REAP
Renewable Energy Action Project

January 31, 2006

Dr. Alan C. Lloyd, Ph.D.
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1001 I Street
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RE: Public Comments on (Draft) Climate Action Team Report to Governor and Legislature, pursuant to Executive Order # S-3-05

Dear Dr. Lloyd,

The Renewable Energy Action Project (REAP) appreciates the opportunity to comment on the draft Climate Action Team ("the Team") report to the Governor and the Legislature, pursuant to Governor Schwarzenegger's Executive Order # S-3-05. We applaud the Governor's willingness to identify aggressive and realistic climate change mitigation goals for the State of California, and the Team's efforts to ensure that these goals are met.

The Climate Action Team's first report is an enormously important document. While California's campaign to reduce climate change emissions is a work in progress, this first report will set the tone for climate change mitigation well beyond California's borders. The report's environmental and economic analysis will be offered by the proponents, and opponents, of state climate change initiatives for years to come. The analyses will be used by many other states, and perhaps nations. The responsibility to submit a comprehensive, accurate and forward-thinking analysis is a great one. We hope the Team will meet this challenge.

The draft report encompasses a substantial body of work. We commend the Team and the supporting state agencies for a significant achievement. However, the Team must go farther in its final version. A more robust final report is critical for one simple reason: the sheer magnitude of the climate change problem. The Earth's average surface

temperature has increased by more than one degree Fahrenheit in the last 100 years.[1] A further increase in global average temperature of two degrees Fahrenheit may destroy the majority of the world's coral reefs.[2] The polar ice cap may no longer exist in 100 years.[3] Glacier National Park has already lost two-thirds of the more than 150 glaciers it had in the Nineteenth Century, and may not have a single glacier left within 30 years.[4] The current level of carbon dioxide in the atmosphere is higher than at any time in the last 420,000 years, and is likely higher than at any time in the last 20 million years.[5] Global average surface air temperature is projected to warm *at least* 2.5 to 10.4 degrees Fahrenheit from 1990 levels by 2100.[6] At the depths of the last ice age (20,000 years ago) the average global temperature was only 7.0-11.0 degrees Fahrenheit cooler than today.[7] And the latest concern for climate change experts is at what point we reach the "tipping point," after which the effects of climate change are irreversible.

The final report must communicate the urgency of our global climate problem. It must propose to address the problem from a multitude of angles, not relying on any one solution too heavily. It must recommend the use of pragmatic solutions while more perfect ones are researched, designed and developed. To this end, REAP believes that the final report must be more robust and more diversified, particularly with regard to the transportation sector. It should recommend the adoption of a mandatory emissions cap. It should recommend the immediate implementation of a statewide Renewable Fuels Standard (RFS) to complement its efforts in the electricity sector. It should recommend the immediate passage of a bill to require automakers to provide a increasing percentage of flex-fuel vehicles to the California market.

We encourage the California Climate Action Team to incorporate the following comments into its analysis.

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[1] Intergovernmental Panel on Climate Change ("IPCC") Third Assessment Report (2001), p. 2.

[2] Brian C. O'Neill and Michael Oppenheimer, Dangerous Climate Impacts and the Kyoto Protocol, 296 Science, June 14, 2002, at 1971-72.

[3] *Recent Warming of Arctic May Affect Worldwide Climate*, Goddard Institute for Space Studies (Oct. 23, 2003) (connecting global warming with melting arctic ice cap); http://www.gsfc.nasa.gov/topstory/2003/1023esuice.html#addlinfo ; *Arctic Ice Cap Will Melt Completely in 100 Years*, http://www.greenhousenet.org/news/AUG-03/arctic-ice.html.

[4] http://www.nrmsc.usgs.gov/research/glaciers.htm

[5] IPCC (2001) at 7.

[6] IPCC (2001) at 12-13.

[7] John Houghton, Global Warming: The Complete Briefing (2d ed. 1997) at 95.

1. The Final Report should provide a more robust analysis of the draft report's four "core" recommendations.

REAP strongly supports the four core recommendations in the draft report – mandatory emissions reporting, a public goods charge for transportation, a coordinated investment strategy, provisions for early action credit – as a foundation for California's approach to climate change mitigation. However, we remain concerned that three of the four recommendations remain conceptual in nature. The design and implementation strategy for the public goods charge, the investment strategy and the early action credit program have yet to be determined. There will be substantial challenges to the design and implementation of each of these policy recommendations, particularly the public goods charge. As a result, there is a distinct possibility that one or more of these proposals could fail to be implemented in the near term.

REAP therefore encourages to Climate Action Team to:

a. *Provide greater evidentiary support for the four core recommendations in the final report*. This can be accomplished by integrating much of the economic analysis finalized after the release of the draft report into the sections pertaining to these four core policies. Recommendations for how the public goods charge should be expended is a vital issue. From the outset, legislators must be made aware of the direct economic benefits of capturing energy dollars for in-state investment. The Team should also recommend a schedule of implementation for the design and implementation of each core policy recommendation. We did not find a work plan for these core goals.

b. *Diversify the "first tier" policy recommendations so that achieving the Governor's climate change goals does not hinge on the implementation of one particular solution*. While the conceptual framework established by the draft report may result in more concrete climate change initiatives down the road (e.g. increased alternative fuel use), there is a clear downside to not making an explicit declaration to the Governor and the Legislature to implement more specific policies. Policy recommendations that should be included among the core or first-tier group include (1) requiring that all cars sold in the State of California are flex fuel; and, (2) requiring a State Renewable Fuels Standard (RFS) to complement the California Renewable Portfolio Standard. We urge the Team to expand the list of core recommendations to include the strategies discussed in greater detail below.

c. *Conduct a brief cost-benefit analysis for all primary strategies as soon as possible*. This is perhaps the single most important undertaking from an advocacy standpoint. Yet it does not require years of research. The existing

economic does not attribute the proper economic benefits to the individual initiatives. For example, in-state biofuel production could create thousands of jobs and billion in increased economic output, based on programs in other states. There are massive economic benefits associated with promoting Plugin Electric Hybrids, and using electricity for fuel. The final report must prioritize the initiatives based on their feasibility and viability.

2. The Final Report should recommend the immediate implementation of a CO2 emissions "cap," and use the Regional Greenhouse Gas Initiative (RGGI) as a building block for any "trade" provisions implemented as a part of the program.

The Regional Greenhouse Gas Initiative (RGGI) is a cooperative effort by 9 Northeast and Mid-Atlantic states to implement a mandatory regional cap-and-trade program. Program development was formally launched in April 2003. On December 20, 2005, seven states announced an agreement to implement RGGI, as outlined in a Memorandum of Understanding (MOU) signed by the Governors of the participating states. The MOU outlines the program and the framework for a Model Rule to be developed in 2006. A linchpin of the program is the "cap agreement" to stabilize CO2 emissions to current levels between 2009 and 2015. The program then requires a 10% reduction in CO2 emissions from power plants by 2019.

REAP strongly encourages the Climate Action Team to use this body of work as a basis to recommend a statewide CO2 emissions cap. Because California already enforces an aggressive RPS, and would not be developing a cap with other potentially weaker states, it is feasible that the California cap could be more aggressive than the timeframe established by RGGI. During the two years leading up to the final agreement, RGGI working groups conducted extensive analysis of energy modeling, macroeconomic modeling, retail rate impact analysis, and participated in extensive stakeholder processes. The teams made significant progress with regard to quantifying the impacts of mandatory emissions caps, trading allowances, and CO2 reduction efficiencies, and established a workable framework of understanding for mandatory cap and trade programs. There is more than enough information here to provide a framework of understanding for the parameters and costs of a mandatory cap. The Team should therefore recommend one.

In the alternative, the final report should recommend that the State of California inquire about joining the RGGI program. One of RGGI's four "guiding principles" is to design a program that "will be expandable and flexible, permitting other states to seamlessly join in the initiative when they deem it appropriate."[8] Joining the RGGI program has several benefits. First, it would establish RGGI as a cohesive framework for cap and trade nationally. Second, it would free up California resources to expand the program into areas where RGGI has yet to go; namely, transportation sector emissions and

[8] See http://www.rggi.org/goals.htm.

workable offsetting protocols. Third, joining RGGI would build on the collaborative relationship already established between California and other states with regard to its vehicle regulations (non-CO2) and the Clean Cars legislation. Fourth, it would be a more expeditious use of state resources. This is particularly important given recent reports about accelerated warming.

3. The Draft Report must utilize a more diversified approach to transportation sector climate change mitigation to meet the Governor's mitigation targets.

The Renewable Energy Action Project (REAP) has focused much of its efforts on increasing the use of renewable energy in the transportation sector. The California transportation sector is responsible for 46% of the State's CO2 emissions; double that of any other energy sector. Mitigating CO2 emissions from the transportation sector will be a Herculean task, given the industries, consumer trends, and policy uncertainties that lie within it. And unlike the electricity sector, which has seen the successful implementation of a Renewable Portfolio Standard (RPS), there are few secure policies in place to work from. As a result, REAP believes that the recommendations put forth by the Climate Action Team in the draft report must be strengthened and diversified to ensure that Governor Schwarzenegger's goals are met.

The cornerstones of California's efforts to reduce climate change emissions from the transportation sector are the Clean Car rules adopted by the Air Resources Board in September 2004 and the public goods charge proposed in December 2005. However, each of these policy options are tenuous. The former is being challenged in court, and may have to be redrafted. Even if California's Clean Car legislation survives legal challenge, it will only stabilize California's fossil fuel consumption when implemented. The public goods charge has not yet been passed, and has already drawn criticism from tax reform groups and California businesses. There is little information in the draft report about how a public goods charge would be designed, and what initiatives it would be used for.

California should recommend several additional climate change mitigation measures as a "hedge" against implementation delays with regard to the Clean Cars legislation and the public goods charge. These strategies are discussed below.

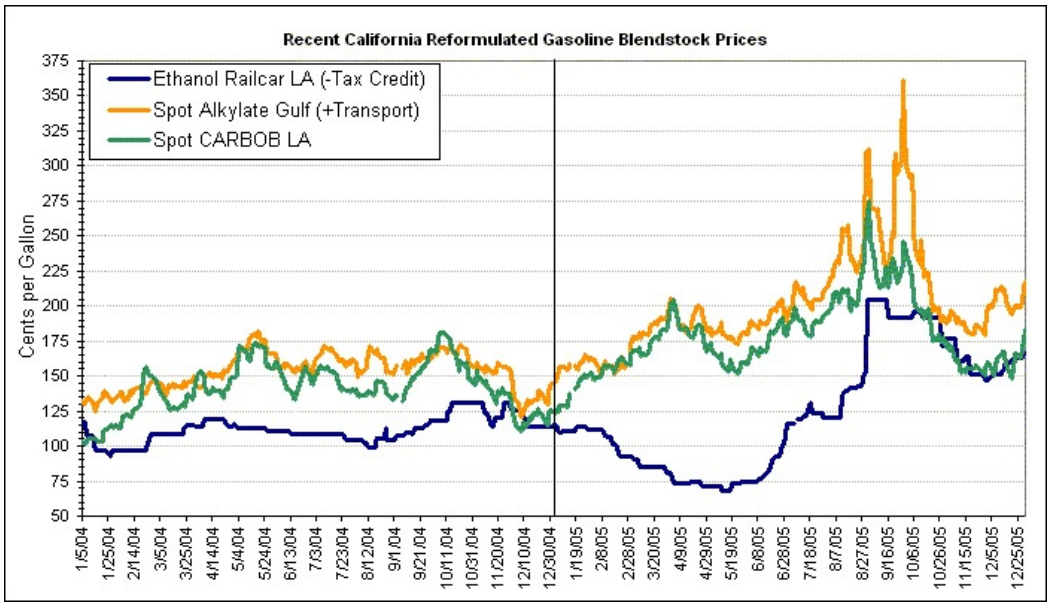
4. The Draft Report must provide a revised analysis of the economic and climate change impacts of biofuels, recommend securing the existing ethanol market, and include an explicit recommendation for a California Renewable Fuels Standard.

A. **The environmental and economic profile of biofuels established by the draft report is misleading, and needs substantial revision.**

The draft report provides a misleading environmental and economic profile for biofuels, especially ethanol. This following profiles must be corrected.

i. Page 26 of the draft "workplan" states that under the national RFS established by the Energy Policy Act of 2005 California will be required to blend ethanol. This is incorrect. A hallmark of the federal program is a credit trading allowance, which would allow refiners to meet the federal rules by blending ethanol in other states. With more than a dozen *additional* states currently considering ethanol blending requirements, and with the industry well ahead of the 7.5 billion gallon/2012 pace, there is a substantial likelihood that California refiners could virtually eliminate in-state ethanol blending under federal rules. Further, the erroneous assumption that federal rules establish a baseline for ethanol use in California appears to alter the entire analysis for ethanol, especially the CO2 analysis, as the report seems to use a baseline greater than zero. This is problematic because, as noted, California does not have an ethanol blending program. The final report must be corrected to reflect the reality that California refiners are free to reduce ethanol use substantially in California over the coming years, which could result in increased CO2 emissions.

ii. Page 12 of the draft "Inputs_Macroeconomics" document concludes that ethanol blending will cost approximately $48 million in 2010 and $645 million in 2020. The Air Resources Board has apparently already corrected these numbers to $14 million in 2010 and $78 million in 2020. However, both figures are misleading. It appears that the ARB "cross-breeded" units by attempting to establish a retail price for gasoline ($1.73) and a "real" price for ethanol ($2.11). The analysis should be entirely wholesale/retail (to project a market-based consumer cost, inclusive of subsidies for both fuels) or "real" (to project the comparative real cost of gasoline versus ethanol, minus the subsidies). We strongly encourage ARB to establish the real cost of a gallon of gasoline/diesel as compared to a gallon of ethanol/diesel. For example, the real cost of gasoline was estimated to be as high as $5 per gallon when oil was $30 per barrel in 2001, when various direct and indirect subsidies were included in the analysis. Until a real cost can be established for both fuels, the Final Report should attempt to reflect the retail cost of blending ethanol to consumers (see chart below).



SRC: California Energy Commission, January 31, 2006.

This blend stock pricing data reconfirms the findings of the California Energy Commission about the costs of ethanol and biodiesel. In July 2005, the CEC concluded that "[f]or options that can be integrated with conventional petroleum fuels, such as ethanol blended with gasoline (E10) and biodiesel blended with petroleum diesel (B2 and B20), consumer benefits appear neutral or slightly positive as long as federal tax credits are maintained."[9] A May 2005 report by the Consumer Federation of America found that "major oil companies cost consumers as much as 8 cents per gallon by boycotting lower cost ethanol."[10]

iii. The draft report establishes the climate change emissions reduction potential of ethanol at < 1 MMT in 2010 and 2.7 MMT in 2020. As discussed above, this figure assumes a federal baseline for ethanol blending in California that does not exist. It also obfuscates the fact that California does not have an ethanol blending program. A recent report prepared for California by TIAX concluded that CaRFG3 (5.6% ethanol) reduces Greenhouse Gas (GHG) emissions by 3.6 MMT per year. At 3.6 MMT per year, ethanol blending in 2005 is more effective than any other "second tier" GHG reduction strategy projected for 2010. It is also (in 2005) among

[9] http://www.energy.ca.gov/2005publications/CEC-600-2005-024/CEC-600-2005-024-ED2.PDF, p. 14.

[10] http://www.ethanolrfa.org/objects/documents/113/consumerstudy.pdf, p. 2. Spot prices for ethanol have changed over the last 6 months. However, in general, ethanol prices have tracked below wholesale RFG prices.

the most effective GHG reduction strategies underway in California as projected for 2010. Ethanol blending today achieves 3 times the GHG reductions that the Clean Car vehicle standards achieve in 2010.

The TIAX report also concluded that CaRFG3 with 5.6% cellulosic ethanol would reduce GHG emissions by 6.6 MMT per year. It is clear that an immediate commitment to E10 blending with the resultant E85 "spill over" market would produce far greater GHG reductions than the 2.7 MMT in 2020 contained in the report. A commitment to 20% cellulosic production by 2020, as recently established by the State of Wisconsin, would further increase the GHG reduction potential of a California ethanol program.

The State of California has expressed several additional concerns about using ethanol to reduce GHG emissions. California has expressed a concern that its aggressive use of ethanol may "under develop" ethanol programs in other states, and decrease the potential for the national RFS to catalyze growth nationwide. The argument is based on the theory that California would be absorbing a large percentage of the 7.5 billion gallons required by federal rules, and that California's unique gasoline regulations undercut the petroleum displacement benefits of ethanol because refiners must allegedly remove other gasoline constituents to produce California-compliant ethanol blends.

In regard to the concern about absorbing too much of the national ethanol market, Governor Schwarzenegger set CO2 and alternative fuel goals for the State of California, not the State of California in the context of other states. The Governor is clearly calling on California to take the lead among states, not defer to them based on one particular federal policy. In addition, the federal RFS is a floor not a ceiling. Federal bills have already been introduced to accelerate the use of renewable fuels beyond the RFS requirements. Increasing California's ethanol market will only further catalyze federal action to promote renewable fuels.

With regard to the concern about California gasoline regulations, it is not uncommon for the oil industry to try to "argue away" the benefits of non-petroleum fuels, especially ethanol. In this case, the oil industry claims that ethanol blending requires the removal of pentanes from the blend, thereby reducing the volumetric gains of ethanol. However, as confirmed by the recent CEC report on the California gasoline market, pentanes removed for volatility are moved to other blends, whether here or elsewhere. As such, the volumetric benefits of ethanol are the positive notwithstanding anecdotal reports about the Predictive Model's impact on the pentane market. History shows, very clearly, that the oil companies are highly adept at finding markets for co-products. The Predictive Model sets the stage for one part of the liquid fuels market in one state.

The State of California has also expressed concerns about "double counting" the CO2 emissions impacts of ethanol for federal and state programs. However, the national

RFS is not a CO2 reduction strategy, it's a petroleum displacement/energy strategy. Compliance with the program is not counted in million metric tons of CO2, it is counted in gallons used. Concerns about how ethanol blending might be counted as an "offset" in a credit trading program, or in the context of a federal carbon program, are highly premature. Neither of these programs exist. Governor Schwarzenegger ordered the State to reduce California climate change impacts. A California biofuels program will do just that.

B. The final report should recommend that the State immediately secure the *existing* California ethanol market.

A recent Pew Center for Global Climate Change report entitled "Learning from State Action on Global Climate Change" notes that "[s]tates may want to move toward a comprehensive approach incrementally, focusing first on policies that are relatively easy to implement and yield multiple benefits." Securing California's existing ethanol market is one such strategy.

On November 21, 2005, the California Energy Commission (CEC) reiterated its goal to increase the use of non-petroleum fuels to 20 percent of on-road demand by 2020 and to 30 percent of on-road demand by 2030. Governor Schwarzenegger publicly supports these policy goals. However, the CEC noted that the achievement of this goal "will take [a] considerable and concentrated effort given the current low [ethanol] penetration level of only 6 percent."

Yet, as of today, the State of California is closer to losing this 6 percent (ethanol) market penetration than gaining ground on its climate change emissions reductions from the transportation sector. The federal oxygen rules that catalyzed this E6 market were waived as part of the Energy Policy Act of 2005. Although the oil industry has yet to act publicly, California faces the very real possibility of backsliding with regard to petroleum displacement and carbon dioxide (CO2) emissions as a direct result of reduced ethanol use.

REAP is aware of recent reports and anecdotal evidence predicting little change in the California gasoline/ethanol market (in the very short term) due to uncertainties about how the national Renewable Fuels Standard (RFS) will be implemented, and how the California Predictive Model will be changed. However, a cornerstone of the national RFS is a credit-trading program, which will allow the oil industry to concentrate its ethanol use in other states. California simply cannot afford to lose ground in its effort to diversify fuels.

The Air Resources Board's concerns about "low blend" ethanol is not a good reason to delay efforts to secure the current ethanol market. ARB believes that California may be experiencing increased permeation emissions from cars with ethanol blends. This is likely true. However, this new permeation data will be incorporated into the Predictive

Model sometime in 2006. This means that refiners will be forced to account for (and mitigate) any increase in permeation emissions when they formulate their fuels with ethanol.[11] In other words, once the Predictive Model includes a proper permeation factor, it prevents air quality backsliding from permeation and all others variations in fuel blend properties. This is the purpose of the Predictive Model.

While the technical adjustments are made, the real world profile of ethanol blending is very good. Since January 1, 2004, when MTBE was replaced with ethanol, California has shown that it can blend 1 billion gallons of ethanol (in E6 blends) while simultaneously improving air quality. California had the fewest ozone exceedance days in recorded history in 2004, with similar results in 2005. Not a single state switching from MTBE to ethanol over the last several years, including those that switched to E10, has experienced worsened air quality monitoring results as a result.

There are several possible ways to secure the current ethanol market, both for its achievements with regard to fuel diversification and its potential to catalyze further petroleum displacement via E85 and cellulosic ethanol production.

i. *Urge Governor Schwarzenegger to declare ethanol blending part of the State's future plan to reduce climate change emissions reductions, create jobs, and spur economic growth.* This could be achieved via Executive Order, or by less formal means. Even an informal declaration of a commitment to blend a minimum of 1 billion gallons would send a strong message to oil companies not to plan on exporting the current market. It would also send a message to the private sector that California is committed to a California ethanol market. Making a public commitment to the current ethanol market does not require a commitment to E6 blending. It merely confirms that California intends to maintain its current 6 percent non-petroleum fuels market, whether blended as E85, eDiesel or in low blends.

ii. *Require ethanol blending via the Predictive Model.* The California Predictive Model, the computer model used to require certain blend characteristics in gasoline, is currently under review. The Model is often referred to as "content neutral," reflecting its primary goal of being focused on reducing tailpipe emissions rather than advocating for any particular fuel blend. However, the "content neutral" label is misleading. The Model includes a fuel content requirement for oxygen (2.0% by weight) to reflect the policy direction of the U.S. EPA with regard to oxygenates. The State of

[11] In actuality, they already do. The CA Predictive Model already contains a "permeation factor." The question is how big should it be. On balance, the impacts of permeation may already be mitigated due to its aggressive NOx and CO factors for ethanol blends. This will be resolved during the 2006 revision of the Predictive Model.

Minnesota uses a similar oxygen requirement to promote its in-state ethanol blending program (recently increased to 20% by volume). The Model also includes content requirements (or limits) for fuel sulfur, Reid Vapor Pressure (RVP), olefins, aromatics and several other gasoline properties. REAP strongly believes that in order to mitigate climate change, we should not dismiss potential "ready-made" solutions without due consideration. The Predictive Model is a viable and immediate strategy to regulate fuel content that should be utilized by climate strategists.

ii. *Use the current 1 billion gallon market as a starting point for a statewide Renewable Fuels Standard.* A California Renewable Fuels Standard (RFS) is the best way to secure the current ethanol market and expand it. It complements efforts in the electricity sector. And it can be implemented using a market-based approach with an emphasis on flexibility. The RFS is discussed in greater detail below.

C. **The final report should include a Renewable Fuels Standard (RFS).**

REAP urges the Team to recommend the immediate adoption of a statewide renewable fuels standard (RFS) that covers both the gasoline and diesel markets. The renewable fuels initiatives mentioned in the report are either nondescript (as in the case of ethanol) or do not go far enough (as in the case of biodiesel). Many states have implemented or are implementing RFS policies without undue delay.

Washington Governor Christine Gregoire recently submitted a package to the state legislature that includes a statewide RFS. The proposal requires all fuels sold in the state to contain 2 percent biodiesel by July 1, 2007, with an option for a 5 percent requirement if state officials find that such an increase is feasible. Washington, like California, has virtually zero biodiesel production capacity. Yet its biodiesel goals greatly exceed those recommended by the Climate Action Team. The ethanol requirement contained in the proposal is highly conservative (2.5 percent by July 1, 2007), but state officials have the authority to increase the requirement to 10 percent if they find that such an increase is feasible. The immediacy of the ethanol commitment, while not aggressive, nonetheless establishes market certainty as a catalyst for in-state ethanol production.

The Washington proposal is just one of several RFS policies being implemented or considered for passage. The State of Minnesota recently passed a 20 percent ethanol blending requirement, contingent upon EPA approval, and has requires biodiesel blending for several years. The State of Wisconsin is close to passing a 10 percent ethanol blending requirement. The State of Iowa is in the process of putting together a bill that requires 10 percent renewable fuels by 2008, 15 percent by 2010, 20 percent by 2012 and 25 percent by 2015. The proposal requires retailers to meet the standards by selling any combination of E10, E85, and biodiesel. Ethanol and biodiesel use is also a critical part of most energy

independence plans nationwide, including those put forth by California Congresswoman Nancy Pelosi's "Innovation Agenda."

Ethanol programs are also economic winners. Ethanol blending requirements generate hundreds of millions of dollars in annual state tax revenue, and create thousands of job opportunities in rural economies. For example, more than 7,000 "rural families" have ownership stakes in ethanol production facilities in Minnesota, a state with a gasoline market one-fifth the size of the California market. The program creates more than 4,500 jobs and increases state economic output by $600 million annually. Local officials estimate that 75 cents on the dollar leaves the state for the purchase of gasoline, while 75 cents on the dollar remains in-state for the purchase of fuel ethanol.

An RFS is also the best way to simultaneously promote renewable fuels, empower the Predictive Model's more stringent summer rules, and allow for flexibility in the marketplace. Instead of requiring a certain percentage of blending every day, an aggressive RFS can require annualized renewable fuels blending. Annualized renewable fuels blending allows the market, and the regulations that control it, to determine renewable fuels should be used. We therefore encourage the Team to recommend an **immediate** statewide, year-round RFS starting at 6 percent ethanol and 2 percent biodiesel within 2 years, with the option to increase incrementally to E10 and B5 as the market, regulations and in-state production allow. This preliminary RFS would allow in-state production to ramp up while the State establishes rules for implementing more aggressive displacements of hydrocarbon fuels, and devises protocols for offsets between sectors.

REAP would also like to offer comments in response to policy objectives either mentioned in the report, or widely discussed among state officials and stakeholders.

i. Taking ethanol out of gasoline in the summer months is not good public policy. As discussed, California refiners have blended E6 for at least the last two summers while California has enjoyed some of the cleanest air on record. Increasing ethanol levels from 6 percent to 10 percent should improve the air quality performance of ethanol blends because evaporative VOC emissions (permeation) should not increase significantly when going from E6 to E10 while other benefits accrue. Allowing refiners to remove ethanol from gasoline in the summer months will only: (1) increase emissions of Toxics and CO2, (2) needlessly handicap the development of an in-state ethanol industry, and (3) lead to greater petroleum consumption in direct conflict with California's energy diversification goals.

ii. An over-emphasis on E85 is not good public policy to achieve near term petroleum reductions and CO2 goals. Although E85 is one possible way to promote non-petroleum fuels, it is a longer term strategy that requires vehicular and infrastructural changes at various points in the marketplace;

changes that have been extremely difficult to achieve over the years. From a near-term volumetric perspective it will have no impact on overall petroleum displacement. Aggressive implementation scenarios for E85 are in the vicinity of 40 million gallons displacement in the intermediate to long term, while "low blend" ethanol markets create the potential for 1.5 billion gallons of displacement in the immediate term. From a strategic perspective, E85 policies (like electric car policies) will be highly vulnerable to industry resistance, corporate bankruptcy problems and state budget constraints. Further, E85 programs are most successful in states that have made a commitment to "low blends" as well, most likely because this commitment builds the necessary political capital and demonstrated economic incentives to pass, fund and implement E85 programs. REAP believes that a commitment to low blend ethanol is the single most effective strategy to promote E85 as a "spill over" market. We encourage the Team to strongly consider the strategic benefits of promoting low level ethanol blends with regard to E85.

5. The final report should recommend that the State enact legislation requiring the sale of flexible fuel vehicles statewide.

The proposed *Fuel Security and Consumer Choice Act (S. 1994)* introduced by Senators Harkin (D-IA), Obama (D-IL) and Lugar ®-IN) requires automobile manufacturers to produce flex-fuel vehicles in increasing numbers to 100 percent within 10 years. The bill creates a credit program for manufacturers, as an incentive to exceed the yearly targets. The primary argument in support of the bill is that automobile manufacturers can produce flex-fuel vehicles at little or no cost to the consumer, and that creating more domestic fueling options opens doors for the U.S. economy.

The Climate Action Team should include in its final report an explicit recommendation to investigate and adopt a similar policy in California. While there are several legal issues to resolve, including the credit system associated with FFVs, efforts underway in the U.S. Congress are a clear indicator that the automobile industry is ready for such a challenge. Such an effort would be instrumental to creating an in-state biofuel production industry, and will provide another element of the foundation necessary for private sector investment in E85 distribution and infrastructure.

6. The final report should recommend that the State enact legislation providing incentives for the use of plugin hybrid vehicles.

Plug-in hybrid electric technology has the potential to dramatically reduce greenhouse gas pollution from vehicles -- without requiring the development of costly new fueling infrastructure. For a hybrid electric vehicle with a 20-mile electric range, the

California Air Resources Board has estimated a lifecycle CO2 equivalent emissions reduction of 62% from conventional gasoline vehicle technology (2002 baseline).[1] Plug-in hybrid technology also offers the potential of significantly reducing the State's dependence on petroleum, with fuel efficiencies approaching or surpassing 100 miles per gallon. Used in combination with bio-fuels or hydrogen, the petroleum reduction possibilities of plug-in hybrid electric vehicles becomes much greater. Finally, vehicle-to-grid technology offers the potential for future energy supply efficiencies.

Plug-in hybrid electric vehicles are on the threshold of commercialization. Demonstration projects are underway for commercial delivery vans and heavy trucks; a component supplier consortium was announced with the goal of developing key components to support plug-in hybrid electric technology; and a national demand creation campaign was announced in January.

The State of California can play a crucial role in helping to bring plug-in hybrids to market by supporting the development and commercialization of this technology. There are a variety of approaches to facilitate commercialization including instituting a program equivalent to California's Hydrogen Highway; funding research and development; instituting supply creation programs; and the development of financial or regulatory incentives to name a few.

Plug-in hybrids offer the potential of very large greenhouse gas emission reductions for vehicles – a source of emissions that has largely eluded reductions thus far. California must explicitly acknowledge the potential of plug-in hybrid electric vehicle technology in the Climate Action Team process and focus on programs that can facilitate the development of this technology.

We would like to conclude by offering our general support for two critical comments made in testimony on January 23rd: (1) that the final report's economic analysis should include the economic benefits of innovation; and, (2) that the public health costs of the status-quo should be considered, either as a cost of "business as usual" or as an adjustment to the baseline.

We also encourage the Team, in general, to broaden the scope of its analysis with regard to creating an economic profile for each of the recommendations in the report. For example, the analysis of ethanol should include the increased state economic output that will result from an in-state biofuels industry. The same is true for other initiatives.

[1] CARB Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Public Hearing to Consider Adoption of Regulations to Control Greenhouse Gas Emissions from Motor Vehicles, 8/6/04, p.95, Table 5.3-7

Thank you for ...

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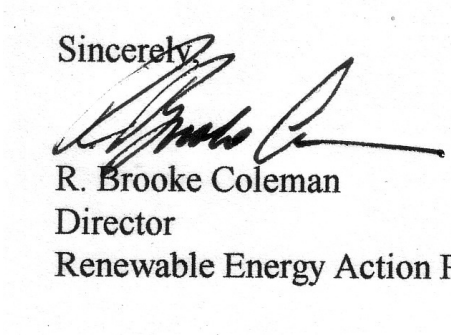

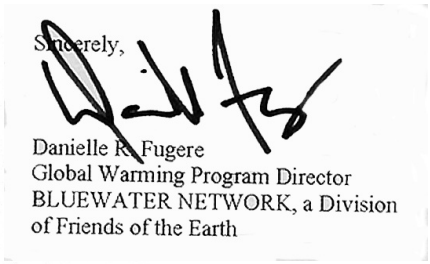

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Dan Skopec (Office of Governor Arnold Schwarzenegger)
Brian J. Smith, AICP (California Department of Transportation, Caltrans)
Eileen W. Tutt (California Environmental Protection Agency, CalEPA)
Patrick Wright (California Resources Agency)
Catherine Witherspoon (California Air Resources Board, ARB)