State of California
# Air Resources Board

## BOARD ITEM SUMMARY

**ITEM # 07-7-1: Health Update: Influence of Genetic Variants on Ozone Responses of Asthmatic Children**

**STAFF RECOMMENDATION:**
Informational Item.

**DISCUSSION:**
The ARB staff provides the Board with regular updates on recent research findings on the health effects of air pollution. This month, staff will present the findings of research recently published on the influence of two genetic variants on respiratory health of asthmatic children exposed to ozone.

**SUMMARY OF AGENDA ITEM:**
The relationship between ozone air pollution and adverse health effects is well established. However, there are large differences between responsiveness of individuals. Also, little is known about the basis of this variability consequent to ozone exposure. Previous studies have suggested that some common variants in enzyme producing genes that protect tissues from oxidant damage may influence susceptibility. This health update focuses on a study of asthmatic children in Mexico City, which found that children with certain variants of the studied genes were more susceptible to developing adverse respiratory symptoms when exposed to ozone than asthmatic children with other variants in the same genes. The findings emphasize the importance of genetic makeup and helps to explain the wide variability in responsiveness. The results of this and similar studies investigating the basis of vulnerability to air pollution health effects provide critical information toward ensuring that ambient air quality standards protect the most vulnerable members of the population.

State of California
# Air Resources Board

## BOARD ITEM SUMMARY

**ITEM # 07-7-3: Biannual Climate Science Update - IPCC 4th Assessment Report-Summary for Policymakers**

**STAFF RECOMMENDATION:**
Informational Item, no action needed.

**DISCUSSION:**
This is the second in a series of biannual updates to the Board on recent, significant findings from climate change research. This update summarizes the IPCC 4th Assessment reports.

**SUMMARY AND IMPACTS**:
The Intergovernmental Panel on Climate Change (IPCC) was established in 1988 by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP). Its purpose is to produce reports on climate change for policy makers which are comprehensive, objective and representative of the consensus in the scientific community. The IPCC bases its assessments on peer reviewed and published literature. Since 1988 the IPCC has released four reports. The 4th Assessment, issued this year, focuses on the scientific, technological, environmental, economic and social aspects of mitigating climate change, and highlights literature published since the 3rd Assessment in 2001.

State of California
# Air Resources Board

## BOARD ITEM SUMMARY

**ITEM # 07-7-4: Proposed List of Discrete Early Actions to Mitigate Climate Change in California**

**STAFF RECOMMENDATION:**
Approve the proposed list of discrete early actions.

**DISCUSSION:** The California Global Warming Solutions Act of 2006 mandates that ARB identify a list of "discrete early action greenhouse gas reduction measures" by June 30, 2007, that can be adopted as regulations and made enforceable no later than January 1, 2010. The intent of the law is to ensure near term progress in reducing greenhouse gases while ARB assembles its comprehensive strategy to achieve the 2020 target.

To come up with the proposed list, ARB staff took several actions. First, staff established key criteria to screen candidate measures. The most important of these was the ability to complete rulemaking in the designated timeframe. Second, staff gathered public input from a wide range of stakeholders at two public workshops and through oral and written comments. Staff received more than 100 separate suggestions through this process. Third, staff conducted an international technology symposium to look for cutting edge ideas around the globe, primarily for non-carbon dioxide greenhouse gases (like refrigerants). Finally, staff consulted with the Environmental Justice Advisory Committee, Cal/EPA, the Governor's Office and fellow members of the interagency Climate Action Team.

It became clear almost immediately that most stakeholders wanted ARB to accomplish the world during the early action period. Also, that the definition of "early action measures" was being stretched to include non-regulatory activity and governmental policies that would be beneficial to greenhouse gas reduction. In addition, several stakeholders insisted that ARB put its diesel control measures on the early action list since black carbon affects the climate (even though that pollutant was not identified in the Global Warming Solutions Act as a greenhouse gas).

ARB staff carefully considered all of these suggestions and came up with a three-tiered list for proposed strategies under ARB's jurisdiction: Group 1, Group 2 and Group 3. Suggested measures that were within the domain of other state agencies (such as water management or statewide recycling programs) were referred to the appropriate departments for appropriate action.

Group 1 is proposed regulations that meet the narrow legal definition of "discrete early action greenhouse gas reduction measures" in the Act. These include the Governor's proposed Low Carbon Fuel Standard, reduction of refrigerant losses from motor vehicle air conditioning maintenance, and increased methane capture from landfills. These actions are estimated to reduce GHG emissions between 13 and 26 million metric tons of carbon dioxide equivalent gases ($MMTCO_2E$) annually by 2020. If endorsed by the Board, these strategies will be developed into rules following the standard process, including workshops and public comment. They will be brought to the Board for formal consideration in late 2008.

Group 2 is non-regulatory activities (such as protocol development), plus greenhouse gas regulations that will be enforceable in the near term but ***after*** January 1, 2010. These measures do not meet the strict legal definition in the Global Warming Solutions Act but are equally important. There are 20 measures in this category including electrification, phase two vehicle standards, and more refrigerant controls. Collectively these measures are expected to yield at least 20 $MMTCO_2E$ of reductions by 2020.

Group 3 is traditional control measures aimed at criteria and toxic air pollutants which have concurrent climate co-benefits through reductions in $CO_2$ or non-Kyoto pollutants. Reductions from these strategies remain to be quantified, but there is reasonable expectation that they will yield significant GHG benefits. There are 10 measures in this category, all to be adopted during the next three years (between 2007 and 2009).

ARB also recognizes the importance of early action measures by other agencies. The commitment by other state agencies for achieving near-term GHG emission reductions is on the order of 17 $MMTCO_2E$ with an additional reduction of 60 $MMTCO_2E$ from strategies expected to be initiated within the next three years represent a significant advancement towards the 2020 target.

Finally, the ARB staff recognized that voluntary actions and educational efforts that result in real and permanent GHG emission reductions will also be instrumental in California's transition towards a low-carbon world. Each of these topics is addressed in the early action report.

**SUMMARY AND IMPACTS:**

The discrete early actions proposed by ARB as well as the other early actions identified in the staff report will reduce GHG emissions between 33-46 $MMTCO_2E$ by 2020 relative to projected levels. Existing ARB regulations will contribute an additional 30 $MMTCO_2E$ (e.g., AB 1493 and the diesel program). These estimates *exclude* the benefits from the Climate Action Team early actions and from reducing diesel particulate matter, ozone precursors and toxic pollutants since the $CO_2$ equivalent effects are yet to be determined. Together, all of these measures will make a substantial contribution to the overall 2020 statewide emission reduction goal of approximately 174 $MMTCO_2E$.

State of California
# Air Resources Board

## BOARD ITEM SUMMARY

**ITEM # 07-7-5: Amendments to Motor Vehicle Emission Control and Smog Index Labels Regulations**

**STAFF RECOMMENDATION:**
Adopt the proposed amendments.

**DISCUSSION:**
Since the 1998 model year, ARB has required a Smog Index Label on new light-duty vehicles to provide vehicle emissions information to consumers. The Smog Index Label identifies the relative performance of each vehicle for exhaust emissions of non-methane organic gas, oxides of nitrogen and evaporative hydrocarbons. In 2005, Assembly Bill 1229 was enacted which requires ARB to develop a greenhouse gas index and label. Accordingly, staff proposes amending the Smog Index Label to add a Global Warming Index. Staff also proposes new requirements for appearance and consistency which will require one label size and design to be used by all affected vehicle manufacturers.

For both the Smog Index and Global Warming Index, staff is proposing a simple scale from 1-10 where 1 represents the dirtiest vehicle available and 10 the cleanest, based on vehicle emission certification standards and greenhouse gas emission standards respectively. The new labels would be required staring on October 1, 2008.

**SUMMARY AND IMPACTS:**
The total annual cost of this regulation is estimated at $245,000 industry wide. The annual cost per manufacturer is estimated to be $8,167. Costs will vary slightly by manufacturer depending on the number of assembly plants, ports of entry and vehicles produced. The purpose of the label is to encourage purchasers to buy new vehicles with the lowest emissions. To the extent that the label accomplishes this, vehicle emissions will decrease. The proposed label will also provide clarity for consumers and help them make environmentally beneficial choices.

State of California

# Air Resources Board

## BOARD ITEM SUMMARY

**ITEM # 07-7-6: Proposed Regulations for Certifying and Testing Gasoline Vapor Recovery Systems for Aboveground Storage Tanks**

**STAFF RECOMMENDATION:**
Adopt the proposed regulations and procedures for the certification and testing of gasoline vapor recovery systems used with aboveground storage tanks.

**DISCUSSION:**
State law authorizes ARB to adopt performance standards and procedures for certifying systems to control vapors from gasoline marketing operations. To ensure uniformity, air district rules controlling gasoline vapors must used ARB certified systems. In March 2000, ARB approved Enhanced Vapor Recovery (EVR) certification regulation for underground storage tanks (UST). Aboveground storage tanks (AST) were not addressed in that rulemaking.

Staff is proposing new performance standards and specifications to reduce emissions from standing loss and transfer of gasoline to and from ASTs. Amended standards for controlling transfer emissions would achieve consistency between AST and UST vapor recovery requirements. To develop the proposed regulation, staff conducted ten public workshops between June 2001 and December 2006, kept the California Air Pollution Control Officers Association Vapor Recovery Committee informed, and met with various stakeholders and agricultural groups and associations to discuss the proposal.

**SUMMARY AND IMPACTS:**
The proposed regulation will reduce AST emissions approximately two tons per day. About two-thirds of these reductions will occur in the Central Valley. The controls will save 600 gallons of gasoline per day that would otherwise evaporate. The cost to retrofit existing tanks ranges from $40 to $594. New tanks will increase in cost by about $1500, due to parallel air district requirements that are triggered upon permitting. The cost effectiveness of the proposed regulation is $1.77 per pound of reactive organic gas emissions reduced. The majority of owners and operators of ASTs are agricultural operations.

State of California

# Air Resources Board

## BOARD ITEM SUMMARY

**ITEM # 07-7-7: Proposed State Strategy for California's State Implementation Plan (SIP) for the Federal 8-Hour Ozone and PM2.5 Standards**

**STAFF RECOMMENDATIONS:**
Adopt the Proposed State Strategy, including the modification to the current commitment for pesticide emission reductions in the Ventura county nonattainment area.

**DISCUSSION:**
Federal clean air laws require areas with unhealthy levels of ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide and/or inhalable particulate matter to develop plans, known as State Implementation Plans (SIPs), describing how they will attain national ambient air quality standards. SIPs for the 8-hour ozone standard and the fine particulate (PM2.5) standard are due to the U.S. Environmental Protection Agency (U.S. EPA) in June 2007 and April 2008, respectively. Under State law, ARB has the responsibility to develop SIP strategies for mobile sources, fuels and consumer products and to coordinate SIP strategies with the Bureau of Automotive Repair and Department of Pesticide Regulation.

Air Resources Board staff has developed a comprehensive State Strategy designed to attain federal air quality standards through a combination of technologically feasible, cost-effective and far-reaching measures. Adoption of the State Strategy by the Board would create a federally enforceable commitment for ARB staff to propose defined new SIP measures for Board consideration and to achieve emission reductions by specific dates. Staff is also proposing a modification to the Department of Pesticide Regulation's existing SIP commitment to achieve pesticide emission reductions in the Ventura county nonattainment area.

**SUMMARY AND IMPACTS:**
The proposed State Strategy would apply throughout California and is intended to help all nonattainment areas attain or maintain the federal 8-hour ozone and PM2.5 standards. New SIP measures for Board consideration affect passenger vehicles, heavy-duty trucks, goods movement sources, off-road vehicles and equipment, fuels and fueling operations, and consumer products. The State Strategy recommends measures for reducing emissions from mobile sources and fuels under federal jurisdiction, including ships, locomotives, and trucks registered outside of California. Also included in the State Strategy is a commitment to implement further improvements to the Smog Check program and a commitment by the Department of Pesticide Regulation to reduce pesticide emissions.