

ETAAC REPORT SUMMARY OUTLINE

This outline gives a summary of the various ideas being considered by the ETAAC Committee. It is still work in progress, but all ideas in the most recent sector drafts are outlined here. The draft report is currently 178 pages long (92 plus appendices) and includes 51 recommendations, plus 14 items on Energy Sector “to-do” list and 9 Transportation Sector “principles” and “observations.”

1. INTRODUCTION

2. TRANSPORTATION

14 recommendations, plus 5 more on LCFS, plus 5 general principles and 4 “general observations and policy recommendations.”

General Principles

Price signals are important, but do not remove the need for complementary technology development policies

- 1) Ensure public health and other policy objectives are supported
- 2) Wherever possible, policies should be technology-neutral
- 3) Consider long-term technology goals, as well as short-term needs
- 4) Organization of transportation recommendations

General Observations and Policy Recommendations

A. Consumer Education: state should emphasize the importance of education and outreach programs similar to “flex your power.” Broader outreach is needed.

B. General Research and Development Recommendations: ETAAC proposes a California Clean Transportation R&D program that increases state investments in low-carbon technologies by at least a factor of ten.

C. Potential Funding Mechanisms – Encourage Private and Public Investment: create financial mechanisms to encourage investment in advanced energy and manufacturing technologies.

D. Importance of coordination between levels of government, and public and private sector for advanced technology vehicles and vehicle energy sources: transition to a low carbon economy will require shifts in all industries, which will in turn require effective collaboration.

Reduce GHG-producing passenger and freight miles

A. Support Smart Growth Strategies: Land use planning, congestion pricing, etc

B. Transportation Demand – Congestion Pricing: charge drivers, using electronic and other barrier-free means, to enter areas of heavy traffic

C. Change Incentives for Local Land Use Planners to Account for GHG Emissions

D. Account for GHG Emissions in all Decisions About Bond-Supported Projects

E. Electric Rail: As cargo transport is responsible for 8 percent of state CO2 emissions, policies are needed to encourage the use of rails instead of highways

Improve Vehicle GHG Performance

A. Low GHG and Zero Emission Fleet Vehicles – Performance Standards and Procurement Policies: Performance standards and procurement policies can facilitate implementation of low GHG vehicles available today, and low GHG and zero emission vehicles of the future. Proposal gives two recommendations: (1) GHG fleet standards; (2) fleet procurement

B. Vehicle Feebates: California should use a “fee-bate” system tied to EPA ratings to encourage a migration from low mpg cars to high mpg cars. Under a fee-bate, owners of vehicles with efficiency ratings below the average are charged a registration fee inversely proportional to their mileage ratings.

C. Other Demand-Side Incentives: A program to encourage the trade-in of low mpg vehicles for qualified high-mpg vehicles could be implemented through auto dealers. Another incentive could be allowing the state deduction of loan interest on qualified vehicle purchases (which could be high-mpg, electric vehicles, urban cars, etc.)

D. Reassess State Programs and Fleet Rules: The state should reassess major existing environmental programs and determine if other criteria – such as GHG reductions, carbon intensity of fuel, or petroleum reduction – should be included. To date, the Moyer Program only considers criteria air pollutants that impact public health. New state policy initiatives of petroleum reduction and GHG emission reductions have a connection to public health and therefore should be considered for integration into the Moyer Program. Fleet rules need to be evaluated periodically for compliance.

Reduce Carbon Content in the Fuel Supply

A. Dedicated biofuels crops

B. Revenue-neutral carbon fuel taxes: current fuel taxes do not support AB 32’s GHG reduction goals – state should introduce revenue-neutral carbon-based fuel taxes.

Development of Next Generation Fuels

A. Create Markets for Green Fuels: Establish a green fuels labeling system, which could be either voluntary or mandated. Especially important for biofuels.

B. Developing utility-based infrastructure: state should provide regulatory incentives for automakers and truck manufacturers to develop and sell cars and trucks that are electric vehicles with grid recharge capability to provide GHG and petroleum reduction benefits

C. Ag/Forestry waste-based biofuels R&D: Existing biofuels grants are centered on individual campuses. Broader Dept. of Agriculture and Dept. of Forestry programs that would be available to all undergraduate and graduate schools in California would be better able to expand on the knowledge base and address region-specific biofuel issues.

Attachment: Recommendations received by ETAAC on CARB's Upcoming Low Carbon Fuel Standard

A. Credits for medium and heavy-duty natural gas vehicles: The ETAAC received a recommendation that the heavy-duty NGV market is projected to grow rapidly and offers significant GHG as well as other environmental benefits in the form of reduced dependence upon petroleum.

B. Credits for electricity, natural gas: The ETAAC received a recommendation that the credit trading provisions and requirements of the LCFS should be kept separate from AB 32 to avoid double regulation and to avoid reducing incentives for investment in advanced fuel technology.

C. Milestone-based approach for LCFS to encourage innovation and investment certainty: The ETAAC received a recommendation that to realize the promise of advanced fuel technology, the California LCFS could encourage innovation and investment certainty with a milestone-based approach.

(Box) GHG Reduction Credits for Utilities?: ETAAC received a recommendation that the Air Resources Board should allow utilities to earn GHG reduction credits for the displacement of petroleum in the transportation sector with electricity and natural gas, both low-carbon fuels, and suggests these credits could be used for compliance with, or in adherence to, the Low Carbon Fuel Standard or other greenhouse gas reduction markets created under AB 32.

D. Focus on liquid fuels in LCFS: LCFS credit programs should be designed to limit credit trading to within major categories of transportation fuels: liquid, gaseous, and electricity. This will keep the focus on developing new innovative technologies. There should be banking, borrowing, trading, and indefinite life for these credits

3. INDUSTRIAL AND OTHER

14 recommendations, 3 governance themes

I. Introduction

Identifies three major "governance themes":

1) Regular reporting of progress mandate on all state agencies: calls for progress reports at 6 month intervals from each state agency

2) Improved analytical basis for planning: calls for (a) interagency review prior to ARB proposal of regulations, (b) a "Regulation Task Force" as part of the Climate Action Team, and (c) a greenhouse gas policy institute for analyzing life-cycle emissions

3) Adaptation to climate change: Resources Secretary should join with CalEPA, CARB, CEC, and CPUC in a Climate Adaptation Roundtable group.

II. Industrial Incentives and Programs

A. On-bill Financing for Small Business Energy Efficiency Projects (alternative A): OBF is a method where investments in energy efficiency are purchased the same way energy is purchased, by the month in installments paid via a line item on the utility bill

B. On-bill Financing for energy efficiency projects (alternative B): OBF could benefit small business owners who do not have the initial capital outlay or are unable to obtain financing through other means.

C. “Greentech” Tax Incentives: ETAAC should consider tax policies such as those addressed in Assembly Bills 1506, 1527 and 1651, to encourage small (and large) businesses to undertake measures to meet AB 32 goals that would otherwise be cost prohibitive.

D. Industry/Government Partnerships to Reduce Industrial Energy Intensity: CA should join the “Superior Energy Performance Partnership”, an effort to improve energy management being led by the USDOE, the USEPA, the Manufacturing Extension Partnership, and a number of industrial firms (including 3M, Dow, Dupont, Ford, Toyota, Sunoco). The initiative will be certifying plants for energy efficiency and will achieve significant cost effective GHG emissions reductions and energy savings through company commitments for reduction, adoption of energy management plans, adopting best practices and reporting annual reductions toward the goals. Resources include tools, training, and assessments. Proposed rewards include public recognition and preference for RD&D solicitations.

E. Revolving Fund for Technology Demonstration Projects: A new program for California Demonstrations for Industrial Energy Technologies (California DIET) would accelerate adoption of emerging, technically proven energy efficiency technologies through industrial demonstrations by creating a low-cost loan fund, to be replenished by royalties on demonstrated projects, shared energy savings and shared carbon credits banked for future use or sale.

F. Building Efficiency Programs and Incentives: Provides several recommendations to encourage better energy performance in new buildings, and to encourage cost-effective building retrofits (fast-track permitting, software, CHP, education, incentives and technical assistance, etc.)

G. Labor Law Reforms Supporting Flexible Working Hours: Flexible working hours reduces employee commutes which in turn reduces congestion. Motor gasoline accounts for 130 Mt of GHG emissions. A reduction of 0.4 MT is based on the following assumptions: that 30% of gasoline is used for commuting, that flexible working hours can result in a 10% reduction in GHG emissions (commuting and congestion) and implementation by 10% of employers.

III. Industrial Technologies and Policies

A. Rebates for Load Reduction: expand load reduction rebate programs to include non-generation technologies. Examples include solar technologies that provide refrigeration/cooling without combustion or compression, waste heat technologies that provide refrigeration/cooling and energy storage technologies that allow peak reduction and demand response.

B. Improved Policies for Combined Heat and Power: Adopt a statewide target to install 5400 MW of qualifying CHP by 2020. Recommends allowing “self-gen” incentives for CHP

C. Resolve Policy Conflicts Concerning Combined Heat and Power: Determine when CHP is a beneficial practice and therefore define “qualifying CHP.” Do not attempt to quantify energy, capacity or GHG reduction benefits or otherwise revise CHP rules until AB 1613 is implemented, as it contains specific provisions that could affect qualifying CHP.

D. Improved Permitting for Waste Conversion Technologies: Establish policies to enable and encourage the development and implementation of waste conversion technologies.

E. Landfills Regulation and Technologies: Implement policies to encourage enhanced landfill gas collection at existing landfills. Revisit regulatory requirements; provide incentives and education.

F. Reduce GHGs from Cement Production: Conduct studies to assess the technical feasibility of reducing GHG emissions from cement production by increasing fly ash content in concrete and using biofuels in place of fossil fuels.

G. More Efficient Combustion Devices and Consistent Air Quality Standards: Develop uniform energy efficiency standards for the state and local air districts to eliminate inconsistencies which create barriers for manufacturers.

4. ENERGY

4 policy game changers, 5 tech game changers, 14 items on “to-do” list

Introduction

I. Policy/Legislative To-Do List (under “Overriding Themes”):

- 1) Create a process for the early valuation of carbon.
- 2) Create financial incentives to spur CCS technology and implementation.
- 3) Consider the role of low-carbon power in the next version of the Energy Action Plan
- 4) Create legal framework for long term liability associated with carbon sequestration, including issues relating to legal rights, as well as regulatory framework for monitoring storage and ensuring compliance.
- 5) Create incentives for unsupported distributed generation that reduces gas, like economic solar hot water and advanced solar thermal (solar heating and cooling).
- 6) Authorize and implement development policy and plans for of Competitive Renewable Energy Zones.
- 7) Ensure that voluntary and mandatory efforts to reduce GHG are counted in the crediting of energy efficiency program achievements.
- 8) ARB can work with building standards setting agencies, the CEC, and CPUC to encourage rapid deployment of currently available LED lighting technology, as well as encourage development of LED lighting suitable for general illumination
- 9) Regulatory reform to encourage methane from anaerobic digesters.

- 10) Allow for the use of unbundled Renewable Energy Credits (RECs) for Renewable Portfolio Standard (RPS) compliance.
- 11) Revisit pricing structure of renewable portfolio standard and either modify or eliminate to simplify the structure.
- 12) The CPUC is expected to address the issue of longer term energy efficiency project commitment/funding in the 2009-2011 program planning proceeding. The CPUC should continue to remove barriers for utility incentive programs to pursue long term savings.
- 13) The state of California should recognize the value of energy storage in enabling intermittent renewable sources and develop programs to encourage the advancement of energy storage technologies, e.g. a “golden carrot” program or other technology push programs.
- 14) The state should actively consider pursuing new, large-scale pumped hydroelectric storage facilities, with the dual purpose of supporting increased penetration of intermittent renewable generation and active preparation for altered precipitation patterns anticipated under future climate change scenarios.

II. Policy Game-Changers

A. Carbon Credit and Valuation for Early Action: current uncertainty regarding the value of early action in advance of full AB 32 implementation may be delaying early GHG reduction investment. The subcommittee recommends that ARB consider creating a banking mechanism, with clear underlying property rights attributable to the entity initiating early action, to allow value to be realized from carbon reductions resulting from that early action.

B. Unifying and Time-Relevant Standards for Climate-Related Programs: Subcommittee recommends that ARB evaluate the creation of a uniform strategy for implementation of new carbon reducing technologies after 2012, with carbon-equivalent savings as the unifying principle. Some believe that a unifying carbon standard should replace all existing clean energy programs and mandates, while other members argued that certain programs might retain value as both a means of nurturing certain technology types to a position of market readiness, and in recognition of the unique attributes and needs of different technology types.

C. Competitive Renewable Energy Zones: Energy Subcommittee recommends that California adopt a policy to identify and assess competitive renewable energy zones (CREZs) in the state, and develop a strategy, coordinated among agencies and other stakeholders, to facilitate both the build-out of those zones and development of supportive transmission infrastructure.

D. Support Clean Energy Innovation and Commercialization To Ensure that Critical Innovations are Available to Contribute to GHG Abatement in Future Years : The State of California should make an affirmative commitment to research, development and demonstration (RD&D) programs geared toward GHG abatement, including reassessing and redirecting current programs for this purpose

IV. Technology Game Changers

E. Aggressive Energy Efficiency program implementation and LED replacements: LEDs can transform lighting market, saving up to 30% more than CFLs. Aggressive deployment of current LED technology, as well as rapid development and demonstration of LED lighting suitable for

general illumination, are needed to maintain the momentum and continue to “fill the pipe” to garner additional energy efficiency savings and carbon abatement potential.

F. Energy Storage as an Enabling Technology: The state should recognize the value of energy storage in enabling intermittent renewable sources and develop programs to encourage the advancement of energy storage technologies

G. Plug-in Electric Vehicles as Storage: Policies must address problems brought about by cross-sector transfer of emissions (transportation to electricity): An AB32 GHG emissions cap for the electric sector, absent mitigating measures, will make this otherwise desirable shift a liability for the complying entities. It is important that a policy be implemented that makes complying entities neutral with regard to incremental transportation load and emissions cap compliance under AB32.

H. Smart Grid as Enabling Technology: CA should investigate upgrades to distribution-level infrastructure that will be needed to support both increased distributed generation penetration by renewables and the power flows associated with PHEV/EV. The state should study and implement the ratemaking treatment for these utility investments on the most accelerated timeframe possible.

I. CCS and Carbon Sequestering Strategy: Address the legal and regulatory barriers and issues associated with CCS, including the development of legal framework to address long-term liability associated with carbon sequestration, as well as the regulatory framework for monitoring storage and ensuring compliance. Furthermore, the state should increase the number of CCS demonstration projects as well as ensure full cost recovery associated with these demonstration projects.

5. AGRICULTURAL AND FORESTRY SECTOR RECOMMENDATIONS

7 recommendations (no distinction between major and “other” recs)

A. Manure to Energy Facilities: Address market and regulatory barriers (permitting, etc) to encourage the use of manure digesters

B. Enteric Fermentation: A significant research program that focuses on California conditions and diets as specifically related to the avoidance of GHG and other emissions is needed to develop new approaches and establish protocols for this technology, while protecting the productivity of the livestock enterprise.

C. Agricultural Biomass Utilization: Incentives and research support are needed to encourage the development of an advanced biofuels industry in California. This could include investment credits, low interest loans, and fuel tax credits along with ongoing support for research and development efforts. In addition, there is a need to establish clear and consistent state policies for sustainable management and development of biomass to help reach climate change goals with production of renewable power and fuels and meet the needs for environmental protection.

D. Dedicated Biofuels Crops: Make biofuels a policy and regulatory priority; develop dedicated funding source for biofuel crop research.

E. Soil Carbon Sequestration: Encourage “conservation tillage;” work to quantify soil sequestration; set up a monitoring network and provide for aggregation of credits on a commodity or regional basis

F. Riparian Restoration and Farmscapes Sequestration: Re-establish natural woody vegetation on rangeland, field edges and marginal farmland and riparian areas that have been cleared. These efforts can have benefits for erosion control, water quality and wildlife habitat. Conduct the research that is needed to quantify the carbon storage from these practices and develop protocols that give landowners the ability to generate credits. Additional support is needed for funding and managing implementation and monitoring.

G. Fertilizer Use Efficiency and Water Management: Substantial research needs to be conducted on the wide variety of crops and soils in California on N₂O emissions, the effect of different cultivation practices and the potential to reduce inputs without impacting yield. Research on no-till soils generally shows an increase in N-containing trace emissions upon conversion from conventional tillage practices.

6. FINANCE

1 major recommendation, 6 other recommendations

I. Introduction

II. Major Recommendation

California Carbon Trust: A public or a public-private entity that stimulates early action and encourages cost-effective carbon reductions that would not otherwise be financially viable.

III. Additional Organizational and Policy Recommendations

Draft mentions an overarching proposal for a new organization to house the many proposed programs: “a single, focused entity may be well positioned to act as a coordinator of policy-motivated technology innovation, for example by administering targeted state grant funds for specific technology challenges...The organization could also act as the principal agent for external market development and technology transfer to demand centers outside of California. Finally, such an entity could play a valuable ‘connective tissue’ role in helping to coordinate state incentive programs toward the GHG reduction goal, and in providing the private sector with insight into the structure and availability of incentive funding.”

A. Fee and Tax Shifting (fee-bates): Adjust specific state fees and taxes in a revenue neutral manner that reduces the cost and encourages the distribution of low carbon products. Goes through transportation is an example.

B. Municipal Assessment Districts: City Government Sponsored Financing to accelerate investments in clean energy. Costs for the program would be paid by participating property owners.

C. Promote Clean Energy Innovation and Commercialization: Support California research, development, demonstration and commercialization efforts *today* to ensure that critical innovations are available to contribute to GHG reductions in future years. Optimize current programs toward the climate change goal and consider new programs to accomplish objective.

D. Leveraging AB 32 to spur California job creation: A five year “Buy California” incentive program to boost in-state clean tech manufacturing and take advantage of the lower embedded carbon content of CA-manufactured products.

E. California Clean Tech Manufacturing Retention & Attraction Program: A program to attract and retain clean tech manufacturers within the state of California.

F. Clean Technology Workforce Training Program: A program to address workforce needs in new skill and occupational demands across industries that are developing and deploying advanced clean technologies in California.