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DATE: August 21, 2008

TO: SJVUAPCD Governing Board

FROM: Seyed Sadredin, Executive Director/APCO
Project Coordinator: Dave Warner

RE: **APPROVE THE DISTRICT'S CLIMATE CHANGE ACTION PLAN (CCAP)**

RECOMMENDATION:

Approve the District's Climate Change Action Plan with the following goals and actions:

Goals:

1. Assist local land-use agencies with California Environmental Quality Act (CEQA) issues relative to projects with Greenhouse Gas (GHG) emissions increases.

2. Assist Valley businesses in complying with the mandates of AB 32 (Global Warming Solutions Act of 2006)

3. Ensure that climate protection measures do not cause increases in toxic or criteria air pollutants that adversely impact public health or environmental justice communities.

Actions:

1. Authorize the Air Pollution Control Officer to develop guidance documents and other tools to assist local land-use agencies in addressing GHG emissions in the CEQA process. These efforts may include the development of GHG emissions mitigation strategies and methodologies to address projects with significant GHG emissions. Begin the requisite public process, including public workshops, and develop recommendations for Governing Board consideration in the summer of 2009.

2. Authorize the Air Pollution Control Officer to develop necessary regulations and instruments for establishment and administration of the San Joaquin Valley Carbon Exchange

Bank for voluntary GHG reductions created in the Valley. Begin the requisite public process, including public workshops, and develop recommendations for Governing Board consideration in the summer of 2009.

3. Authorize the Air Pollution Control Officer to enhance the District's existing criteria pollutant emissions inventory reporting system to allow businesses subject to AB 32 emission reporting requirements to submit simultaneous streamlined reports to the District and the state of California with minimal duplication.

4. Authorize the Air Pollution Control Officer to develop and administer voluntary GHG emission reduction agreements to mitigate proposed GHG increases from new projects.

5. Direct the Air Pollution Control Officer to support climate protection measures that reduce GHG emissions as well as toxic and criteria pollutants, and oppose measures that result in significant increases in toxic or criteria pollutant emissions in already impacted areas.

BACKGROUND:

The state legislature's Global Warming Solutions Act of 2006 (AB 32) includes a large number of initiatives which are just now starting to take shape. AB 32 requires California to return to 1990 GHG emission levels by 2020, about a 25% reduction, and Governor Schwarzenegger's Executive Order S-3-05 requires an additional 80% reduction below 1990 levels by the year 2050. Some of these mandated reductions will come from AB-32's so-called Early Action Measures which must be identified, implemented, and enforceable by the California Air Resources Board (ARB) before January 1, 2010. The discrete early action items identified by ARB are summarized in Attachment A.

AB 32 also requires ARB to develop an overall Scoping Plan before January 1, 2009, which identifies and makes recommendations regarding voluntary and mandatory efforts needed to achieve the 2020 emission reduction target. It also requires ARB to establish mandatory GHG emissions reporting and emissions inventory requirements. The Scoping Plan will contain the main strategies California will use to reduce GHG emissions. This Plan, when completed, will have a range of GHG reduction actions which can include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system. In February 2008, as a part of our legislative platform, your Board expressed support for the cap-and-trade system as an approach to reduce GHG emissions.

The draft scoping plan has been released for public review and comment, and is currently scheduled to be taken before the Air Resources Board for their consideration in November of 2008. A summary table of all categories of sources being considered by the draft plan, and their relative and expected GHG reductions, is included in Attachment B of this report.

On December 6, 2007, ARB approved a regulation for the mandatory reporting of greenhouse gas emissions from major sources. The purpose of this rule is to require the reporting and verification of greenhouse gas emissions from specified greenhouse gas emissions sources. These regulations require many stationary sources in the San Joaquin Valley to quantify, verify, and report their GHG emissions to the ARB on an annual basis beginning in 2009. Please refer to Attachment C for a list of facilities subject to the mandatory reporting requirements.

As the GHG regulatory program begins to take shape at the state level, local discretionary permitting actions by local land-use and air agencies are being challenged under CEQA law when potential impacts of GHG emissions increases are not addressed or are believed to be inadequately addressed in the CEQA process. These challenges are coming from many directions, most notably from the State of California Attorney General, are causing significant delays in permitting processes, and are consuming large amounts of public agency resources.

In addition to the state measures, the Federal Environmental Protection Agency (EPA) has now recognized carbon dioxide (CO_2) as an "affected" air pollutant and will soon be issuing a public notice containing a preliminary set of GHG regulatory options. The full ramifications of these rules are unlikely to be well understood for quite some time and the federal GHG regulations are not likely to be finalized under the current administration. However, environmental and community advocates are challenging certain permit proposals by asking that air permitting authorities address GHG emissions as any other pollutant under the federal clean air act, in advance of EPA's development of GHG-specific regulations.

DISCUSSION:

Although air districts are not currently mandated to regulate GHG emissions, many local land-use agencies are looking to their local air districts for guidance in addressing GHG impacts in the CEQA process. Thoughtful and well-documented guidance by the District, designed to help local land-use agencies to properly address climate change issues in the CEQA documents, and assistance by the District in identifying and implementing GHG mitigation measures, can be beneficial by bringing structure and relative certainty to the CEQA process.

The District can also assist Valley businesses in complying with AB 32 requirements in number of ways. The District's long-standing relationship with Valley businesses has yielded a comprehensive regulatory infrastructure that can facilitate efficient and streamlined compliance with many of the upcoming AB 32 requirements and avoid duplication. The above recommended actions will allow Valley businesses to take advantage of services provided by the District at their choosing.

Aside from the constructive role that the District can play in helping local land-use agencies and Valley businesses comply with climate protection mandates, as a public health agency we must do our best to assure that efforts to reduce GHG emissions do not result in significant increases in toxic or criteria pollutant emissions in already impacted areas.

Addressing GHG emissions through CEQA: If authorized by the Board, District staff will begin the public process to develop guidelines for potential use by local land-use agencies in addressing GHG emissions through CEQA. The public process will include close consultation with local land-use agencies throughout the Valley and public workshops prior to presenting staff recommendations to your Board in the summer of 2009. The District will also work closely with ARB and the state's Office of Planning and Research (OPR). Both of these agencies are expected to offer guidance or regulations for statewide use in this matter.

In crafting the above referenced guidelines, the options considered by the District will include the following:

- an approach allowing inclusion of GHG mitigation measures in general plans with minimal or no additional project-specific CEQA mitigation for projects that are consistent with the general plan

- a specific GHG emission rate as a significance threshold

- a tiered approach where projects can be classified as having "low", "moderate", or "high" impact

- an approach that ensures application of reasonably available controls to most projects while identifying large projects that may require additional review and/or mitigation

- other approaches that are deemed feasible and cost effective

The District will fully consider additional alternatives or changes to the above options based on input received during the public process. The District will also

provide tools and expertise for quantifying and mitigating GHG emissions on an ongoing basis.

In developing guidelines that can potentially be used in quantifying and mitigating GHG emissions during the CEQA process, the factors considered by the District will include but will not be limited to the following:

- environmental protection
- workload and timely processing of projects
- availability and viability of technologically and economically feasible mitigation options
- legally and scientifically defensible analysis

Establishing and administering the San Joaquin Valley Carbon Exchange Bank: If authorized by the Board, District staff will begin the public process to develop a Carbon Exchange Bank designed to quantify, verify, and track voluntary GHG emissions reductions generated within the San Joaquin Valley. The public process will begin in the fourth quarter of 2008 and will include a scoping meeting, public workshops, and will culminate with a public hearing before your Board in the summer of 2009. At that time the District staff will present recommendations to your Board on all necessary components, including applicable regulations for administering the Carbon Exchange Bank.

The District's Carbon Exchange Bank will be a voluntary program allowing Valley businesses and entities to obtain carbon credits for voluntary projects that generate early reductions in greenhouse gas emissions in advance of regulatory requirements. The program will be designed to promote and facilitate early local reductions in the San Joaquin Valley and, thereby, minimize disparate impact on environmental justice areas in the region. These credits could then be used by Valley businesses to provide CEQA mitigation for future growth, comply with AB 32 requirements (pending state regulations), or sold as a commodity to others needing such credits.

To ensure availability of high quality credits with broadly recognized currency value, the District staff will work closely with the ARB, the California Climate Action Registry, and other international institutions in establishing pre-approved protocols for generating credits. It is staff's intent to develop and administer a program where carbon credits banked with the District will adhere to internationally recognized protocols and verification criteria.

The District already administers a large Emission Reduction Credit (ERC) bank for criteria air pollutants. Building on decades of experience in issuing and

certifying ERCs, the District is best positioned to administer a carbon exchange bank offering certainty that reductions are real, quantifiable, verifiable, surplus, enforceable, and permanent for a specified period of time.

Executing and administering Voluntary GHG Mitigation Agreements: As an alternative GHG mitigation technique, the District will offer to enter into voluntary mitigation agreements with project proponents needing assistance from the District to quantify and mitigate GHG emissions associated with their projects. The approach here will be similar to the many voluntary agreements previously executed by your Board for CEQA projects needing mitigation of criteria air pollutants.

Under these mitigation agreements, the District will quantify GHG emissions and will administer grant programs procuring emissions reductions. The project proponent will provide funding to the District at the rate necessary to secure the needed reduction in emissions. The emission reduction projects are implemented by the grant recipients, with the emissions reductions monitored, verified, and enforced by the District, thus guaranteeing that the mitigation will occur.

The project proponents will also reimburse the District for the administrative cost associated with implementing the necessary mitigation projects. Each mitigation agreement will be subject to prior approval by your Board during a regularly scheduled meeting of the Governing Board.

The District staff is currently working on an analysis of potential GHG reduction projects that might be funded through grants administered by the District (see Attachment D for a preliminary list of such projects). This analysis will include individual project-types, their potential for generating GHG reductions, the cost effectiveness of the reductions, and an assessment of various criteria for considering collateral criteria emission reduction benefits (i.e., how to recognize the benefits of projects that reduce both GHG and criteria pollutants).

One additional concept that may be pursued in implementing the voluntary mitigation agreements for GHG emissions is the pooling resources and funds from multiple projects. Due to the high cost of GHG reductions and the nature of certain suitable high impact projects, pooling of resources to facilitate large mitigation projects may be necessary.

Integrating District's criteria pollutant emissions inventory reporting system with the state mandatory GHG reporting system: ARB has developed a comprehensive mandatory reporting regulation designed to maintain an ongoing GHG emissions inventory for major sources of GHGs. The rule has not yet been submitted to the Office of Administrative Law, and therefore is not final.

The current rule generally requires facilities which emit more than 25,000 metric tonnes of CO2 (as well as some smaller specifically identified facility-types) to report their greenhouse gas emissions to the state, after having their emissions report verified by an ARB-accredited third party "verifier".

The regulated community has expressed concern regarding their perception of onerous reporting requirements, and has noted that the reporting requirements are duplicative, at least in part, of the air districts' current annual criteria emissions inventory responsibilities.

We agree that some of the reporting requirements of ARB's mandatory GHG reporting rule are duplicative of our District's current annual emissions inventory efforts, and we are proposing to minimize the effects of that duplication by combining, to the extent possible, our annual criteria emissions inventory processes with the new GHG reporting requirements.

Using our current mature and comprehensive criteria emissions inventory processes as a cornerstone on which to build, we intend to develop a user-friendly web-based interface with which facilities can report their annual emissions inventory information. By adding a reasonably small number of additional reporting criteria and data fields, this system will be able to accept GHG reporting information as well as criteria emissions data, creating advantages for all who have to handle the data. Facilities will be able to report most information just once, eliminating the duplication inherent in ARB's current proposal. The District will be well positioned to take a leadership role in GHG emissions inventory processes, including becoming an accredited verifier if we move in that direction. And finally, even if we do not choose to become ARB-accredited verifiers, other third-party verifiers will benefit from receiving consistently and uniformly formatted data once it passes through the District's web-based system.

The timeframe for development of this system will be largely driven by the implementation schedule for ARB's mandatory reporting rule. Currently, ARB envisions initial GHG reporting to be submitted in 2010, for the 2009 reporting year. If sufficient interest is expressed by the affected facilities, we will have our web-based system available for criteria emissions reporting in the year 2009, for the 2008 reporting year, and will update it to address GHG emissions reporting for the following year.

Assuring that public health is the top priority in designing and implementing GHG emissions reduction measures: There are many GHG reduction strategies that provide a co-benefit by also reducing toxic and criteria pollutant emissions. However, the potential exists for certain GHG measures to cause a direct or indirect increase in toxic or criteria pollutant emissions. For instance, the use of alternative fuels, or capture and incineration of GHGs, may

cause an increase in emission of certain pollutants with known detrimental impacts to public health. With public health being the top priority for the District, when facing such tradeoffs the District will oppose measures that can result in a significant increase in toxic or criteria pollutant emissions in already impacted regions.

FISCAL IMPACT:

The 2008-09 District Budget contains adequate resources for the District to begin the public processes necessary to develop guidelines for use by local land-use agencies in addressing GHG emissions through CEQA and to develop a Carbon Exchange Bank to quantify, verify, and track voluntary GHG emissions reductions. The District will also use existing resources to create a user-friendly web-based interface to minimize the additional burden of mandated GHG reporting requirements. Therefore, no modification of the 2008-09 District Budget is necessary at this time.

The voluntary programs described in this item will be designed to include fees for service intended to cover the administrative costs of the programs. These voluntary programs will be presented to your Board for approval after a thorough public workshop process and any necessary Budget amendments will be recommended at that time.

Attachments: *A – Summary of ARB's Discrete Early Action Items (1 page)*
B - Summary of AB 32 Draft Scoping Plan Recommendations (1 page)
C – Facilities Subject to ARB's Mandatory Reporting Requirements (1 page)
D – Potential Greenhouse Gas Reduction Projects (2 pages)

Attachment A
Summary of discrete early action items identified by ARB

- Landfill Methane Capture – Regulation will require the capture of methane from currently uncontrolled landfills, to be adopted by November 2008 and effective Fall 2009.

- Various measures to limit emissions of high Global Warming Potential (GWP) hydrofluorocarbons (HFCs), mainly from automobile and truck air conditioning systems during use and maintenance. Adoption dates vary from 2009 to 2011.

- Reduction of High GWP emissions from Consumer Products – Regulation to reduce GWP emissions from pressurized gas dusters, effective 2010 (and lower in 2015). Other consumer products targeted for later consideration.

- Sulfur Hexafluoride (SF_6) Emissions Reductions – Regulation will target specific industries and uses of SF_6 (magnesium casting, tracer gas, eye surgery), implementation timeframe unclear.

- "Smartway" Heavy Duty Truck Efficiency Measures – Regulation will require truck fairing, high-efficiency tires, etc., on heavy duty trucks. CO_2 reductions generated by reduction in fuel usage. Scheduled for board approval by ARB in October 2008, with implementation starting in 2011.

- Tire Inflation – Proper tire inflation reduces fuel use, which reduces CO2 emissions. Consists of outreach program plus regulation to require tire inflation checks during maintenance and smog checks. Implementation in 2009.

- Perfluorocarbon (PCF) Reductions from the Semiconductor Industry – Regulation to be adopted December 2008, effective January 2011.

- Shore Power – Regulation requires ocean-going vessels to turn off their auxiliary power engines during most of their stay in port (assumes use of on shore clean power). Adopted by ARB in December 2007, not yet effective, requires 10% compliance by 2010, 80% by 2020.

- Low Carbon Fuel Standard – reduce the carbon intensity in California's transportation fuels by 10% (although called an early action measure, this one is not expected to be implemented until 2020).

Attachment B

Summary of AB 32 Draft Scoping Plan Recommendations

Recommended Reduction Strategies	Sector	2020 Reductions (MMTCO2E)
The Role of State Government · Reduce carbon footprint · Set an example	Various	1-2*
California Cap-and-Trade Program: Emissions cap of 365 MMTCO2E covering electricity, transportation, residential/commercial and industrial sources by 2020. Shaded reductions below contribute to achieving this cap.		
California Light-Duty Vehicle GHG Standards · Implement Pavley standards · Develop Pavley II light-duty vehicle standards	Transportation	31.7
Energy Efficiency · Building and appliance energy efficiency and conservation · 32,000 GWh reduced electricity demand · 800 million therms reduced gas use · Increase Combined Heat and Power (CHP) electricity production by 30,000 GWh · Solar Water Heating (AB 1470 goal)	Electricity & Commercial and Residential	26.4
Renewables Portfolio Standard (33% by 2020)	Electricity	21.2
Low Carbon Fuel Standard	Transportation	16.5
High Global Warming Potential Gas Measures	High GWP	16.2
Sustainable Forests	Forests	5
Water Sector Measures	Water	4.8*
Vehicle Efficiency Measures	Transportation	4.8
Goods Movement · Ship Electrification at Ports · System-Wide Efficiency Improvements	Transportation	3.7
Heavy/Medium Duty Vehicles · Heavy-Duty Vehicle GHG Emission Reduction (Aerodynamic Efficiency) · Medium-and Heavy-Duty Vehicle Hybridization · Heavy-Duty Engine Efficiency	Transportation	2.5
Million Solar Roofs (Existing Program Target)	Electricity	2.1
Local Government Actions and Regional GHG Targets	Land Use and Local Government	2
High Speed Rail	Transportation	1
Landfill Methane Control	Recycling & Waste	1
Methane Capture at Large Dairies	Agriculture	1*
Energy Efficiency and Co-Benefits Audits for Large Industrial Sources	Industrial	TBD
Additional Emissions Reduction from Capped Sectors		35.2
	TOTAL REDUCTIONS	**169**

*These categories are under additional evaluation, are redundant with other categories, or are voluntary, and therefore are not counted towards the total reductions.

Source: CARB 2008

Attachment C

List of Facility Types Subject to ARB's Mandatory GHG Emissions Reporting Requirements

(1) Operators of cement plants in California;

(2) Operators of petroleum refineries in California that emit greater than or equal to 25,000 metric tonnes of CO2 in any calendar year after 2007 from the combination of stationary combustion and process sources;

(3) Operators of hydrogen plants in California that emit greater than or equal to 25,000 metric tonnes of CO2 in any calendar year after 2007 from the combination of stationary combustion sources and hydrogen production processes;

(4) Operators of electricity generating facilities that are located in California or operated by a retail provider as defined in section 95102(a), that individually have a nameplate generating capacity greater than or equal to 1 megawatt (MW), and that emit greater than or equal to 2,500 metric tonnes of CO2 in any calendar year after 2007 from electricity generating activities, including hybrid generating facilities;

(5) Retail providers as defined in section 95102(a) – (a "retail provider" is an entity that provides electricity to retail end users in California and is an electric corporation as defined in Public Utilities Code section 218, electric service provider as defined in Public Utilities Code section 218.3, public owned electric utility as defined in Public Resources Code section 9604, community choice aggregator as defined in Public Utilities Code section 331.1, or the Western Area Power Administration);

(6) Marketers as defined in section 95102(a) – (a "marketer" is a purchasing/selling entity that is not a retail provider, and that is the purchaser/seller at the first point of delivery in California for electric power imported into California, or the last point of receipt in California for power exported from California);

(7) Operators of cogeneration facilities that are located in California or operated by a retail provider as defined in section 95102(a) that individually have a nameplate generating capacity greater than or equal to 1 megawatt (MW), and that emit greater than or equal to 2,500 metric tonnes of CO2 in any calendar year after 2007 from electricity generating activities;

(8) Operators of other facilities in California that emit greater than or equal to 25,000 metric tonnes per year of CO2 from stationary combustion sources in any calendar year after 2007.

Attachment D

Potential Greenhouse Gas Reduction Projects

Electrification of agricultural internal combustion engines (driving irrigation pumps)

- Significant bang-for-buck, due to collateral criteria emission reductions
- Currently, most incentives for this have dried up (Ag ICE program)
- Some potential projects have stalled/died due to costs of line-extensions to site of pump.

Electrification of other diesel-powered equipment at stationary sources

- Crushers, screeners, grinders at green waste facilities and or landfills
- Ditto at sand and gravel operations

Hybrid rail yard "road switchers"

- Next evolution diesel/electric hybrid switcher is seen favorably by industry
- Major reductions of criteria, toxic, and GHG emissions, as typical rail yard switcher is an old locomotive that outlived its useful long-haul life. Typically very high emitting.

Irrigation pump efficiency testing and improvements

- Can be significant efficiency improvements, but many farmers do not perform efficiency testing.
- May be sufficient to just pay for efficiency tests, as the results of the test often show the farmer that there is quick pay-back on efficiency improvement costs
- May also be cost-effective for District to pay for efficiency testing and efficiency improvements.
- Efficiency improvements help GHG emissions even if electric powered (reduced electrical consumption means reduced power plant production)
- Improved efficiency also reduces criteria emissions at ICE-powered pumps.

Dairy digester projects, injection into natural gas transportation line

- Large methane reduction potential (20x more potent global warmer than CO2)
- Preferred approach, as little to no combustion emissions

Solar installations

- Preference given to solar that displaces local combustion source
    - Irrigation pumps
    - Water heaters
- Solar electricity installations

Cost-effectiveness enhancements to current grant programs:

- Can make wider range of current grant project types cost-effective, or decrease cost to grantees, or increase the number currently funded
    - Grant program projects that may be marginally cost-effective when considering only criteria pollutant reductions may become significantly more cost-effective when adding GHG reductions to equation
        - Waste transfer stations
        - School buses
        - School boilers – replace with solar, electric, clean combustion
        - Forklifts – replace with electric
        - Car crushing
        - Idle Air truck-stop installations (eliminate diesel idling emissions)
    - Electric Yard Equipment replacement programs
    - Fireplace/wood stove replacements