Summary of Panelist's Suggested Emission Reduction & Adaptation Strategies Provided at the August 23, 2007 Water Board/Department of Water Resources Joint Meeting on Climate Change

Distributed: September 13, 2007

John Pastore (Southern California Alliance of Publicly Owned Treatment Works)

- ☐ Promote water reuse: use of recycled water
- ☐ Remove regulatory barriers – establish statewide consistency in water reuse policy
- ☐ Evaluate the potential GHG contribution associated with higher levels of treatment required for receiving waters.
- ☐ Promote IRWMPs and include objectives for energy reduction and renewable power
- ☐ Provide funding for renewable sources of energy
- ☐ Need to better communicate the drought and its impacts (consider that the drought in the southwest may be a permanent condition by 2024)
- ☐ Acknowledge small agency concerns – both with available funding & regulations
- ☐ Regulations should be evaluated to determine potential GHG contribution

Rich Atwater (Inland Empire Utilities Agency)

- ☐ Consider methane generation from dairies and sewage treatment plants, use of digester gas, and reliance on solar and wind at WWTPs.
- ☐ Use land use policies (consider Ahwahnee Water Principals) in encouraging "water smart" strategies of dual recycled "purple" pipe systems on new developments and water efficient landscape/indoor appliance standards.
- ☐ Work with the PUC to integrate incentive payments for water conservation & recycling
- ☐ Water plan should address how to develop reasonable targets to go carbon neutral.
- ☐ Better modeling is needed – think to the future

- ☐ Consider encouraging community based water plans for local supply management which would be the most energy efficient and sustainable approach.

Tim Brick (Metropolitan Water District of Southern California)

- ☐ Foster an integrated planning process for conservation & reliance on local resources
- ☐ Must address: water recycling, recharge, conservation (indoor & outdoor)
- ☐ Consider ordinances (such as landscaping in Riverside) and plumbing codes
- ☐ Allow injection of drinking water into groundwater.
- ☐ Develop a partnership with the Metropolitan Water District of Southern California to streamline the process
- ☐ Enhance green home builder programs to improve local supply (such as using purple pipe)
- ☐ Incentivize less energy intensive approaches (example: the Chino I Desalter uses 50% of the energy as obtaining water from the Delta)
- ☐ Update BMPs
- ☐ Don't use drinking water for non-drinking purposes (too much cost for treatment – reference to Rand report)

Greg Zlotnick (Santa Clara Valley Water District)

- ☐ Emphasize regulatory flexibility and context to allow/promote indirect potable water reuse
- ☐ The loss of "free" supply if snowpack disappears without new storage to maintain something close to current overall supply availability implicates the entire water rights framework and priorities.
- ☐ Help model impacts of climate change at a more regional and local scale to help assess impacts in watersheds providing local water supplies and flows, etc.
- ☐ Protect wastewater facilities from sea level rise, assuming they can't be moved.
- ☐ Update BMPs to the "next level."
- ☐ Promote partnerships with energy providers (example: promote a "flex your water" campaign), when spare the air days occur include turn off the tap with turn off the switch and car, get the connection in the public's mind that by saving water they also save energy and reduce carbon emissions.
- ☐ Help develop approaches for utilities to move towards being "carbon neutral" (not counting carbon reduction benefits of conservation programs).

Jake Mackenzie (Vice Mayor, City of Rohnert Park, and Board Member, Local Government Commission)

- ☐ Consider adoption of Ahwahnee Principals
- ☐ Create regional best management practices which would incorporate solar, regional design techniques and sustainability
- ☐ Develop a partnership (pilot) with Sonoma County to evaluate various approaches
- ☐ Promote developer agreements to put in place conservation measures
- ☐ Regional blueprint planning that considers land use, transportation and water should also include water agencies and suppliers
- ☐ Consider a moratorium on building
- ☐ Water recycling approaches need to address the existence of xenobiotics

Barry Nelson (Natural Resources Defense Council)

- ☐ Review report – In Hot Water
- ☐ Evaluate how today's investments will perform into the future
- ☐ Efficiency and reuse are key tools.

Brian Sullivan (BP)

- ☐ Look at geologic sequestration of CO2

Amy Zimpfer (U.S. Environmental Protection Agency)

- ☐ Partner with other states (Hawaii and Nevada – mandatory reporting)
- ☐ Promote LID approaches
- ☐ Look at rate structuring for private companies (decouple profit from consumption in rates)
- ☐ Understand energy intensity in water use by geographic area
- ☐ Evaluate tiered pricing approaches
- ☐ Evaluate opportunities to address Fats, Oils and Grease (FOG) in the waste stream because of co-benefits associated with turning a waste product into an energy source.
- ☐ Provide incentives and fund small pilots
- ☐ Implement a watershed approach through a "carbon lens."
- ☐ Educate our own employees on the connection between water and energy

Gary Geerneart (Los Alamos National Laboratory)

- ☐ Establish a regional pilot/demonstration project (coastal region from Santa Barbara north to the Oregon border, but starting with a more focused domain that includes the Russian River Basin and possibly also the Eel River Basin) to conduct integrated assessments
- ☐ Develop a model to determine the return on investment for various approaches in order to accelerate the demonstration/implementation of new approaches where emerging technologies can be quickly developed by local industries for assimilation in regional pilot studies
- ☐ Identify priorities for new and/or emerging technologies that will have the greatest economic return on investment AND the greatest impact on regional sustainability pilot studies that address water sustainability, infrastructure resilience, greenhouse reduction and carbon footprint goals

Peter Gleick (Pacific Institute)

- ☐ Focus on conservation & efficiency (in both urban & agriculture)
- ☐ Water Boards should use the tools of beneficial use & water rights
- ☐ Evaluate potential changes to the definition of “beneficial use”
- ☐ Improve BMPs and make sure that they are met (make them mandatory)
- ☐ Evaluate metering of groundwater
- ☐ Influence the federal government to eliminate roadblocks to water efficiency standards
- ☐ Have every State and local agency conduct a comprehensive GHG emission assessment
- ☐ Evaluate approaches to rate design to capture water conservation efficiencies
- ☐ Assess adaptation proposals for GHG emissions as well
- ☐ Conduct an assessment of the vulnerabilities of existing infrastructure (facilities) under different climate scenarios

Stuart Rupp (New United Motor Manufacturing Inc.)

- ☐ Measure the water use per widget produced (such as per vehicle manufactured)
- ☐ Set a reduction target for each year (reduction from the prior year) for water use per widget manufactured

Bob Wilkinson (Professor, U.C. Santa Barbara)

- ☐ Review Public Interest Energy Research (PIER) Program research
- ☐ Look at opportunities to reduce water use for landscape irrigation in the urban sector Promote the use of permeable surfaces, rain gardens, etc.

Jenna Olsen (PG&E)

- ☐ Evaluate the benefits from their Water Energy Pilot (Sonoma County, EBMUD & Santa Clara)
- ☐ Engage with the PUC on the water-energy pilot and on the more general issue of water-embedded energy, specifically exploring how to consider multiple benefits, including climate benefits and the jurisdictional issues of whose energy is saved by joint energy utility and water utility programs
- ☐ Develop incentives for joint planning and collaboration among water and energy utilities
- ☐ Consider the climate change impacts of all policies and rulings

Bill Pauli (Pauli Ranch/Farm Bureau)

- ☐ Look at opportunities for upstream water storage
- ☐ Invest in Biofuels, methane recovery, etc.
- ☐ Emphasize family farms and support their practices of composting, cultivation, use of solar, etc. which reduce GHG emissions
- ☐ Promote groundwater recharge and manage the quality of that groundwater

Winston Hickox (Chair, Cal/EPA Market Advisory Committee and former Cal/EPA Secretary)

- ☐ Evaluate eco-friendly investment partnerships
- ☐ Foster investment in new technology such as “clean tech space?”
- ☐ Look at the potential effects of development credits/density credits
- ☐ Look at the potential to offset some aquatic impacts through mitigation banking

Tom Graff (Environmental Defense)

- Reducing energy consumption associated with the delivery of water should be a critical element in meeting California's greenhouse gas emission reduction goals
- Examine Federal and state policies which subsidize energy costs associated with pumping water and initiate reforms, particularly as contracts come up for revision. (Note that water pumped from the Colorado River to urban Southern California requires approximately 2000 kwh/AF, while water pumped over the Tehachapi's requires approximately 3000 kwh/AG and even more for pumping water through the East Branch and to San Diego.)
- Examine the dual role of DWR as operator of the State Water Project and planner of California's water future (is DWR's responsibility to represent its contractors' interest in minimizing the cost of water or the state's interest in meeting its climate and water conservation goals?).

John Geesman (Commissioner, California Energy Commission)

- Water Efficiency will be the key to adaptation.
- Financially integrate water efficiency programs with utility energy efficiency programs, and scale up quickly.
- Land use patterns must be addressed.
- Identify ways to store renewable energy (renewables are not necessarily available when we need it).
- Develop a strategy to reduce the number of vehicle miles traveled (must incorporate land use patterns).
- Need to set local goals for achieving GHG reductions.

Mary Nichols (Chair, Air Resources Board)

- Work with the PUC to design programs for the electric sector.
- Promote regional initiatives.

John Bohn (Commissioner, Public Utilities Commission)

- Review opportunities from the Water Energy Symposium proceedings.
- Develop a calculator to connect energy savings with water conservation.
- There should be greater coordination on initiatives in order to achieve multiple benefits.

George Gomes (Undersecretary, Department of Food & Agriculture)

- ☐ Promote collaborative opportunities.
- ☐ Identify a single technical support contact for funding, support, etc.
- ☐ Develop a "playbook" for regulated persons to use in determining who to contact and what needs to be done in implementing approaches to reduce GHG emissions.
- ☐ Develop model approaches which address multiple regulatory requirements.

Joe Grindstaff (CALFED)

- ☐ Evaluate GHG emissions and costs associated with additional requirements to treat water.
- ☐ Look at opportunities to reduce GHG emissions associated with hot water (heating water may produce as much as one third of all green house gas emissions).
- ☐ Create incentives to recycle water locally (it costs less to pay for water pumped over the Tehachapi's than it is for a Southern California water agency to recycle water locally).

Brian Leahy (California Department of Conservation)

- ☐ Understand and promote the use of natural systems to facilitate adaptations.
- ☐ Provide information to the public about changes in land use and their associated water and energy impacts.
- ☐ Educate the public to build a local land use ethic that values ecosystem services provided by the natural infrastructure.
- ☐ Document the location of critical groundwater recharge areas.
- ☐ Evaluate opportunities to work collaboratively with DOC's watershed coordinators.
- ☐ Work with the Resource Conservation Districts, local Land Trusts and watershed coordinators to build a local land ethic that is internalized into local planning.

Lois Wolk (Assembly Member, 8th Assembly District)

- ☐ Merced – needs flood graph changed to be able to store water earlier.
- ☐ AB 224 affects bulletin 160 and emerging food control plan.
- ☐ Add on GHG reduction criteria to applications for bond money.

Nancy Sutley (Deputy Mayor, City of Los Angeles and Former SWRCB Member)

- ☐ Work with the green building council to incorporate use of water into LEED standard.

Richard Katz (Former Assembly and SWRCB Member)

- ☐ Water Boards must look beyond the impingement of actions with regulatory requirements (example: once through cooling).
- ☐ Evaluate GHG impacts in the development of future BMPs
- ☐ Look at internal processes and organizational structure that impairs the Water Boards' ability to consider the impacts of climate change in decision making.

Margaret Bruce (Member, San Francisco Bay Regional Water Quality Control Board)

- ☐ Go beyond BMPs and implement environmental management systems (that include goals, reporting, etc.).
- ☐ Do a reassessment of beneficial uses in light of climate change.
- ☐ Evaluate dynamic economic modeling needs.
- ☐ Allow the Water Boards to evaluate and recommend risk-based resource allocations for balancing wastewater discharge and infrastructure costs collaboratively with dischargers. The "overall risk" should be routinely re-visited as more and better information becomes available and/or as circumstances change.
- ☐ Leverage available funding to turn over gross GHG producing equipment.
- ☐ Educate the public to describe what is possible.
- ☐ Abandon lowest first cost approach – consider life cycle costs.

Additional Suggestions

- ☐ Look at using stormwater for groundwater recharge.
- ☐ Basin Plans – use these to reduce energy use, enhance local water supply, and incentivize conservation through the setting of policy.
- ☐ Review water rights allocations to account for climate change
- ☐ Plan for flooding events to be turned into groundwater supply through recharge
- ☐ Bring energy policy (public goods charges, analysis of savings) into water policy

- ☐ Enhance the Water Board's relationship to academia to a greater extent.
- ☐ Break down the silos in the Water Boards' organization to enhance climate change considerations. Basin plans need to incorporate measures to address global warming impacts while improving water quality.
- ☐ Ocean water desalination is a future source of water. It needs to be coupled with conservation measures that are enforced.
- ☐ Enforce regulations against wetlands loss and degradation
- ☐ Evaluate methods to value the Public Trust
- ☐ Establish a business teams to deal with energy intensity implications.
- ☐ Water Board should mandate water conservation measures through water rights.
- ☐ Agencies should sponsor competitions for innovative ideas.
- ☐ Evaluate alternative feedstocks in digesters. Look at septic tanks (high GHG emitters).
- ☐ Implement approaches to mitigate leaking infrastructure…which is one of the biggest wastes of water in small community systems.
- ☐ Look at using the CEQA process to comment more effectively on climate change
- ☐ Focus on investment of money