oil that have helped put downward pressure on U.S. crude prices.

The EPA was commenting on the State Department's supplemental environmental impact assessment that EPA forced it to do after it found an initial report inadequate. The EPA said it will work with State as it finalizes the assessment.

The State Department plans to finalize the supplemental assessment in coming weeks or months, and will hold public meetings on the project in Montana, South Dakota, Nebraska, Oklahoma and Texas as well as a meeting in Washington, D.C.

ASIA-PACIFIC

45. Australia Adopts Euro 6 Vehicle Emissions Standards

On June 11th, the Australian government said that it will phase in Euro 6 emissions standards for passenger vehicles and light trucks by mid-2018 and will require compliance with Euro 5 standards as a preliminary step. The new standards for emissions of oxides of nitrogen, hydrocarbons, and particles will apply to vehicles weighing up to 3.5 metric tons, regardless of fuel type. A final regulatory impact statement concluded that introducing Euro 5 and Euro 6 standards would deliver substantial net benefits, largely because of the health benefits of reduced particle emissions in urban areas. A draft impact statement had favored a more ambitious implementation schedule. However, the national association representing vehicle manufacturers criticized the draft time frame and the final version concluded that a longer implementation period would be acceptable, even though it would reduce net benefits by about 36 percent. Once fully implemented in 2018, the new laws will cut a new car's maximum allowable emissions of:

- Hydrocarbons by up to 50 per cent;
- Oxides of nitrogen by up to 70 per cent; and
- Particulate matter by up to 90 per cent.

While the air quality in Australian cities has improved significantly in recent years, the continuing growth in the number of vehicles on the road means it must remain vigilant and where possible deploy new, more effective technologies. For example, Sydney still records as many as 20 high pollution days a year and in most years exceeds the national goals for ozone. According to the press release, there will be a cost associated with this decision, particularly in the case of diesel vehicles but this will be more than offset by the public health benefits.

A separate process is currently underway on the development of new CO2 emission standards for introduction in 2015.

The “core” Euro 5 requirements which apply in ADR79/03 (Phase 1) would require compliance with all the technical requirements of UN ECE Regulation 83/06 except that ADR79/03 would:

- allow the provision of PM mass emissions data based on the previous ECE R83/05 (Annex 4) Type I test procedure (with a PM mass emissions limit of 0.005g/km) in lieu of data collected under the revised test procedure (Annex 4a of ECE R83/06) which specifies a limit of 0.0045g/km);
- accept a relaxed OBD threshold limit (80mg/km) for PM mass for M and N category vehicles of reference mass >1760kg;
- not require compliance with the PM number limit specified for diesel vehicles in ECE R83/06;
- not require the NOx monitoring for petrol vehicles specified in ECE R83/06; and
- only require flex fuel vehicles to meet the Type VI test when tested on petrol.

Details of requirements for flex fuel vehicles to meet the Type VI test under ‘full’ Euro 5 all models and Euro 6 at low temperature to be determined by 31 December 2011.

The Euro 6 vehicle emissions standards and limits have been finalized in the European Commission (EC) Regulation 692/2008 (with the exception of the particle number standard for spark ignition petrol engines).However the equivalent version of UN ECE Regulation 83 has not yet been prepared to adopt the emissions limits specified for Euro 6. Once ECE Rag 83 is amended to adopt the Euro 6 emissions limits, the new ADR79/05 (Phase 3) will be determined (published) with the implementation dates indicated, unless there are unanticipated and significant changes from the current Euro 6 requirements in EC Rag 692/2008 which would impact on compliance timelines.

46. India Raises Diesel, Cooking Fuel Prices

India's federal government has decided to raise diesel and cooking fuel prices to help state-run retailers trim their losses, while fueling further inflationary pressures in Asia's third-largest economy. The government allowed fuel retailers to increase diesel prices by 3 rupees per liter, cooking gas by 50 rupees for each 14.2 kilogram cylinder and kerosene by 2 rupees per liter, Oil Minister Jaipal Reddy told a news conference after a meeting of a panel of Indian ministers. The final selling price will be more due to the imposition of taxes by state governments.

The panel also approved removing the current 5% import tax on crude oil, and reducing the import tax on all fuel products by five percentage points and excise duty on diesel to 2 rupees per liter from 4.60 rupees per liter.

The increase in prices will help the state-run fuel retailers--Indian Oil Corp., Bharat Petroleum Corp., Hindustan Petroleum Corp.--trim their revenue losses in the current financial year to 1.20 trillion rupees ($26.7 billion) from the 1.75 trillion rupees expected earlier, Mr. Reddy said.

India caps the prices of diesel and cooking fuels to keep a lid on inflation. The inflation rate in May was at 9.06%, higher than the central bank's comfort level of 5% to 6%. Every one-rupee increase in diesel will add 25 basis points to inflation.

The government currently partly bears the losses of the retailers through cash subsidy. The upstream companies--Oil & Natural Gas Corp. Ltd., Oil India Ltd. and GAIL (India) Ltd.--also bear a part of the losses of retailers through discounts on crude oil and product sales. Still the retailers have to bear a part of the losses.

The government last raised diesel and cooking fuel prices on June 25, 2010.

Mr. Reddy said the government will suffer a loss of 490 billion rupees during the current financial year through March 2012 due to cuts in import and excise duties. The losses could further strain the government's already stretched fiscal situation. It aims to cut its fiscal deficit to 4.6% of gross domestic product in the current fiscal year from 5.1% in the previous year.

India will look at "options other than increasing the prices" in future to help retailers trim losses, Mr. Reddy said, when asked if there could be more price increases in the coming months.

The fuel price rise will add to India's inflation worries and tax cuts are seen negating its positive impact on the fiscal deficit, analysts said. Goldman Sachs, for example, increased its inflation forecast for 2011-12 to 8.6% from 8.1% previously after the fuel price rise, and expects the RBI to raise rates by 50 basis points over the next three months.

The government released full-page advertisements in several newspapers on the weekend defending its decision to raise the price of liquefied petroleum gas by 50 rupees ($1.08) per 14.2-kilogram cylinder, diesel prices by 3 rupees per liter and kerosene prices by 2 rupees per liter. This is the first time the government has initiated an aggressive media blitz of this sort to justify a policy decision and ameliorate the hit to its popularity that usually follows such a move. Opposition parties have already been staging public protests against rising prices.

The government argued in a series of points that a hike in fuel prices was unavoidable as state-run fuel retailers were incurring huge losses on fuel sales at discounted prices because of a sharp rise in global oil prices over the past year. It also countered criticism that the move would fuel inflation, arguing that not raising prices would have stretched the government's finances, thereby anyway leading to high inflation.

It highlighted its decision to remove customs duty on crude oil and lower taxes on petroleum products, including diesel, as a step that would help ease the burden on the consumer.

Finally, it goes on to exhort state governments to further reduce taxes and added that oil supplies may have faced disruptions if domestic prices weren't aligned with international prices.

"The government pleads for support in this difficult situation," the advertisement concluded.

Already facing criticism on many fronts, including around corruption scandals and rising inflation, the government appeared keen to avoid giving opponents more fodder, and perhaps to appear responsive to public concerns about prices.

The government mandates state-run fuel retailers to sell diesel and cooking fuels, including LPG and kerosene, at artificially low prices to shield the country's poor from global oil-price shocks. It partly compensates the retailers for their losses through a cash subsidy. But they still bear a significant portion of the losses.

Crude oil prices have surged to around $110 per barrel from $75 a barrel in June 2010, when the government last increased the price of diesel and kerosene. The sharp crude-price spike without a corresponding increase in retail prices meant the losses for state-run fuel retailers had been rising.

The government forecasts its losses to be a whopping 1.22 trillion rupees ($26 billion) in the year that began April 1 despite the price increase. The losses would have been 1.75 trillion rupees if prices weren't raised.

Economists had been pushing for an increase in fuel prices to lighten the government's subsidy burden, which is straining its fiscal position. But after raising gasoline prices a few weeks ago, the government had been dragging its feet on extending the hikes to diesel and kerosene, worried by a likely backlash from voters. Diesel is the main transport fuel in the country and a rise in its prices will feed raw material costs and could intensify inflationary pressures in the economy.

Crude oil prices in New York have risen 17 percent in the past year, making the commodity more expensive for India, which depends on imports to meet almost 80 percent of its demand. A 10 percent increase in crude costs may add as much as 2 percentage points to wholesale-price inflation as input costs rise, the central bank said in a report on May 2.

Prices may also come under pressure after the weather office on June 21 predicted that monsoon rain, the main source of irrigating farmlands, is likely to be below normal for the second time in three years, potentially lowering farm output and accelerating inflation. Prime Minister Singh is relying on adequate rainfall to boost harvests and slow inflation. Food inflation accelerated to a two-month high of 9.13 percent in the week ended June 11th the Commerce Ministry said in a statement in New Delhi on June 23rd. It gained 8.96 percent the previous week.

Car sales in May grew at their lowest rate in two years. Dealers are seeing inventories pile up. Manufacturers have begun to offer freebies to consumers as high inflation, climbing interest rates, more expensive fuel and general economic uncertainty bite into demand. Are these signs that the economic slowdown will get worse in the months ahead, as the Reserve Bank of India (RBI) pushes up the cost of money to battle inflation? Industry is definitely worried. A day before the Indian central bank hiked its key policy rates for the 10th time in 15 months, business lobby group Federation of Indian Chambers of Commerce and Industry warned in a public statement that higher interest rates have already begun to hurt.

47. India Seeks Input for Five-Year Renewables Plan

India's Ministry of New and Renewable Energy is seeking public comments regarding grid-connected renewable power and its transmission, off-grid renewable energy for homes and businesses, biofuel development, environmental aspects of clean energy, and financing options as it develops its 12th Five-Year Plan for 2012-2017. The plan will outline the ministry's priorities, regulatory requirements and approaches, research and development needs, field applications, and links with other ministries. Views are sought on the existing policy and regulatory framework; existing fiscal and financial incentives; procurement options including preferential tariffs, competitive bidding, and renewable energy certificates; data collection; and environmental issues such as land acquisition, water availability, and forest clearances. Comments are due by June 24.

48. Beijing Plans to Reduce Coal Use, Set Tougher Emissions Standards

In an effort to reduce air pollution in Beijing, the Municipal Bureau of Environmental Protection has released an action plan that seeks to restructure coal-fired power facilities and set tougher air pollutant standards over the next five years, the bureau announced on its website on April 19th. Under the plan, the city will aim to halt the expansion of coal use, impose more motor vehicle emissions controls, restrict expansion of heavy-polluting industries, better control dust pollution, and construct ecological buffer zones to control airborne emissions, the bureau said.

The plan also sets a goal to have the city achieve a rate of 80 percent “blue sky days”—with good or excellent air quality—by the end of 2015, although current air quality disclosure rules exclude concentrations of ozone or small particulates.

China's Ministry of Environmental Protection also is drafting a regional air quality action plan covering the municipalities of Beijing and Tianjin and the surrounding Hebei province, the state-run Xinhua news agency reported on April 18th.

According to the Beijing plan, three of the city's four large coal-fired power plants will undergo restructuring to limit their emissions. The use of coal-fired boilers and stoves in six districts will be phased out over the next five years, with cleaner technologies introduced.

Beijing also aims to increase its use of natural gas to meet 20 percent of energy needs by the end of the five-year period. Much of the natural gas will be used to replace coal-fired stove use in the city.

The city also plans to increase the amount of non-fossil fuel-based energy sources in its energy mix.

Heavily polluting chemical facilities will be moved out of Beijing, and four cement factories in the most densely populated parts of the city will be shut down, the bureau said.

Technologies that remove sulfur dioxide and nitrogen oxides from industrial emissions will be encouraged. Painting industries will have to adopt paints with lower volatile organic compound contents.

In addition, the city hopes to increase the rate of public transportation use to 50 percent of all transit under the plan.

New cars will have to meet China V (equivalent to Euro V) emissions standards and non-road machinery will have to meet China III emissions standards. Beijing aims to remove 400,000 older, higher-emission vehicles over the period through trade-in programs.

The city also hopes to increase the use of alternative-energy vehicles and to have 5,000 such vehicles on the road as part of demonstration projects by 2012.

Earlier this year, Beijing implemented a policy that will allow only 240,000 new vehicles to be registered in the city annually, compared to a high of about 800,000 that were registered in 2010. There currently are some 4.8 million registered vehicles in Beijing, the Bureau of Environmental Protection said.

49. Shenzhen to Promote Low-Emissions Vehicles

Shenzhen's municipal government plans to spend 2.1 billion Yuan ($323.4 million) to reduce carbon dioxide emissions by offering more subsidies for individual purchases of hybrid and electric vehicles. The funding also will help to provide clean public transportation for the upcoming Universiade university sports games, pay for building charging stations, and fund a new “Low-Carbon Green Travel Card” that citizens can use for public transportation.

Card purchasers will be able to use the internet to tally the amount of carbon dioxide emissions they have saved by using public transportation. Proceeds from card sales will go into a Green Commuting Fund that will help subsidize individuals’ purchases of hybrid and electric vehicles, Vice-Mayor Tang Jie said at a May 17th launch event.

However, official figures indicate the general public has yet to take advantage of subsidies already in place for much of the past year. Only 535 hybrid vehicles have been purchased by private individuals in Shenzhen, a city of more than 9 million people just north of Hong Kong, since a subsidy program was launched in mid-2010 in five cities in China, Shenzhen Economic Zone Daily, a newspaper affiliated with the municipal government, reported on May 16th. The subsidies bring the price closer to the average cost of a standard fuel vehicle.

About 2,000 of the 3,180 vehicles to be used for public transportation during the Universiade university sports games in the city in August will be “new-energy vehicles,” said Wu Delin, head of the Shenzhen Development and Reform Commission. Wu said the city's transportation fleet will have 1,370 hybrid buses, 270 all-electric buses, 300 all-electric taxis, and 62 fuel-cell powered vehicles by the start of the games. Thirty-one charging stations will be operable by that time and 200 are expected to be installed by the end of 2012, according to city plans.

Currently there are 50 all-electric taxis and 760 hybrid buses on the roads in Shenzhen. The commission has set a target for about 24,000 new-energy vehicles to be on Shenzhen's roads by the end of 2012.

All-electric vehicles could go on the market for individual sale in Shenzhen as soon as August.

The new vehicles will remain in the fleet after the Universiade games, according to Sarah Liao Sau Tung, a former secretary of the environment in the Hong Kong Special Administrative Region who now advises the Shenzhen government on environmental issues. Liao told the press that the new vehicles and the green travel card initiative will help the city create greater awareness about individual actions to reduce carbon dioxide emissions.

Zhang Jianyu, general secretary of the China Association for Non-Governmental Organization Cooperation, which will run the Green Commuting Fund emissions calculation website, said individuals who purchase new-energy vehicles will also be able to use the green travel card to monitor their carbon emissions reductions.

Similar programs were organized around the time of the Beijing Olympics in 2008, as well as the Shanghai Expo and Asian Games in Guangzhou in 2010.

50. Ombudsman Orders Hong Kong to Issue Timetable for New Air Quality Standards

The Hong Kong Special Administrative Region should set a timetable for the release of new air quality objectives (AQOs), which were first opened for public review almost two years ago, the region's ombudsman said in response to a complaint filed by the environmental group Friends of the Earth. The ombudsman has not released a formal statement, but Thomas Choi, senior environmental affairs officer for Friends of the Earth Hong Kong, told the press on May 11th that the group has received a letter from the body, stating that the complaint had been upheld and that the ombudsman was calling for the government to offer a clear timetable for setting the AQOs.

The ombudsman found that the Environmental Protection Department “should give a timetable and a notice to the public about what difficulties they are having in updating the AQOs,” Choi said.

The ombudsman's office declined to comment on the decision or the letter sent to Friends of the Earth.

Friends of the Earth filed a complaint with the ombudsman several months ago regarding the delay in setting the AQOs. Hong Kong issued a set of proposed AQOs in July 2009. The proposed standards would adopt World Health Organization concentration targets for sulfur dioxide, nitrogen dioxide, carbon monoxide, and lead, as well as standards more in line with WHO targets for particulate matter and ozone.

Hong Kong's Environmental Protection Department issued a statement on May 7th, saying it was working with stakeholders to “draw up a practicable timetable” and has been reporting to the Legislative Council every six months on its progress.

Choi said the letter from the ombudsman did not indicate that any EPD officials had been found guilty of violating any administration practices “because they did not promise [to set a date for the AQOs to take effect] when they finalized the updated AQOs.”

In late April, the Hong Kong Environmental Protection Department and the Guangdong provincial environmental protection bureau jointly released 2010 air quality monitoring data on four major pollutants—sulfur dioxide, nitrogen dioxide, ozone, and larger respirable suspended particles, or PM10—covering the Pearl River Delta region. According to the Environmental Protection Department, sulfur dioxide, nitrogen dioxide, and PM10 levels declined 47 percent, 7 percent, and 14 percent, respectively, between 2006 and 2010, while ozone levels increased 10 percent over the same period.

The data showed that the highest concentrations of sulfur dioxide, nitrogen dioxide, and PM10 were in the western part of the river delta region, while the highest levels of ozone were in the northeastern part of the delta.

51. Chinese Province Sets Up Air Monitoring Center

Environmental authorities in China's southern Guangdong province have completed construction on an advanced air quality monitoring center in Heshan, west of the capital of Guangzhou, at a cost of 30 million Yuan ($4.6 million), according to a notice posted on May 1st by the provincial environmental protection bureau (EPB). The air quality monitoring center, expected to begin operation within the next few months, was built as part of the Pearl River Delta Reform and Development Plan (2008–2020) and will help environmental authorities gather timely, accurate and more complete data on regional air quality with the latest technology available, the notice said. The center will gather data from around 50 other substations on sulfur dioxide, nitrogen dioxide, nitrogen oxide, and carbon dioxide levels, measurements of fine (PM-2.5) and coarse (PM-10) particulate matter, ozone and volatile organic compound levels, as well as wind speed and other meteorological data. No other advanced monitoring centers of this scale are planned at the current time for Guangdong, Zhong Weiqing, a media representative at the Guangdong EPB told reporters on May 10th.

52. China Coal Imports to Double in 2015, India Close Behind

Top coal consumer China should see import demand more than double in the next four years and India will be close behind as both lock up supplies on international markets to feed rapidly growing power industries, according to industry executives. China's thermal coal imports could rise to 200 million tons in 2015 from around 90 million tons in 2011, Neil Dhar, executive vice president of trading house Noble Group, told the Coaltrans Asia conference.

At 90 million tons, China's 2011 imports would be steady from 2010, he said. That would indicate shipments would rise for the rest of the year, as China's imports in the first four months of 2011 were down a quarter on 2010.

The flow into China, which emerged as the world's second-largest coal importer after Japan last year, fluctuates according to domestic coal prices and whether or not those are high enough to encourage more electricity output from coal-fired power producers.

China boosted power prices on Monday in an attempt to ease its worst power shortages since 2004. That may encourage more coal imports to boost power supply.

India's thermal imports could rise to more than 100 million tons by 2015, from around 67 million tons in 2011, Dhar said. Imports would jump by almost 10 million tons this year, he added.

Despite a bullish long-term outlook, Asian coal prices have been depressed in recent months, largely due to the aftermath of the Japanese quake and tsunami in March that knocked out some coal-fired plants.

The index for Australian coal on the globalCOAL index closed at $119.47 a ton on Friday, down from more than $140 in January when prices were driven up by flooding and wet weather in Australia's eastern Queensland state.

India will overtake Japan as the biggest buyer of Indonesian coal in 2011, staying ahead of China in the competition for supply from the world's top thermal coal supplier. Most of India's coal imports come from Indonesia.

India's domestic shortfall in coal supplies to meet power demand will spur the country to import up to 60 million tons from Indonesia this year, five million tons more than last year and surpassing Japan as top importer, said Bob Kamandanu, chairman of the Indonesian Coal Mining Association.

Imports from Indonesia to India, Asia's third-largest economy, would race to 90 million tons by 2013, Kamandanu told reporters.

53. China To Promote Alternative Vehicles with Exemption from Annual Tax In 2012

Starting Jan. 1, 2012, China plans to exempt electric, fuel-cell, and plug-in hybrid vehicles from its annual motor vehicle “travel tax” and to charge a reduced rate for owners of smaller combustion-engine vehicles, according to a draft regulation released by the State Council for public comment. The move can be seen as a further attempt by Chinese authorities to kick-start the country's electric and hybrid vehicles industry that has been slowed by lack of consumer interest and the sluggish pace of construction of infrastructure to support the vehicles.

While owners of hybrid and electric vehicles would be exempted from the annual tax, those that own gas- or diesel-powered automobiles with a 1.6-liter engine or smaller would be required to pay between 60 Yuan to 540 Yuan ($10 to $80), depending on the weight of the vehicle and engine displacement. Larger cars with 3.0 liter engines and larger would be subject to an annual tax between 2,400 Yuan to 5,400 Yuan ($370 to $830), depending on weight and engine displacement.

The previous regulation on the annual motor vehicle travel tax did not differentiate between engine size, weight, and displacement of vehicles.

Other types of hybrid motor vehicles also could be eligible for a 50 percent reduction in the annual tax, the regulation said, without providing further specifics.

The comment period on the tax change proposal is open until July 14, the State Council said. The draft regulation was released June 15.

In June 2010, the central government implemented a policy to subsidize purchases of electric and hybrid vehicles that cut up to a maximum of 60,000 Yuan ($9,260) off the sales price of the alternative vehicles. Local governments in several cities with pilot programs for alternative engine vehicles also have offered subsidies to help bring the prices of these vehicles closer to the average cost of a traditional engine vehicle.

According to state-run media reports, the city of Beijing plans to exempt people who purchase alternative energy vehicles from its license plate lottery system, but the city has not officially announced the policy.

The central government also has a subsidy in place to rebate consumers up to 3,000 Yuan ($460) for purchases of vehicles with a 1.6-liter or smaller engine.

On June 8th, China's Ministry of Commerce also announced that it had set up a new “cash-for-vehicles” scrapping program, where consumers could get between 11,000 Yuan to 18,000 Yuan ($1,700 to $2,780) for trading in vehicles older than 6 years. The program is an updated version of a scrap-in policy that ended on December 31, 2010.

54. Volkswagen To Make Electric Cars In China With FAW

German carmaker Volkswagen is to launch electric cars in China under a new Kaili brand together with FAW Group, joining other foreign players in the race to develop the fledgling sector in China. "The Chinese government has been encouraging joint ventures of foreign car manufacturers to develop indigenous brands," Volkswagen China spokesman Andreas Hoffbauer said.

China's ministry of industry and information technology certified FAW-Volkswagen's Kaili electric vehicle on May 3, Volkswagen said. Volkswagen, Europe's largest carmaker, has said it expected to start electric car production in China by the end of 2013 or early 2014.

Last June, China unveiled a pilot scheme to give subsidies to buyers of fuel-efficient cars in five Chinese cities as the world's most populous country and largest producer of greenhouse gases moves to cut emissions.

Volkswagen, which also makes cars in a tie-up with SAIC Motor Corp, is joining other global players such as German peer Daimler, U.S. company General Motors and Japanese group Nissan Motor. GM has started making the electric version of its Chevrolet Sail via its venture with SAIC. Nissan, which runs an auto venture with Dongfeng Motor Group, has signed a deal with the municipal government of Wuhan to jointly promote its Leaf in the central Chinese city. Daimler unveiled plans in March 2010 to develop electric cars in China with BYD, a car and battery maker backed by U.S. billionaire Warren Buffett. Daimler has been seeking to launch a jointly developed fully electric compact car under a new brand name in 2013.

BMW, the world's largest premium automaker, will invest about 400 million euros ($566 million) in its Leipzig plant in eastern Germany, due to build its electric-powered Megacity Vehicle starting 2013.

55. China to Eliminate Wind Power Subsidy at Center Of WTO Debate with U.S.

China has eliminated a program providing subsidies to domestic manufacturers of wind power equipment which the United States claimed violated global trade rules, the Office of the U.S. Trade Representative announced on June 7th. In a statement, USTR said China has taken action formally revoking the legal measure that led to the creation of China's Special Fund for Wind Power Equipment Manufacturing. The fund was used to provide grants to Chinese manufacturers of wind turbines and Chinese manufacturers of parts and components for wind turbines. According to USTR, the size of individual grants ranged between $6.7 million and $22.5 million, with “several hundred million dollars” possibly provided to Chinese firms since the program was established in 2008.

The United States initiated World Trade Organization dispute proceedings against China on December 22nd, charging the program violated Article 3.1(b) of the WTO's Agreement on Subsidies and Countervailing Measures because it conditioned the receipt of funding on the use of domestic parts and components over imported goods. USTR also said China failed to notify the WTO about the program and failed to provide a translation of the program in one of the WTO's three official languages, as required under the Subsidies and Countervailing Measures Agreement as well as China's 2001 WTO accession protocol.

Even though China is obliged under WTO rules to submit regular notifications about all of its subsidy programs on a regular basis, China has submitted only one subsidies notification since becoming a WTO member in December 2001, USTR noted. That notification was submitted more than five years ago and was “noticeably incomplete,” it added.

The United States initiated WTO dispute proceedings as a result of an investigation launched by USTR in response to a 5,800-page petition the United Steelworkers filed under section 301 of the Trade Act of 1974, as amended.

56. China Shows Off Latest High-Speed Train

With its fully reclining airline-style business class seats, a strict no-smoking policy and designed top speed of 350 km (220 miles) per hour, the new Beijing-Shanghai express embodies China's race to the future. The new line's launch is coordinated with the 90th anniversary of the ruling Communist Party to highlight the "scientific development" slogan dear to the heart of Chinese president and party secretary Hu Jintao. It is the latest and most feted portion of a network the government hopes will stretch 45,000 km (27,960 miles) by the end of 2015.

"This is the pride of China and the Chinese people," Ministry of Railways chief engineer He Huawu told reporters at the Beijing South Station before a trial run on Monday. "It took just 39 months to build such a high-standard and world-renowned high-speed rail line, which is a gift for the 90th anniversary of the Party."

The sleek white and blue train -- dubbed "Harmony" after President Hu's "harmonious society" slogan -- zips along its elevated track at 300 km (185 miles) per hour, bypassing flat fields and rubble-strewn villages. It cuts travel time on the 1,318-kilometre (820-mile) route to less than five hours. It would go faster but for safety concerns, after revelations of corruption led to the downfall of the rail minister earlier this year.

The line is designed to carry 80 million passengers a year, providing heady competition for the airlines on a route notorious for delays.

For 1,750 Yuan ($270), business class travelers are waited on by uniformed stewardesses.

It is also a non-smoking ride.

China's ambitious high-speed rail program is designed partly to shift passenger traffic off existing tracks, allowing for faster and cheaper transport of coal and grains. The investment comes none too soon for the creaking freight rail system, which proved a major bottleneck as China's economy took off over the past decade.

But building a top-of-the line passenger system is controversial. Critics say affordable seats are needed more than luxury commuter lines. Regular trains are so crowded during peak times that passengers stand or sleep in the aisles or even bathrooms, and poorer Chinese still queue for hours or even days to get tickets.

57. China Opposes EU Move To Curb Airline Emissions

Chinese airlines have joined U.S. rivals in opposing their inclusion in the European Union's carbon emissions market from 2012, while some European airlines have supported including all airlines in the scheme.

From January 1 next year, the EU will require all airlines flying to Europe to be included in the Emissions Trading Scheme (ETS), a system that forces polluters to buy permits for each ton of carbon dioxide they emit above a certain cap. The China Air Transport Association (CATA) said it opposed the inclusion of their flights into Europe in the ETS, the EU's main tool for reducing greenhouse gas emissions. An EU source said Chinese government officials had raised the same objections earlier during a meeting with the European Commission, raising the dispute to a new level.

Most flights that land and depart from EU airports will be covered, regardless of the operator's nationality.

The Chinese association says the move will increase its members' costs, and if the plan is not adjusted, it will ask the Beijing government to propose countermeasures on European airlines flying to China.

U.S. airlines also oppose inclusion in the ETS, but some of Europe's biggest airlines say the move is preferable to leaving airlines out, which would make them vulnerable to different environmental taxes from national governments.

"It was the right decision to put aviation in the ETS," said John Hanlon, of the European Low Fares Airline Association (ELFAA), which includes easyJet and Ryanair among its members.

"We're very vulnerable at the moment to a lot of virtuous-sounding alternatives, such as national taxes or even EU taxes," he told reporters. "We don't see this as a tax or charge. It's a scheme that incentivizes the good environmental behavior and penalizes the bad -- that's how it should be."

Airlines' entry to the EU's carbon market next year will add 1-1.4 billion euros ($1.4-$2 billion) to their costs in the first year and ultimately lead to higher air fares and carbon prices, analysts say.

The U.S. industry group Air Transport Association of America is also challenging the move in EU courts.

EU officials argue that they took the step of including aviation in the ETS after years of fruitless debate within the United Nations about how to curb emissions from aviation. During that time, carbon markets were widely recognized as the cheapest way to regulate emissions from aviation, and the International Air Transport Association (IATA) estimated it could be as much as 75 percent cheaper.

"We are very optimistic this will be thrown out by the European court," ELFAA's Hanlon said of the court challenge by U.S. airlines. "Our support has always been qualified by the scheme being environmentally effective. To be effective, it has to cover long-haul flights."

58. US Study Says China Carbon Emissions Could Peak By 2025-2030

China, the world's biggest emitter of greenhouse gases, could peak in emissions by 2030 or earlier, says a study from U.S. researchers who foresee Chinese demand for appliances, buildings and much industry reaching "saturation" around then. The study by energy and emissions experts at the Lawrence Berkeley National Laboratory in California adds to a growing body of studies that say China could reach its maximum output of carbon dioxide (CO_2) within two decades.

That matters for more than China. Its emissions path will be crucial to determining whether the world can restrict total greenhouse gas emissions to levels less likely to trigger dangerous climate change, such as more intense droughts, floods and storms that threaten crops and economic growth.

"Once nearly every household owns a refrigerator, a washing machine, air conditioners and other appliances, and once housing area per-capita has stabilized, per-household electricity growth will slow," said co-author Mark Levine in a statement.

China, with 1.34 billion people, already emits a quarter of the world's CO_2. This is more than the United States, historically the world's top emitter of the main greenhouse gas from human activity fuelling climate change. It overtook the United States several years ago. India is the third top carbon polluter.

How soon China's emissions peak and at what levels will depend on how vigorously the government pursues cleaner growth policies, especially moving energy from coal to nuclear, hydro-power and renewable energy, said the researchers. China generates most of its electricity using coal, the dirtiest of the fossil fuels, but is already investing heavily in cleaner energy.

The researchers say China can achieve a peak earlier and lower than other studies have suggested, in part because by about 2030, the country's demand for many emissions-intensive goods and industries will reach a plateau, a factor they say those studies overlook. Such goods include steel and cement. "It is a common belief that China's CO_2 emissions will continue to grow throughout this century. We believe that this is not likely to be the case," says the study, published on the website of the Lawrence Berkeley Laboratory's China Energy Group (china.lbl.gov/publications).

Among other reasons, the study cites computer models that indicate "urbanization will approach peak after 2030 or 2035; exports of energy-intensive industry will decline; and low population growth". Chinese census data released on Thursday showed population growth already slowing sharply in the decade to 2010.

China's high and fast-climbing output of CO_2 from coal, oil and gas has put it in the center of negotiations seeking a new global pact to deal with global warming.

In 2009, China's emissions of carbon dioxide from fossil fuels reached 7.5 billion tons, a rise of 9 percent on the previous year, according to estimates from the BP oil group. The United States emitted 5.9 billion tons.

Under a "baseline" model that assumes China builds on current emissions-reduction policies "consistent with trends in market-based improvement", the nation's emissions are likely to plateau around 2030-35 at about 12 billion tons of CO2. Under a more stringent set of green policies, emissions peak between 2025 and 2030 at about 9.7 billion tons of CO2.

Based on this scenario, there would be a dramatic reduction in coal's share of energy production, to as low as 30 percent by 2050, compared to 74 percent in 2005. Nuclear power would expand to 86 gigawatts by 2020 and as much as 550 gigawatts by mid-century.

Writing in the Financial Times, British climate change expert Nicholas Stern said China's plans to reduce emissions per unit of gross domestic product could take annual emissions to 12 billion tons in 2020 and 15 billion tons in 2030. This assumed 7 percent economic growth and an unchanged emissions reduction target per unit of GDP. "While this would be a major reduction, it would make it difficult for the world to achieve the target of avoiding warming of more than 2 degrees Celsius, as agreed at the UN summit in Cancún last December," Stern wrote. "So it is vital for the safety of the world, and China, for China to find a way of increasing its ambitions for reducing emissions, with a view to peaking at 12 billion or 13 billion tons in the early 2020s, and returning to about 9 billion tons by 2030."

Recent Chinese reports have also suggested the country could reach an emissions peak around 2030-35, while falling short of what experts have said Beijing needs to do to help the world escape dangerous levels of global warming. Beijing has resisted officially spelling out when its emissions could peak and also rejected any internationally binding cap on the greenhouse gas levels of China and other developing countries, saying they should be allowed to grow out of poverty while rich nations lead the way in cutting carbon.

59. Airlines Operating in Oceania Plot Path To Boost Use of Biofuels to 40 Percent

A report issued on May 25th by Australia's national science agency in conjunction with Qantas, Virgin Australia, Air New Zealand, Boeing, and other companies plots a course for airlines in the Oceania region to use biofuels to meet about 40 percent of their jet fuel needs by 2050. The road map from the Commonwealth Scientific and Industrial Research Organization (CSIRO) said the Australian and New Zealand aviation sector could source 5 percent of its fuel from biofuels in 2020, a scenario that would require that two commercial-scale bio-refineries be operating by that time.

The report said several technical and economic challenges must be overcome if these goals are to be met. Investors might need measures such as loan guarantees to give them confidence to invest in refineries, supply chains must be developed, and other airlines would need to agree that shared fuel supply infrastructure could distribute biofuels, the report said.

It also warned that airlines will face competition for biofuels, particularly from the road transport sector.

On the technical front, the costs of refining fuel from woody plant materials must be reduced and techniques for large-scale algae production—an alternative feedstock—must also be developed.

Other companies involved in the road map project included Airbus, Rolls-Royce, Pratt & Whitney, and oil company Caltex.

The report comes the same day that officials from the aviation industry in the northwestern United States announced a goal to expedite creation of commercial supply chains that will sustainably provide aviation biofuel in the Pacific Northwest as a first step in a global web of such chains.

60. Philippines Reorganizes Cabinet, Prioritizes Climate Adaptation, Mitigation Issues

The president of the Philippines has made climate change one of five national priority issues through a Cabinet reorganization that creates “clusters” to guide the adoption of strategies and measures by local governments, national agencies, and the general public. Executive Order No. 43, issued by President Benigno Aquino on May 16th and effective immediately, created a Climate Change Adaptation and Mitigation Cluster, along with four other “clusters.”

The five clusters will serve as advisory bodies to the Office of the President to ensure priority programs are incorporated in annual work plans and budgets. The other clusters focus on anti-corruption, peace, economic development, and poverty reduction. Executive Secretary Paquito N. Ochoa Jr. said in a statement that the reorganization “is meant to ensure efficiency, effectiveness, and focus in carrying out the programs and policies of the government.”

Under the order, the climate change advisory body will ensure adoption of mitigation and adaptation plans, fair utilization of natural resources, formulation of alternative urban development plans, and undertake other measures necessary to prepare for and manage risks associated with natural and man-made phenomena such as typhoons, earthquakes, tsunamis, floods, landslides, civil disturbances, and terrorism.

The cluster is chaired by the Department of Environment and Natural Resources secretary with the Climate Change Commission functioning as secretariat. Other involved Cabinet-level units include the Housing and Urban Development Coordinating Council, the Department of Science and Technology, the Department of the Interior and Local Government, the Department of Public Works and Highways, the Department of Social Welfare and Development, the Department of Agriculture, the Department of Agrarian Reform, the Department of Energy, the Department of National Defense, and the Metropolitan Manila Development Authority.

Senate President Juan Ponce Enrile said on May 23rd that the Cabinet reorganization displayed responsive leadership. “A few more tweaks in the plan are still needed but we're almost there. The climate crisis requires decisive action that utilizes public finance to protect vulnerable Filipino communities from the worst impacts of climate change,” Enrile said in a prepared statement.

Since Typhoon Aere claimed 24 lives in early May, Enrile and other senators have called for swift passage of Senate Bill No. 2811 to establish a People's Survival Fund, a climate change adaptation fund for local governments and communities. The bill is awaiting a second reading. Enrile said the fund would provide incentives for early climate action from localities, which could tap it to support local adaptation plans, vulnerability assessments, and similar initiatives.

Red Constantino, executive director of the Institute for Climate and Sustainable Cities, a Manila-based independent environmental think tank, told reporters on May 24th that the bill could pass this year. “It is called People's Survival Fund because that is increasingly the challenge that many vulnerable communities are facing today—a survival agenda, where they can keep their development aspirations alive for the next generation," Constantino said.

Regarding the Climate Change Adaptation and Mitigation Cluster, Constantino suggested the inclusion of the Department of Finance as the leader or at least co-leader, as well as the Department of Budget and Management and the National Economic Development Authority. "Climate change is an issue that goes beyond environmental concerns," he said, arguing that changes in public financial flows will show how much policymakers are prioritizing climate change.

Sen. Loren Legarda, chair of the Senate Committee on Climate Change, also urged inclusion of the Departments of Finance and Budget and Management "as climate change should be mainstreamed in public finance and budgeting processes."

Meanwhile, Legarda said President Aquino will need to revisit the Climate Change Act of 2009 and introduce adjustments to this new executive order to ensure coherence in climate change policy. Legarda said the act, recognizing that climate change affects various sectors, created the Climate Change Commission to coordinate, monitor, and evaluate the government's programs and action plans. "It would be appropriate that the Commission is made lead agency of the cluster rather than the secretariat," Legarda said in a statement on May 20th.

MIDDLE EAST

61. Aramco Starts ULSD Production From Ras Tanura Refinery

Saudi Aramco said it has started producing ultralow-sulfur diesel (ULSD) from its 550,000-b/d Ras Tanura refinery in an effort to comply with higher environmental standards. Aramco said the facility's diesel hydrotreater unit has a capacity to produce 105,000 b/d of ULSD, which contains less than 10 ppm of sulfur. The facility also contains a 200 ton/day sulfur recovery unit.

Aramco last year launched a project to increase ULSD production at its 305,000-b/d Jubail refinery, which it owns with Royal Dutch Shell PLC. In 2013, Aramco plans to complete another ULSD project at its 400,000-b/d Yanbu refinery, which it owns with ExxonMobil Corp.

SOUTH AMERICA

62. Chile to Require Particulate Plan in Two Cities

The Chilean government plans to declare the southern cities of Chillán and Los Angeles "saturated zones" because of harmful levels of particulate matter in the air, Environment Minister Maria Ignacia Benitez said on May 24th. The designation of a saturated zone through a ministerial decree requires the government and local authorities to create a decontamination plan. The particulate matter is largely caused by the widespread use of firewood for domestic heating as well as stubble burning and public transportation. Benitez said the ministerial decrees will be ready in July for review and possible revision by the government regulator Contraloría General de la República. The decrees are expected to be published by the end of the year. Both cities are located in the southern Biobío Region and have populations of about 170,000 each. Juan Luis Novoa, an environmental adviser to the Municipality of Chillán, told the press on June 1st that the plan is likely to focus on teaching people to use wood stoves properly and to avoid damp firewood, which creates more smoke. Funds released through the decontamination plan also could finance more stringent regulation of firewood sales and programs to replace stoves with more efficient models.

63. Brazil Seeks To Boost Stagnant Ethanol Industry

Brazil's government unveiled new financing and other incentives for sugar cane ethanol production on Monday, vowing to work closely with the private sector to boost production in an industry that has struggled recently despite its immense promise. The state-run development bank BNDES announced that it would provide 30 billion to 35 billion reais ($19 billion to $22 billion) to finance expansion in the sugar cane sector through 2014, a major bet equivalent to about two-thirds of the industry's annual output.

The head of Brazil's ANP energy regulatory agency, Haroldo Lima, told a major investor conference the best way for the government to prevent regular shortages in the sugar cane-based biofuel was to provide the conditions so that investment could increase "not in the medium term, but in the short term."

The enthusiastic, business-friendly message from Lima and other officials including Energy Minister Edison Lobao came as a surprise, given that Brazil's left-leaning government assumed regulatory control of ethanol earlier this year. Some investors in the sector fear stronger government intervention, such as the setting of production targets.

"It's important to consider that the sector is going through a new phase of challenges," Lobao said. "These are challenges that together, government and business, we are going to face and overcome."

Lobao said the government is working with private-sector representatives to formulate a regular 10-year investment plan -- a period that is expected to see demand for ethanol roughly double in tandem with Brazil's booming economy.

Producers at the conference said some kind of stimulus had been badly needed. Despite high prices for the biofuel and a massive expansion in the domestic fleet of cars that use it, Brazil's roughly $30 billion a year sugar cane industry has struggled with stagnant investment and insufficient supply.

Officials from President Dilma Rousseff's government have criticized ethanol producers for what they describe as a failure to invest and plan -- and, thereby, a failure to prevent cyclical ethanol shortages that prompted a near-revolt among consumers at the pump earlier this year.

Producers, meanwhile, say they are boxed in by regulatory uncertainty, uneven taxes and enduring financial wreckage from the 2008-09 global crisis. After growing at an annual average rate of 10 percent since 2000, cane output in Brazil rose by no more than 3.3 percent per year starting in 2008.

The industry's relative troubles have not cooled the ardor of multinational energy companies and other foreigners who have poured billions of dollars into the sector in recent years.

Government officials and producers were discussing several measures to help encourage investment, said Jose Carlos Grubisich, CEO of ETH, a sugar and ethanol producer. Grubisch said some possibilities include:

- Clearer guidance from the government on what the required ethanol blend in gasoline will be going forward.

- Increased use of long-term contracts between producers and distributors to help prevent future shortages.

- Creation of stocks to reduce price volatility.

Coutinho said the next wave of investments through 2012 should be focused on cane output, since crushing capacity is more than sufficient for the moment. After that, he said investments should focus on expanding existing mills, with new mills possible later this decade.

In an additional move that should broadly help the sugar cane industry, Sao Paulo Governor Geraldo Alckmin, whose state accounts for more than 60 percent of sugar cane production, said his state has eliminated a tax on equipment that produces bioelectricity from sugar cane.

As Brazil's economy booms, the domestic auto fleet is expanding at a torrid 20 percent annual pace. Meanwhile, the percentage of vehicles that are flex-fuel -- which can run on any mixture of gasoline and/or ethanol -- is expected to rise to 86 percent by 2020 from its current level of 45 percent, according to Unica, Brazil's sugar cane industry association.

Unless the ethanol industry starts growing at a faster pace, Unica estimates that there could be an annual cane deficit of 400 million tons by 2020/21 -- compared to current production levels of 650 million tons.

Multinationals including Royal Dutch Shell, Noble Group and Glencore have poured billions of dollars into the sector, although they too have focused more on acquiring existing mills than expanding production.

64. Bogota to Phase Out Use Of Two-Stroke Engines to Reduce Pollution

Bogota will phase out the use of motorcycles and other vehicles with two-stroke engines to reduce air pollution under a resolution that took effect on May 3rd. Resolution 2394, issued April 25 by the capital's secretariats of transit and the environment, prohibits motorcycles and other vehicles with two-stroke engines larger than 50 cubic centimeters from circulating in the city between the hours of 6 a.m. and 10 a.m. and 5 p.m. and 8 p.m.

As of September 1st, two-stroke vehicles built before 2001 will be banned from use in the city. By January 1, 2012, no two-stroke vehicle built before 2005 may be driven in the city. As of July 1, 2012, all two-stroke vehicles will be banned from use in Colombia's capital.

The secretariats based their resolution on a study which found that two-stroke motors generate between five and 15 times as much pollution as four-stroke engines and between 15 and 100 times as much pollution as conventional automobile engines. According to the environmental secretariat, there are 39,000 two-stroke vehicles in the city that produce 143 metric tons of smoke, dust, and other pollutants. Of those, 25,000 are more than 12 years old.

Resolution 2394 was issued under Decree 035 of 2009, which prohibits the licensing of additional two-stroke vehicles in Bogota and orders restrictions on their use. Violators are subject to seizure of the vehicle and a fine of 15 times the daily minimum wage, or 267,800 pesos ($147.39).

AFRICA

65. New Congo Law Demands Environmental Impact Studies

Companies working in Democratic Republic of Congo will soon be forced to submit environmental impact reports or be fined, according to a law passed by the country's parliament. Details of what the law requires still need to be finalized by ministers but the legislation will apply to existing and future projects in sectors ranging from oil and mining to infrastructure, forestry and farming, according to a copy of the law, seen by the press. The law was already adopted and is due to be signed off by President Joseph Kabila.

Previously environmental impact studies fell under a decree from the environment minister and many companies did not carry them out or they were less stringent, according to Michel Booto, legal advisor at the ministry of environment. "Up to now the biggest problems have been with the mining companies who have only had to do impact studies for the mines ministry. Now they must conform with the environment ministry," he told reporters.

Congo supplies around 5 percent of the world's tin and is among four central African countries that produce 12.5-14 percent of the world's tantalum, used to make components in many hi-tech goods.

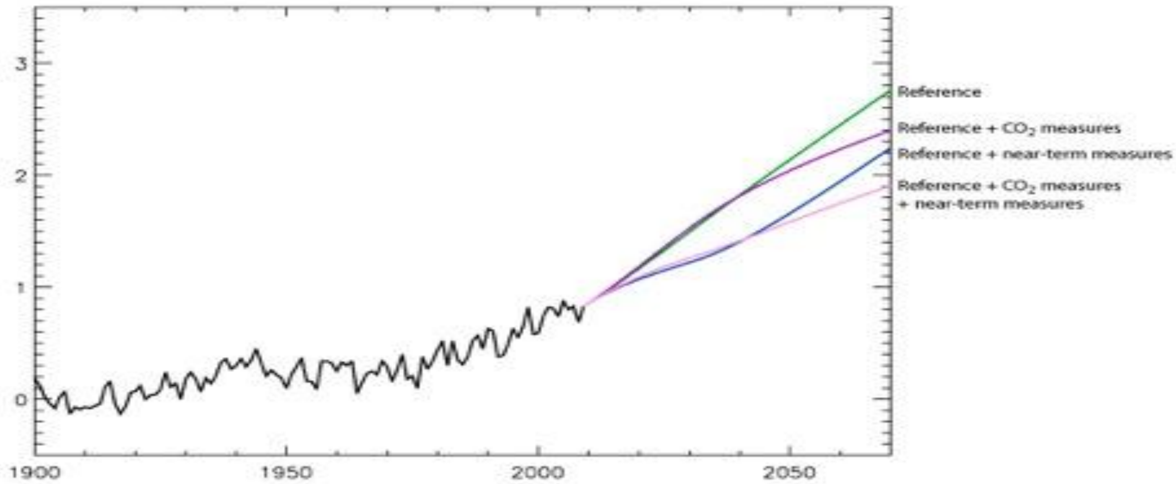
Companies will be expected to carry out environmental impact studies immediately after the law is signed off, government officials said. Those who have already completed one will be given two years to make sure they are in line with government regulations.

GENERAL

66. UNEP Supports Tighter Limits on Soot and Smog

The United Nations Environment Program (UNEP) outlined 16 measures, ranging from plugging leaky gas transport pipelines to improving wood burning stoves, to limit "black carbon" -- soot -- methane and tropospheric ozone, which is a greenhouse gas that is a big component of smog. "A small number of emission reduction measures ... offer dramatic public health, agricultural, economic and environmental benefits," Achim Steiner, head of the U.N. Environment Program, said in a statement.

The study, urging actions beyond a normal focus on curbing carbon dioxide, the main greenhouse gas from human activities, said the recommended actions could lop 0.5 degree Celsius (0.9 Fahrenheit) off rising temperatures. That would help the world reach a goal adopted by 200 nations in Mexico last year of limiting the rise to below 2 degrees C above pre-industrial times. World temperatures have already risen by about 0.8 degree C, and are headed upwards. Even before accounting for wider benefits, there were often low costs or even savings.



Global temperature 1900-2070

To reduce methane, it called for better ventilation of coal mines, better use of gas associated with oil and gas production, reduced leaks from pipelines, better recycling of waste and reforms to agriculture such as better management of rice paddy fields.

To limit black carbon, it called for adoption of diesel particle filters, cleaner-burning stoves and a ban on the open-field burning of farm waste.

The report expanded on preliminary findings from February. It reiterated that less air pollution could avoid 2.4 million premature human deaths a year and the annual loss of 52 million tons, or about 2 percent, of world production of maize, rice, soybean and wheat.

The researchers, backed by a $200,000 grant from Sweden, would work out an action plan to try to work out costs and areas where the biggest gains could be made.

They also said benefits would be felt strongly in ice-covered regions of the Arctic or the Himalayas. When soot settles on ice, it darkens the surface and allows it to soak up more heat, adding to a thaw that further stokes global warming. The report estimated that the measures could slow warming in the Arctic by about 0.7 degree Celsius by 2040, almost two-thirds of the projected warming in the region.

67. U.N. Says Climate Talks Will Miss Kyoto Deadline

U.N. talks have run out of time to meet a December 2012 deadline to put in place a binding successor to the Kyoto Protocol on curbing greenhouse gases, the U.N.'s top climate official has announced. The main aim of the U.N. talk's process was to agree a legally binding deal by 2012 but it has gradually turned to mobilizing voluntary action and funds to fight global warming.

The Kyoto Protocol binds almost 40 industrialized countries to emissions cuts from 2008-2012. Poor and emerging economies want to extend the pact, while industrialized nations prefer to replace it.

After years of wrangling over the future of the pact, countries may now try makeshift measures to plug the gap after 2012, such as rolling over existing targets.

To agree new targets with equal legal force to Kyoto countries would have to ratify those in their parliaments, but have run out of time given their next chance to do a deal is in December this year at a conference in Durban. "Even if they were able to agree on a legal text ... that requires an amendment to the Kyoto Protocol, it requires legislative ratifications on the part of three-quarters of the parties, so we would assume that there's no time to do that between Durban and the end of 2012," said Christiana Figueres, head of the U.N.'s climate secretariat. "Countries have realized this, that they actually stand before the potential of a regulatory gap, and are involved in constructive negotiations as to how they're going to deal with that," she told reporters on the first day of June 6-17 climate talks in Bonn, Germany.

A deal in Durban is widely viewed as unlikely. The European Union's chief climate negotiator told reporters 2014 or 2015 was a more realistic target for a full legal framework.

One of the biggest casualties of failure to agree new, binding targets will be international carbon markets, under which developed countries pay for emissions cuts in developing nations to offset against their own targets. That market in carbon offsets slumped last year to $1.5 billion compared with $7.4 billion in 2007, says the World Bank.

68. World off Course on Climate; Renewables Vital

The world is off course in fighting climate change and governments need to boost green energies to build new momentum, according to the head of the U.N. panel of climate scientists. Rajendra Pachauri said governments would face ever higher costs to slow global warming after new data showed greenhouse gas emissions rose to new highs in 2010. "We're not on the right track," he told an Energy and Climate Summit in a telephone interview, adding "we are far away from" a path of least cost in slowing global warming.

The International Energy Agency said last month world emissions of carbon dioxide rose by 5.9 percent to a record high in 2010 as many economies rebounded from recession.

Pachauri, an Indian citizen, said the outlook was not all gloom if governments designed policies to promote cleaner energies such as wind, solar, geothermal and hydropower. Stronger policies to promote a shift from fossil fuels "could bring about fairly rapid movement in the right direction ... One expects that there could be some kind of snowballing effect," he said.

"Renewables are already viable in a number of applications," he said. At some level of promotion such as government regulation, subsidies or feed-in tariffs of minimum prices, a shift from fossil fuels could become self-sustaining. "It's essentially a question of policies by which the world starts moving in the right direction," he said. "We have the means, we have the technologies."

A report by Pachauri's Intergovernmental Panel on Climate Change (IPCC) last month said renewables could provide up to almost 80 percent of all energy by 2050 -- with the right policies. At worst, they would account for 15 percent by 2050. Renewables now make up about 13 percent of the world total, which is dominated by fossil fuels such as coal, oil and gas.

He said renewables often lacked risk-taking investments -- noting that oil companies often spent millions of dollars in exploration wells that turned up no oil or gas. "Why is it that we are not doing the same with renewable energies where the benefits ... are so overwhelming?" he asked.

He said rising emissions complicated efforts to keep to a maximum global average temperature rise of below 2 degrees Celsius (3.6 F) over pre-industrial times, agreed by almost 200 governments in Mexico last year. "One gets the sense that (the trend) is in the upper half" of scenarios considered by the IPCC in a 2007 report, he said. That "upper half" would mean a temperature rise of between 3.2 and 6.1 degrees Celsius. He faulted governments for failing to act on the 2 degrees Celsius ceiling. The IPCC said in 2007, for instance, that world emissions would have to peak by 2015 to give a good chance of achieving a 2 degree C target.

"I think they just haven't put the pieces together," he said of related scientific findings by the IPCC. "They have just focused on bits and pieces of it ... people have not looked at the complete picture." And he said "two degrees still has significant impacts on agriculture particularly in the sub-tropics and tropics."

69. Warming To Cut Crop Yields 30 Percent in Tropical Countries, FAO Director Says

Climate change will reduce crop yields an estimated 30 percent in Asia and Africa over the next several decades, with significant impacts on food prices, the head of the U.N. Food and Agriculture Organization said on June 17th. Jacques Diouf, FAO director general, called on wealthy countries to increase private and public investment in developing countries' agriculture infrastructure to help them adapt their farming to climate change. He made his comments at the Organization for Economic Cooperation and Development where he and OECD Secretary-General Angel Gurría presented the OECD-FAO Agricultural Outlook 2011-2020.

Compiled at the request of the Group of 20 leading economies, the 194-page report examines forces driving price volatility for agricultural commodities. Commodity price volatility is expected to be the top subject of discussion at a June 22-23 summit of G-20 agriculture ministers in Paris. G-20 countries account for 85 percent of the world economy.

“Climate change is going to have an extremely big influence on world food security, food prices and availability and access to food,” Diouf said. “We know that we are going to have global warming. … That is going to have an impact on crop yields, in particular in tropical countries, with declines on the order of 30 percent. … This will cause more and more problems for water availability, a major factor for animals and plants.”

An FAO representative told BNA the organization predicts that declines in yields will occur in developing Asian and African countries by 2050.

Diouf said countries can adapt their agriculture to climate change by improving irrigation methods, seed varieties, and animal species raised. “We need early warning systems and strategies, but this will require investments,” he said.

The OECD's 34 member countries include the world's advanced economies and biggest aid donors. Diouf said the percentage of OECD members' official development assistance targeting developing-country agriculture infrastructure has declined from 19 percent in 1980 to 5 percent in 2010. Compounding the problem, wealthy countries have also slashed financing for international research into agriculture. “This research focused on adaptive methods for specific local conditions, for example developing new seed varieties," Diouf said. Developing countries themselves have also reduced their investment in the sector, he added.

A report released June 10 by OECD, FAO, and eight other organizations urges G-20 governments to drop national subsidies and other policies supporting production or consumption of first-generation biofuels because these are contributing to food price hikes while not achieving stated environmental goals.

70. Global Warming Continues as Greenhouse Gas Grows

The world's climate is not only continuing to warm, its adding heat-trapping greenhouse gases even faster than in the past, according to researchers. Indeed, the global temperature has been warmer than the 20th century average every month for more than 25 years, they said at a teleconference.

"The indicators show unequivocally that the world continues to warm," Thomas R. Karl, director of the National Climatic Data Center, said in releasing the annual State of the Climate report for 2010. "There is a clear and unmistakable signal from the top of the atmosphere to the depths of the oceans," added Peter Thorne of the Cooperative Institute for Climate and Satellites, North Carolina State University.

Carbon dioxide increased by 2.60 parts per million in the atmosphere in 2010, which is more than the average annual increase seen from 1980-2010, Karl added. Carbon dioxide is the major greenhouse gas accumulating in the air that atmospheric scientists blame for warming the climate.

The warmer conditions are consistent with events such as heat waves and extreme rainfall, Karl said at a teleconference. However, it is more difficult to make a direct connection with things like tornado outbreaks, he said.

"Any single weather event is driven by a number of factors, from local conditions to global climate patterns and trends. Climate change is one of these," he said. "It is very likely that large-scale changes in climate, such as increased moisture in the atmosphere and warming temperatures, have influenced ¬ and will continue to influence ¬ many different types of extreme events, such as heavy rainfall, flooding, heat waves and droughts.

The report, being published by the American Meteorological Society, lists 2010 as tied with 2005 for the warmest year on record, according to studies by the National Oceanic and Atmospheric Administration and NASA. A separate analysis, done in Britain, lists 2010 as the second warmest.

Deke Arndt, chief of the Climate Monitoring Branch at NCDC, noted that every month since early 1985 has been warmer than the 20th century average for the month.

Even more willing to attribute extreme weather events to climate change were speakers at a second briefing organized by the Pew Center on Climate Change.

"Scientists have concluded just recently that the link between climate change and extreme weather is not so much theoretical anymore as it is observational," Fred Guterl, executive editor of Scientific American magazine, said at that teleconference.

"Climate change is a risk factor for extreme weather just as eating salty foods is a risk factor for heart disease," said Jay Gulledge, director of the Science & Impacts Program at the Pew Center. "That doesn't mean we can predict the next flood in Iowa or drought in Georgia ... but it means they are more likely."

Meanwhile, a separate report from the Cooperative Institute for Research in Environmental Sciences at the University of Colorado at Boulder said the Earth is getting thicker around the middle due to ice loss from the Greenland and Antarctic ice sheets. "If you imagine the Earth is like a soccer ball and you push down on the North Pole, it would bulge out at its 'equator,'" said CIRES fellow Steve Nerem, co-author of the study.

At the NOAA briefing, Karl added that the Greenland ice sheet lost more mass last year than any year in the last decade. Melting of the land-based ice sheets in places like Greenland, Antarctica and other regions has raised concerns about rising sea levels worldwide.

"The arctic is changing faster that most of the rest of the world," added Walt Meier, a research scientist at the National Snow and Ice Data Center, University of Colorado. "This has long been expected." In addition, he said, the September Arctic sea ice extent was the third smallest in 30 years, older, thicker sea ice is disappearing, there is a shorter duration of snow cover, and the permafrost is melting.

Thorne added that the conclusion that the earth is warming does not rest on a single type of data. The 2010 report adds information on lake surfaces and permafrost temperatures for the first time, bringing the total number of climate indicators considered to 41. The report involved 368 researchers from 45 countries.

Other findings of the report:

- ¬Alpine glaciers shrank for the 20th consecutive year.
- ¬Even with a moderate-to-strong La Nina during the latter half of the year, which is associated with cooler equatorial waters in the tropical Pacific, the 2010 average global sea surface temperature was third warmest on record and sea level continued to rise.
- ¬Oceans were saltier than average in areas of high evaporation and fresher than average in areas of high precipitation, suggesting that the water cycle is intensifying.
- ¬A strong warm El Nino climate pattern at the beginning of 2010 transitioned to a cool La Nina by July, contributing to some unusual weather patterns around the world and impacting global regions in different ways.
- ¬Tropical cyclone activity was below normal in nearly all basins around the globe, especially in much of the Pacific Ocean. The Atlantic basin was the exception, with near-record high North Atlantic basin hurricane activity.
- ¬Heavy rains led to a record wet spring (September to November) in Australia, ending a decade-long drought.
- ¬The Arctic Oscillation affected large parts of the Northern Hemisphere causing frigid arctic air to plunge southward and warm air to surge northward. Canada had its warmest year on record while Britain had its coldest winter at the beginning of the year and coldest December at the end of the year.
- ¬An atmospheric pattern related to the strength and persistence of the storm track circling the Antarctic led to an all-time maximum in 2010 of average sea ice volume in the Antarctic.

71. Renewables Could Be 80 Percent Of Energy By 2050: U.N.

Renewable sources such as solar, wind and hydropower could fulfill almost 80 percent of the world's energy demand by 2050 with the right policies, according to a U.N. report which recently won backing from governments. The 26-page study, by the U.N.'s Intergovernmental Panel on Climate Change (IPCC), broadly matched a draft written by scientists. It was approved by government delegates at talks in Abu Dhabi.

Environmental groups hailed the report as a guide to the shift from fossil fuels to combat climate change, a process set to cost trillions of dollars. But they said some draft findings were watered down, partly due to opposition by oil exporters.

"Close to 80 percent of the world energy supply could be met by renewables by mid-century if backed by the right enabling public policies," the IPCC said. The report said moves to cleaner energies including geothermal or ocean energy would help cut greenhouse gas emissions, which it blamed for floods, droughts, heat waves and rising sea levels.

Growth in renewables has already surged in recent years, and costs are falling, it said. "We see a rapid increase in wind and solar PV (photovoltaic) especially," Rajendra Pachauri, chair of the IPCC, told a news conference.

"It underscores the irreplaceable potential of renewable energies to reduce greenhouse gas emissions and improve the lives of people around the world," said Christiania Figueres, head of the U.N. Climate Change Secretariat in Bonn.

Ottmar Edenhofer, who chaired the report, said there were few limits to the theoretical potential for renewable energies. "However, the substantial increase of renewables is technically and politically very challenging," he said. Scenarios for the share of renewables in world supplies by 2050 ranged widely, from just 15 percent to 77 percent.

Renewable energy sources accounted for 12.9 percent of the world's total primary energy sources in 2008, according to the report outline. The most popular form of renewable energy, by far, was biomass (10.2 percent of all energy), followed by hydropower (2.3 percent), wind (0.2 percent), and solar and geothermal energy (a combined 0.2 percent). Most of the biomass energy is from firewood burned in developing countries.

Environmentalists said some language favorable to renewables was toned down in all-night wrangling, partly by OPEC nations led by Saudi Arabia. "There are all sorts of 'mights' and 'mays' introduced," said Jean-Philippe Denruyter, manager of global renewable energy policy for the WWF conservation group. "It's not a big problem. We are quite positive about the outcome."

Sven Teske of Greenpeace, an IPCC author, said the summary had muted, for instance, clearer statements that some renewable energies were already cost effective. Still, he added that the underlying findings "will be the standard book for renewables."

The underlying IPCC report, of about 1,000 pages, was written by about 120 experts. The Abu Dhabi talks were to get governments to endorse the summary for policymakers, a step meant to give its conclusions global legitimacy.

An IPCC review of 164 scenarios for the shift to renewable energies showed that they could make cumulative carbon dioxide savings of 220-560 billion tons from 2010 to 2050. That compares with 1.53 trillion tons of cumulative fossil and industrial carbon dioxide emissions in a reference scenario for the same years.

Renewable energy likely will contribute more to global greenhouse gas emissions reductions in the future than nuclear energy and carbon capture and storage technologies combined, the report said. Nearly half of new energy capacity added globally between 2008 and 2009—the last comprehensive figures available—came from renewable energy sources, IPCC said. The summary showed that of the estimated 300 gigawatts of electricity generating capacity installed between 2008 and 2009, 140 gigawatts came from renewable energy sources. The percentages for renewable energy projects as a part of a larger whole were higher in developing countries, with China adding more new renewable energy capacity than any other country.

The final report will be part of the IPCC's Fifth Assessment Report, which will be released in 2014.

In order for global temperatures to stay below an increase of 2 degrees Celsius (3.6 degrees Fahrenheit) compared to pre-industrial levels, the summary said greenhouse gas emissions would have to peak and then start their decline no later than 2015—something the IPCC said was only possible through “rapid up-scaling of renewable energy policies” across the globe.

The summary concluded that, “a shift to a low-carbon economy based largely on renewable energy sources will require additional policies to attract significant increases in investment in technologies and infrastructure.” To that end, it based models showing investments in renewable energy ranging from $1.4 billion to $5.1 billion for the 10-year period ending in 2020 and from $1.5 billion to $7.2 billion for the 10-year period ending in 2030, noting that actual costs would be lower because those investments would reduce costs for other energy investments.

72. Global Climate Policy Should Focus On Decarbonization of Electricity, IEA Says

The more than 13 gigatons gap between forecast global greenhouse gas emissions in 2035 and the level of emissions necessary to keep global warming to 2 degrees Celsius (3.6 degrees Fahrenheit) can be closed if countries go through an “unprecedented essential transition” to decarbonize electricity production and use, the International Energy Agency said on May 27th. Policymakers should focus on electricity because even if countries stick to their pledges to reduce greenhouse gases, global emissions will continue to rise through 2035, the agency said in a report, The Climate and Electricity Annual 2011.

Decarbonization of the electricity supply—meaning reducing associated carbon dioxide emissions—also is needed to reverse an increase in the carbon intensity of electricity. That measure of emissions per unit of production has increased 6 percent globally since 1990, mainly due to the construction of fossil-fueled power stations in Asia, IEA said.

Regarding the supply of electricity, the agency said a combination of renewable energy, biofuels, nuclear power, and carbon capture and storage could reduce global greenhouse gas emissions by about 6.5 gigatons by 2035. End users of electricity could contribute a further 6.85 gigatons in avoided emissions through measures such as the widespread use of electric vehicles and “smart” metering, said the Paris-based agency, which advises wealthy countries.

The 13.35 gigatons of greenhouse gas emissions that could be reduced under IEA's scenario, compared to a baseline in which countries keep to their current pledges to cut emissions, would be enough by 2035 to limit the presence of carbon dioxide in the atmosphere to 450 parts per million, the figure given by the United Nations Framework Convention on Climate Change as offering a reasonable chance of limiting global warming to safe levels.

IEA Director of Sustainable Energy Policy and Technology Bo Diczfalusy said the climate and electricity report was the first in a planned series that will “monitor the efforts under way to decarbonize the power sector.”

The report, which analyzed the different aspects of power decarbonization and provided statistics on power generation in different parts of the world, showed that “electricity is unique when it comes to meeting the climate change challenge,” being both part of the problem and part of the solution, Diczfalusy said.

IEA Senior Transport Energy Analyst Lew Fulton said emissions reductions from decarbonized electricity should be reinforced by “more and more products using electricity.” In particular, a switch to electric cars would reduce three units of carbon dioxide for each unit of electricity generated because of the cut in liquid fuel use, Fulton said.

The cost of decarbonizing the electricity supply through 2035 could be up to $4 trillion, IEA said.

73. IPCC Adopts Policies on Governance, Conflict of Interest, Scientific Uncertainty

On May 13th, the Intergovernmental Panel on Climate Change adopted new policies aimed at addressing concerns over how the panel operates and prepares its assessment reports on climate change. At the 33rd IPCC Plenary session, which was held in Abu Dhabi, representatives of the IPCC member governments adopted policies on governance, conflict of interest, communicating about the panel's activities, “grey” or non-peer-reviewed literature, correction of errors, and addressing scientific uncertainty.

IPCC was established by the United Nations Environment Program and the World Meteorological Organization to provide an overview of current climate change science. The panel came under scrutiny, after an error was found in its Fourth Assessment Report, released in 2007, about the rate at which Himalayan glaciers were melting, raising questions about how the assessment report writing process is governed and how the IPCC deals with scientific reports that are not peer reviewed, such as those published by governments.

In March 2010, IPCC Chairman Rajendra Pachauri commissioned an independent review of the panel's functions. Conducted by the InterAcademy Council, which is made up of national academies of science throughout the world, the review culminated in a report released in August 2010 that called for reform of the IPCC management structure to deal with the challenge of coordinating complex climate assessments under growing public scrutiny.

Following a recommendation from the InterAcademy Council, the IPCC set up “an Executive Committee to strengthen the coordination and management of the IPCC, allowing urgent issues to be addressed between Panel Sessions including communication and outreach activities and the response to possible errors,” the panel said in a news release. The committee will be led by the chair of the IPCC and be composed of vice chairs—heads of working groups who are tasked with writing chapters of the assessment reports—and IPCC advisory members.

The panel also approved a conflict of interest policy with a mandate to form “a task group of Governments to continue to complete a plan for implementing this policy—including a form for disclosure [of conflicts of interest]—for approval at the IPCC's 34th Session," scheduled for November, IPCC said.

For addressing uncertainty within its assessment reports, the IPCC agreed to standardize the way that uncertainties in scientific findings are addressed so that it does not differ from chapter to chapter within a report—each chapter is written by a different group of scientists.

Also, the panel adopted a "clear and timely procedure for evaluating and correcting genuine errors, including a facility for those claiming an error to send it to the IPCC and receive a reply," with corrections to be posted on the IPCC website.

The committee will fix any future errors "within a week or so," its head said. "I think we now have a firm procedure by which we are going to deal with errors, or alleged errors," Rajendra Pachauri told reporters during a visit to Oslo, referring to a set of reforms agreed at a meeting in Abu Dhabi on May 17.

"My own expectation is within a week or so we should be able to do it," Pachauri said when asked what limit the panel should have to fix errors. Previously, there has been no time limit. "In some cases it can be done in a day or two," he said, but contacting past authors and consulting experts might take a few days. He said swift action would build confidence in the panel.

Pachauri also said his Intergovernmental Panel on Climate Change (IPCC), would act quickly to say when it was looking into possible flaws. "We will have to be prompt in communicating what we are doing," he said.

Among other reforms agreed in Abu Dhabi, the IPCC agreed that its chair would not usually serve more than one term -- less definite than a recommendation by experts in a 2010 review by scientific experts in the InterAcademy Council for a one-term limit.

Pachauri, 70, is in his second term, and says he will stay on until it ends with presentation of the next report in 2014.
The panel also agreed that lead authors of chapters should "consider the range of scientific, technical and socio-economic views and documents, even if there is no consensus on view on the findings, as long as they are scientifically and technically valid." However, articles in magazines, newspapers, broadcast, social media, or blogs will continue to be considered invalid sources for IPCC reports, the panel said.

IPCC said the policies will be implemented at its next plenary session in November.

74. Seas Could Rise Up To 1.6 Meters By 2100: Study

Quickening climate change in the Arctic including a thaw of Greenland's ice could raise world sea levels by up to 1.6 meters by 2100, according to a new international report. Such a rise -- above most past scientific estimates -- would add to threats to coasts from Bangladesh to Florida, low-lying Pacific islands and cities from London to Shanghai. It would also, for instance, raise costs of building tsunami barriers in Japan.

"The past six years (until 2010) have been the warmest period ever recorded in the Arctic," according to the Oslo-based Arctic Monitoring and Assessment Program (AMAP), which is backed by the eight-nation Arctic Council. "In the future, global sea level is projected to rise by 0.9 meters (2ft 11in) to 1.6 meters (5ft 3in) by 2100 and the loss of ice from Arctic glaciers, ice caps and the Greenland ice sheet will make a substantial contribution," it said. The rises were projected from 1990 levels.

"Arctic glaciers, ice caps and the Greenland ice sheet contributed over 40 percent of the global sea level rise of around 3 mm per year observed between 2003 and 2008," it said.

Foreign ministers from Arctic Council nations -- the United States, Russia, Canada, Sweden, Finland, Denmark, Norway and Iceland -- met in Greenland on May 12th. Warming in the Arctic is happening at about twice the world average.

The United Nations' Intergovernmental Panel on Climate Change (IPCC) said in its last major report in 2007 that world sea levels were likely to rise by between 18 and 59 cm by 2100. Those numbers did not include a possible acceleration of a thaw in polar regions. "It is worrying that the most recent science points to much higher sea level rise than we have been expecting until now," European Climate Commissioner Connie Hedegaard told reporters. "The study is yet another reminder of how pressing it has become to tackle climate change, although this urgency is not always evident neither in the public debate nor from the pace in the international negotiations," she said.

U.N. talks on a global pact to combat climate change are making sluggish progress. The United Nations says national promises to limit greenhouse gas emissions, mainly from burning fossil fuels, are insufficient to avoid dangerous changes.

The AMAP study, drawing on work by hundreds of experts, said there were signs that warming was accelerating. It said the Arctic Ocean could be nearly ice free in summers within 30 to 40 years, earlier than projected by the IPCC. As reflective ice and snow shrink, they expose ever bigger areas of darker water or soil. Those dark regions soak up ever more heat from the sun, in turn stoking a melt of the remaining ice and snow. "There is evidence that two components of the Arctic cryosphere -- snow and sea ice -- are interacting with the climate system to accelerate warming," it said.

75. Years of Air Pollution May Be Tied To Uncontrolled Asthma

A strong association exists between long-term exposure to air pollution and uncontrolled asthma, new research indicates. The study included 481 adults with asthma who provided details about their respiratory health between 2003 and 2007. The researchers compared this information with levels of three types of air pollution -- ozone (O3), nitrous oxide (NO2) and particulate matter (PM10) -- in the five cities in France where the participants lived.

About 44 percent of the participants had well-controlled asthma, 29 percent had partially controlled asthma and 27 percent had uncontrolled asthma. Women and older people were more likely to have uncontrolled asthma.

There was a strong association between poorer asthma control and levels of ozone and particulate matter. The risk of uncontrolled asthma was 69 percent higher among those with long-term exposure to ozone and 35 percent higher for those with long-term exposure to particulate matter.

The study appears online June 21 in the Journal of Epidemiology and Community Health.

"Our results indicate that both ambient O3 and PM10 concentrations jeopardize asthma control in adults," the researchers concluded in a journal news release. "Our results are robust."

76. Study: Electric Vehicle Lifecycle Emissions Better Than Conventional Cars

Electric vehicles (EVs) produce more emissions than conventional cars in production, but still have far lower carbon footprints over their lifetimes, according to a new study that "dispels the myth" that low carbon cars transfer emissions from exhaust to manufacture.

The research conducted by UK advisory group LowCVP calculates that a typical medium-sized family car will pump out 24 tons of CO_2 compared to just 19 tons for EVs and plug-in hybrids, and 21 tons for standard hybrids. However, producing EVs cranks out a sizeable 8.8 tons of carbon, compared to 5.6 tons for standard fuel cars, meaning that 46 per cent of an EV's lifetime emissions are generated before the car even hits the road.

Almost half of an EV's embedded emissions are down to its battery, which shows the importance of decarbonizing the process for making batteries and the national electricity supply if a shift to electric transportation is to be genuinely low carbon, LowCVP said.

The organization wants more manufacturers to follow the examples of Toyota and Nissan which have respectively installed solar panels and wind turbines at car-producing factories.

LowCVP also calls for the introduction of low weight, low carbon alternatives to current steels, which account for around 75 per cent of a car's production emissions.

77. World's First SCR NOx Removal System Installed On Coal Bulker

Nippon Yusen Kabushiki Kaisha, Oshima Shipbuilding Co. Ltd., Mitsubishi Heavy Industries Ltd., Akasaka Diesels Limited, and Sakai Chemical Industry Co., Ltd are to begin shipboard tests of selective catalytic reduction (SCR) nitrogen oxide (NOx) removal equipment installed on NYK Line's new bulk coal carrier Initial Salute, which was built by Oshima Shipbuilding.

Shipboard trials of SCR NOx removal equipment were conducted during the voyage of Initial Salute. Once the equipment was verified to meet the tier III NOx emission controls stipulated by the International Maritime Organization (IMO), it was decided to leave the equipment in place to collect more data through tests to be conducted during actual operational voyages. The installation of SCR NOx removal equipment after turbocharging, on board Initial Salute is the world's first trial on a low-speed marine diesel engine.

The new SCR NOx removal equipment will meet the tier III NOx emission control requirement by further reducing emissions while maintaining the superior combustion efficiency that is the main feature of a low-speed marine diesel engine.

It was initially thought that SCR NOx removal equipment would find it difficult to respond to future NOx emission controls because in an atmosphere of low-temperature exhaust gases below 300 C, ammonium hydrogen sulfate (acid ammonium sulfate) - generated by the chemical reaction of the sulfur in fuel oil with the ammonia in the reducing agent - poisons catalysts. However, the new SCR NOx removal equipment has been improved to reduce catalyst poisoning to a minimum level by suppressing the sulfur in fuel oil to approximately 0.1 percent. As a result, in an atmosphere of low-temperature exhaust gases at 250 C after turbocharging, stable denitration effects were observed during a test on land, which led to shipboard tests on an operational vessel with an eye to practical use.

Given the heightened awareness of environmental issues, NYK Line is proactively involving itself in reducing the environmental impact caused by its vessels. Oshima Shipyard, MHI, Akasaka Diesels, and Sakai Chemical have initiated, as a high-priority issue, R&D that focuses on future environmental regulations to be imposed on vessels. Since fiscal 2007, these companies have participated in the "R&D on Super Clean Marine Diesels" initiative, which is subsidized by The Nippon Foundation, and conducted by the Japan Marine Equipment Association under the leadership of the Ministry of Land, Infrastructure, Transport and Tourism. In addition, since fiscal 2010 the companies have also been involved in developing technology for a denitration system that will work with low-temperature exhaust gases of low-speed marine diesel engines, including shipboard tests, with technical cooperation from the National Marine Research Institute. Against this backdrop, NYK Line decided to cooperate in this research with the trial installment of SCR equipment on its own operating coal carrier.

The five companies will continue R&D activities related to the environmental field so as to contribute to the reduction of the environmental impact of the global marine industry.

The IMO-adopted MARPOL Convention is the main international convention covering the prevention of the pollution of the marine environment by shipping. In line with MARPOL Annex VI (Regulations for the Prevention of Air Pollution from Ships) that came into effect on May 19, 2005, NOx emission controls (tier I controls) for diesel engines installed on vessels were implemented in Japan. Later the convention was revised and a new NOx emission level (tier II controls) came into force on July 1, 2010. The revised regulation is a strict one that aims to decrease NOx emission levels by a further 20 percent from that of the first regulation. Moreover, the third control was adopted in 2008, targeting vessels to be constructed from 2016 and limited to emission control areas, to seek the reduction of NOx emissions by about 80 percent from that of the first tier.

78. Call To Make Shipping Sector More Eco-Friendly

A group of companies involved in the Sustainable Shipping Initiative has called on shipping industry leaders to develop a "shared vision" on how to make their sector more socially and environmentally responsible within the next 30 years. The initiative, which includes shipping company Maersk and other firms such as BP and Rio Tinto and green group WWF, urged industry leaders to "build and convert ships to the highest standards of energy efficiency" as oil prices are soaring.

In Brussels, the European Commission continues to discuss options for reducing shipping emissions in case no global agreement is reached as part of International Maritime Organization (IMO) and UN climate negotiations.

A presentation was made at a working group meeting in early February. Among other things, participants discussed the scope of a possible EU proposal. Another expert meeting will be held in June following a meeting of the high level platform on 24 May. The platform is led by commissioners Siim Kallas and Connie Hedegaard.

79. Consultant Estimates Greatly Increased Future Unconventional Oil Output

Unconventional oil production from the Bakken, Eagle Ford, and Niobrara plays is expected to approach 900,000 b/d in 2015 and exceed 1.3 million b/d by 2020, a consultant forecast. Purvin & Gertz Inc. estimates current oil production from the Bakken, Eagle Ford, and Nobrara plays at 350,000-400,000 b/d. The Bakken formation is in North Dakota and Montana, the Eagle Ford is in South Texas, and the Niobrara is in Colorado and Wyoming.

Geoff Houlton, a vice-president with Purvin & Gertz in Houston, told OGJ that shale oil production likely will help offset US oil import volumes in coming years. Increasing supplies of light, sweet crude from shale oil plays are expected to reduce oil imports of similar quality crude into the Gulf Coast by greater than 500,000 b/d by 2016, he said.

Purvin & Gertz released its base-case forecast in a study entitled “US Midcontinent Crude Oil Market Analysis,” which examined oil logistics and pricing. Consultants compared price differentials between US benchmark West Texas Intermediate oil and Bakken oil related to the US Gulf Coast and international crudes.

The discount for WTI vs. Brent widened to $21.79/bbl on June 14. Houlton believes it could shrink to about $2/bbl after completion of planned pipeline expansions to Cushing, Okla. The addition of planned pipeline capacity from Cushing to the Gulf Coast is expected to provide enough capacity to relieve current tight conditions in Cushing’s crude inventories, Houlton said.

On June 15, Raymond James & Associates Inc. said, “Almost 6 months after the initial blowout in WTI pricing, refiners and oil market participants are still finding new ways to move crude out of Cushing.” For instance, Petro Source LLC plans to use barges to move 5,000 b/d from Catoosa, Okla., to St. James, La., at a cost of $5-7/bbl, RJA analysts said.

“With Cushing inventories sitting just under 39 million bbl, it will take additional logistical solutions (rail, truck, etc.) to relieve the current glut and reduce the WTI discount to a transportation differential,” RJA said. “Until these solutions materialize, Midcontinent refiners should continue to benefit from a hefty discount in WTI prices.”

80. Analysis: Shale Gas Is Killing Green Energy Market in Price War

A widening shale gas revolution is killing the economics of renewable energy, even as falling costs allow wind and solar to overtake fossil fuels in niche areas, say energy executives and analysts. Solar panel prices are down about 10 percent this year, but chasing a moving target as discovery of cheap shale gas spreads beyond the United States, experts stated at a recent energy and climate summit. Even big renewables investors, such as French energy company Total, see solar as a tiny part of the picture decades out, compared with gas. Total paid $1.4 billion for a majority stake in U.S.-based SunPower Corp.

"You have one energy that represents today more than 20 percent of the energy mix, and solar today is close to zero and will represent maybe 1 or 1.5 percent in 20 years from now," said Jean-Jacques Mosconi, Total head of strategy.

The trouble is that a new "golden age of gas," as the International Energy Agency dubbed it, has created massive over-capacity in a key rival fuel for power generation.

"The economic viability of a lot of the renewables is getting killed because we have too much gas in the world right now," said Jeff Currie, global head of commodities research at Goldman Sachs.

Building new gas plants was half the price of new nuclear, and much cheaper than wind and solar, said John Rowe, chairman of U.S. power company Exelon Corp. Shale gas has especially suppressed prices in the United States.

Energy ripples from a Japan quake, where some countries are now rolling back nuclear plans after the Fukushima crisis, would favor coal and gas as much as renewables, said International Energy Agency chief economist Fatih Birol.

"When Germany say they are going to use alternative energy sources, I just don't see it, if you try to switch now to solar power it will cost them 20 times more," said Peter Csoregh at Robeco's Natural Resource equities fund, expecting instead greater use in Germany of gas, coal and imported nuclear.

Offshore wind may be in the same cost range as gas by 2015, said Joergen Kildahl, a board member at Germany's E.ON group, one of the world's biggest utilities. But that did not include the cost of building back-up for the intermittent power source. "You need to buy the flexibility to balance your production. That's a big question mark," he said.

After steep price falls solar power is now close to being economic without subsidies -- called grid parity -- but only in niche areas including parts of California and Italy, sunny places with high power prices and fewer alternatives. Falls in solar panel prices may flatten by 2013-2014, said Steven Chan, president of Suntech America, the North American unit of Chinese panel maker Suntech, who cited studies suggesting widespread grid parity with retail power prices by 2015.

Trina Solar, China's largest solar panel maker by value, is shipping modules at $1.50-1.55 now, down nearly 10 percent from a year ago, and expected prices at $1.40-$1.45 by year-end. Industry module prices had fallen by about 10 percent in the first half this year and would fall a further 4-5 percent in the summer, said Frank Asbeck, chief executive of SolarWorld, Germany's second-largest solar company by value.

Analysts and renewable energy supporters often point to hidden costs in the case of fossil fuels and nuclear. Fossil fuels, for example, produce carbon emissions whose damaging impact on the world's climate is not priced outside Europe. Rare accidents and waste disposal may not be fully costed in the case of nuclear power. Question marks have been raised over the impact of shale gas on water quality.

"It's essential that we provide a policy framework that provides a level playing field," said Rajendra Pachauri, the head of a U.N. panel of climate scientists.

81. Research Flights Seek To Improve View of Air Pollution from Space

This summer two NASA research airplanes will fly over the Baltimore-Washington region and northeast Maryland as part of a mission to enhance the capability of satellites to measure ground-level air quality from space. The flights will be supported by the U.S. Environmental Protection Agency and will aid the agency in monitoring pollutants that affect people’s health.

”With improved ability to monitor pollution from satellites, scientists can make better air quality forecasts, and more accurately determine sources of air pollutants. This information is useful in developing strategies to protect our nation's air quality," said Dr. Paul Anastas, Assistant Administrator for EPA's Office of Research and Development.

The flight measurements will be taken in concert with satellite and ground measurements. EPA scientists will use ground-based instruments to measure oxides of nitrogen and ozone along portions of the flight path. Data from the project is expected to provide a greater understanding of how the existing ground-based air monitoring network funded by EPA and run by states and local agencies can be used to improve satellite observations.

A fundamental challenge for space borne instruments monitoring air quality is to distinguish between pollution high in the atmosphere and that near the surface where people live and breathe. The new field project will make measurements from aircraft in combination with ground-based observations to help scientists better understand how to observe ground-level pollution from space in the future.

The project is called DISCOVER-AQ, which stands for Deriving Information on Surface conditions from Column and Vertically Resolved Observations Relevant to Air Quality. It is one of five Earth Venture investigations selected in 2010 as part of NASA's Earth System Science Pathfinder program. These targeted science investigations complement NASA's larger research missions.

"What we're trying to do with DISCOVER-AQ is to fill the knowledge gap that limits our ability to monitor air pollution with satellites," said James Crawford, the mission's principal investigator based at NASA's Langley Research Center in Hampton, Va.

Since many countries, including the United States, have large gaps in ground-based networks of air pollution monitors, experts look toward satellites to provide a more complete geographic perspective on the distribution of pollutants.

NASA's A-Train constellation of satellites, including Aqua and Aura, will pass over the DISCOVER-AQ study area each day in the early afternoon. This data will give scientists the opportunity to compare the view from space with that from the ground and aircraft.

"Although we are better at detecting some pollutants from space than others, broadly speaking we have difficulty distinguishing between pollutants high in the atmosphere, which we can see quite well with satellites, and pollutants at the surface," said Kenneth Pickering, DISCOVER-AQ's project scientist at NASA's Goddard Space Flight Center, Greenbelt, Md.

Test flights begin as early as June 27 followed by up to 14 flights during July using two NASA planes. Sampling will focus on an area extending from Beltsville, Md., to the northeastern corner of Maryland in a pattern that follows major roadway traffic corridors. The flight path passes over six ground measurement sites operated by the Maryland Department of the Environment.

Ground sites maintained by the Maryland Department of the Environment form the backbone of the surface network. These sites will supplemented by additional instrumentation provided by NASA, EPA, Howard University, Pennsylvania State University, the University of Maryland-Baltimore County, and Millersville University in Pennsylvania. In the air, NASA investigators will be joined by colleagues from the National Center for Atmospheric Research, the University of California-Berkeley, and the University of Innsbruck in Austria.

The combined scientific resources are what make DISCOVER-AQ a rare opportunity for air quality researchers. "It's not just one instrument that's more important than another. It is the combination of all of them that makes this campaign valuable," said Jennifer Hains, a research statistician with the Maryland Department of the Environment in Baltimore.