

April 20, 2009

ORIGINAL:
Copies:

Board Clerk
Executive Officer
Chair

Mary Nichols
Chair, California Air Resources Board
1001 I Street
Sacramento, CA 95814

Dear Ms. Nichols:

Attached please find a report recently completed for the California Small Business Roundtable regarding AB 32 and its impacts on the small business community, authored by Sanjay B. Varshney, Ph.D., Dean of the College of Business Administration at California State University, Sacramento, and Dennis H. Tootelian, Ph.D., Professor of Marketing and Director of the Center for Small Business at California State University, Sacramento. This first section of our larger report on AB 32's impacts to small business examines the proposed Low Carbon Fuel Standard (LCFS), and highlights many of the issue areas that raise concerns for small businesses. The small business community continues to see the many cost increases associated with implementation of the AB 32 Scoping Plan, while the California Air Resources Board (CARB) has not yet identified the positive economic and job growth opportunities that were promised under AB 32.

CARB is moving forward with crafting regulations, including the LCFS, before its promised re-evaluation of the Scoping Plan's cost-effectiveness and impacts to small business is completed. Additionally, the attached report shows that the economic analysis conducted for the LCFS fails to adequately address many potential impacts to small businesses. Key findings include:

- There is a tendency to overstate the benefits and understate the costs associated with the LCFS regulation.
- As long as other states do not implement a similar standard, California businesses will automatically be rendered less competitive – this was not accounted for in the economic analysis.
- The analysis fails to show how small businesses will recoup the required cost of investments in equipment, “especially when [CARB's] entire economic analysis seems flawed, based on unreasonable assumptions, or inadequate.”
- The authors state “It appears CARB has set the goal for LCFS without understanding (or perhaps caring about) market considerations that may or may not support it.”

Please review the attached report to help understand the many unanswered questions and unresolved concerns for small businesses, even as CARB is set to move forward with AB 32 implementation and approve the LCFS regulation at the end of this week.

Betty Jo Toccoli
President, California Small Business Roundtable

An Analysis of the Costs to California's Small Businesses from AB 32 – the California Global Warming Solutions Act:

**Part I – A review of the proposed
Low Carbon Fuel Standard regulation**

April, 2009

Sanjay B. Varshney, Ph.D.
Dean, College of Business
Administration
California State University,
Sacramento

Dennis H. Tootelian, Ph.D.
Professor of Marketing & Director,
Center for Small Business
California State University,
Sacramento

Commissioned by the California Small Business Roundtable

California Small Business Roundtable
6601 Center Drive West, Suite 500, Los Angeles CA 90045
Telephone: (310) 342-8218 Fax: (310) 342-8219

OBJECTIVE OF STUDY

The objective is to review legislation as appropriate related to state regulation AB 32 on California small businesses and be available for testimony and media purposes. Previous studies document the cost of federal regulations on the small businesses. AB 32, the Global Warming Solutions Act of 2006, is California's landmark global warming legislation. It is intended to reduce California greenhouse gas emissions (GHGs) to 1990 levels by 2020 and to 80 percent below 1990 levels by 2050.

BACKGROUND ON AB-32

The Global Warming Solutions Act of 2006 is an environmental law in California, signed into law by Governor of California Arnold Schwarzenegger on September 27, 2006. The bill establishes a timetable to bring California into near compliance with the provisions of the Kyoto Protocol. In signing the bill, Schwarzenegger declared, "We simply must do everything we can in power to slow down global warming before it is too late... The global warming debate is over."

The law requires that by 2020 the state's greenhouse gas emissions be reduced to 1990 levels, a roughly 25% reduction under business as usual estimates. The California Air Resources Board, under the California Environmental Protection Agency, is to prepare plans to achieve the objectives stated in the Act.

As defined in the bill, "greenhouse gases" include all of the following gases: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). These are the same gases listed as Greenhouse Gases (GHGs) in the Kyoto Protocol.

The sectors that will be most significantly impacted by proposed measures are energy, construction, transportation, and industry.

Energy Sector: Major proposed measures include increasing California's renewable portfolio standard (RPS) from 20% to 33%. The RPS requires that California utilities source 33% of the electricity they deliver from renewable resources such as wind, solar, geothermal and biomass. There is also a measure to encourage the installation of solar electric systems, in line with the Million Solar Roofs program.

Construction Sector: There are measures to increase building and appliance efficiency measures, including a major energy efficiency program for state buildings; encourage combined heat and power systems; implement stringent efficiency standards for new construction, and incentivize the installation of solar water heating systems.

Transportation Sector: Major proposed measures include implementing the Pavley standards (AB 1493), which would reduce GHG emissions from passenger vehicles by about 22 percent by 2012 and about 30 percent by 2016; and moving forward with a Low Carbon Fuel Standard, which would reduce the carbon content of California's transportation fuels 10 percent by 2020. There are also several early action measures that target goods movement, including a measure to improve the efficiency of heavy-duty tractors and trailers and a measure to reduce emissions at California ports. The only major public transit measure proposes a high speed rail system between Northern and Southern California.

Industry Sector: For a broad set of industries including manufacturing, gas and oil refining, and others, the main proposed measure thus far is to conduct energy efficiency and co-benefits audits and require investments in cost-effective efficiency measures determined by the audits. These sectors will also be covered by the proposed cap and trade policy. A key issue that impacts these industries is whether ARB will count the emissions produced by out-of-state companies whose products are consumed in California. If it does not, the result could be a "leakage" of jobs and carbon emissions out of California to states and countries with lower environmental standards.

Other Sectors: ARB also proposes measures that target agriculture, forests, high global warming potential greenhouse gases (such as SF6), recycling and waste, and the water sector. ARB also proposes 30% minimum emissions reduction by the state government, and plans to work with local governments on measures under their jurisdiction, including building codes, land use, and transit.

Analysis of Low Carbon Fuel Standard (LCFS)

The proposed regulation LCFS will require producers, importers, and providers of transportation fuels to meet an overall carbon intensity standard for the fuel mix they supply to California. CARB staff (Staff) expects that LCFS will reduce GHG emissions in the transportation sector by 16 million metric tons (MMT) by 2020. This equates to roughly 10% of the total goal of reducing GHG emissions to 1990 levels by 2020. Staff estimates that LCFS will yield an overall saving of as much as \$11 billion between 2010 and 2020. The performance standards for fuel producers and importers begin in 2011. Providers and importers must meet the LCFS carbon intensity standard for each annual compliance period.

After a careful review of the Staff study on LCFS, some of the major questions and concerns related to the proposed LCFS are listed below:

- It is unclear what the outcomes are likely to be of other states in the US and other countries either delaying or completely withdrawing from the implementation of lower emission standards similar to LCFS in their respective jurisdictions. The adverse economic impact on Californians through higher costs, displacement of

jobs, population out migration etc. have not been discussed or accounted for in the Staff study. Staff takes it for granted that all other states and countries will adopt similar standards. The resulting disparity in fuel production, distribution and consumption prices and its impact on people, productivity, taxes, businesses, and intra state trade are unknown and not discussed or analyzed on the Staff study. It appears that other US states and other countries are still debating similar standards, while California wants to go ahead and implement LCFS anyways even though the others are not anywhere close to adopting similar standards.

- At the federal level RFS 2 exists to lower GHG emissions, but Staff estimates that this will only account for 30% of the emission reduction that LCFS would achieve. In this sense the adoption of LCFS will impose on Californians a standard that far exceeds the national. It is unclear why California needs to self impose a much higher and restrictive standard than the national. It is dangerous to impose the thinking, vision or goals of a select few on the seventh largest economy of the world that may not be consistent with what the rest of the world may be doing in the immediate short term.
- Staff does not account for costs or disruptions to prices of crops arising due to changes in land use, although they attempt to include the resulting changes in actual emissions. There is no attempt made by Staff to quantify the potential disruptions or demand supply imbalances resulting from changes in land use. On Page ES 15, Staff admits that “In particular, staff is concerned that our estimate of land use allocation for co-products may significantly underestimate the land use impacts of soy based biodiesel, thereby overestimating its GHG benefits. Our ongoing assessment of biodiesel from soy oil may result in a significantly different estimate of its GHG impact. When a value sufficiently robust for use in the regulation has been estimated, the value will be published for public comment and proposed for certification.” This is one of several examples of Staff admittance to their own lack of confidence and non-reliability of their estimates that flaw their economic analysis. Yet they appear determined in rushing to implement the LCFS without any certainty of its implications, ramifications, or consequences. Another example: On Page ES 18, Staff admits that “However, for advanced technology or emerging vehicles such as battery electric vehicles (BEV), plug-in-hybrid electric vehicles (PHEV), fuel cell vehicles (FEV), and heavy-duty compressed natural gas (CNG) or liquefied natural gas (LNG) vehicles, the data are relatively limited. Therefore the Staff has provided EER values that are to be used until such time that there is more robust data available to better establish the EER.” To tout the benefits of alternative fuel vehicles and their fuel efficiency without having robust estimates seems to be premature on the part of Staff. Further, Staff shrugs off the impact of LCFS on food prices and downplays the adverse impact by blaming it on RFS 2 on Page ES 29: “The US currently has the capacity to produce about 13 billion gallons of corn ethanol annually.....The Federal Renewable Fuels Standard, on the other hand, calls for the production of 15 billion gallons per year of corn ethanol beginning in 2015.

Federal biofuel regulations rather than the LCFS, will, therefore, exert the greatest pressure on food prices.” Nowhere is the economic cost or impact of higher food prices factored in.

- Staff appears to underestimate the costs of reporting, monitoring, and enforcing compliance. Staff estimates that only \$4.6 million will be needed annually for record keeping and reporting, and only \$510,000 annually for enforcing the regulation. These estimates appear naïve and grossly understated given our understanding of the bureaucratic processes and work load involved and the vast government machinery in California already at work.
- Staff does not consider future availability of alternative fuels or any major fluctuations or disruptions in the demand supply equation leading and the resulting prices. Their sensitivity analysis based on higher crude prices also does not reflect the reality both in commodity markets as well as for crude oil experienced just during this past one year.
- Staff assumes that there will be adequate availability of vehicles utilizing alternative fuels, and that there will be no costs associated with technology advancements needed to make the vehicles commercially affordable and reasonably priced. Staff also does not account for the possibility that consumers will have to pay substantially higher prices (as they also do currently) for these more fuel efficient and advanced technology vehicles and the associated economic cost and impact.
- CARB does not know the true extent of emissions from the new proposed biofuel production facilities. Staff plans on having a draft available by December 2009. This makes the economic analysis by Staff completed for LCFS questionable since they are using estimates that are not clear, reliable, or certain. Yet the LCFS is being proposed for immediate adoption.
- CARB plans to seek international cooperation for development of enforceable certification standards to address the sustainability components within two years of adoption of LCFS (see page ES 25). This raises the question whether such cooperation will indeed materialize, and why LCFS is moving ahead so quickly when the other players are so far behind in the same discussion and debate. Further, why is LCFS being enforced when the ground work is not complete: Staff proposes to develop a plan for incorporating sustainability metrics into the LCFS only by December 2009 (Page ES 22), which is several months after the proposed adoption of LCFS. The adoption of standards similar to LCFS in other states and countries remains uncertain. CARB makes the unreasonable and overoptimistic assumption that “the successful implementation of an effective framework in one jurisdiction should hasten the adoption of that framework elsewhere (Page ES 29).” By doing so, CARB is oversimplifying global politics

and willingness of jurisdictions to work together in a spirit of cooperation, especially in an environment of global economic and financial meltdown resulting in severe unemployment rates worldwide and the threat of a depression.

- Staff does not elaborate on how the financing of the new production facilities, or of the required investments for both production and distribution will occur. In the current environment where credit markets still appear frozen where will the capital come from? The Wall Street Journal has repeatedly reported that the availability of capital will determine the success of the green energy sector in the short term, and that private capital currently is noticeably and completely absent. If the government uses tax payer money to finance, this would result in a reallocation of capital from one intended use to another causing a negative economic impact that Staff does not account for. Staff asserts that the impact on small business will be non-existent since the fuel producers are all large. But the vast majority of fuel dispensers are small businesses. Staff estimates that the cost of installing E85 dispensing infrastructure per existing service station is approximately \$172,000. Staff fails to put this into perspective for small businesses which are currently struggling in this economic downturn and can obtain little or no financing in current credit markets. The economic impact this will have on small businesses has been completely omitted and ignored.
- LCFS and AB 32 are likely to create a severe bureaucracy that will drive prices higher in the transportation sector first, and then for all other sectors as a result. The producers and fuel dispensing businesses are likely to pass on substantial portions of the additional costs to the final consumers thereby having a huge negative economic impact. This argument is very similar to the reality in the housing market where the permit process and the associated bureaucracies result in higher average home prices in California because builders who face these costs from the bureaucracy simply pass them on to the homebuyers. Many people rationalize the higher home prices by attributing them to high demand and short supply, and to good weather in California. The reality is that prices are driven higher by the bureaucracy – the permit process.
- Staff acknowledges that there may be many “indirect effects” due to the proposed LCFS, but makes no attempt to identify or quantify any of these indirect effects.
- It appears that CARB has set the goal for LCFS without understanding (or perhaps caring about) market considerations that may or may not support it. Their reluctance to first allow some success with RFS 2 to sink in before enforcing LCFS, and their outright rejection of the suggestion to implement the gasoline standard only starting out (Page ES 31) shows that they are closed minded to any options other than their own. This reflects a very severe heavy handedness and dictatorial attitude.

- Staff states with no ambiguity but fails to show how small businesses will recoup the required cost of investments in equipment through sale of alternative fuels, especially when their entire economic analysis seems flawed, based on unreasonable assumptions, or inadequate (Page VIII-1).
- While Staff asserts that the shift in capital from the petroleum sector to the agricultural, chemical, electricity, and natural gas sectors is a good thing, it fails to account for any costs associated with such shift which are bound to occur in the short term due to disruptions in the demand supply balance for capital between the sectors.
- Table VIII-1 is not reflective of the reality and current market prices we have especially seen in the last one year. Staff needs to develop better ranges that account for high levels of volatility in prices, which in turn will have a major impact on the entire economic analysis that in its current form appears oversimplified. The forecasts by Staff of prices of crude, gasoline, and diesel do not take into account the tremendous volatility and large ranges of trading prices we have experienced this past year. Staff uses 2007 IEPR estimates to be consistent with the scoping plan, but those are already outdated. The economic reality and financial markets today are suddenly very different from where we were as recently as August 2008. To rely on projections made in 2007 is not just unrealistic, but simply absurd. On Page VIII-1 Staff admits that “Staff understands that the economic analysis of the LCFS is greatly affected by future oil prices and the actual production costs and timing of lower carbon intensity fuels. Economic factors, such as tight supplies of lower carbon intensity fuels or a lengthy economic downturn keeping crude demand and hence prices down, could result in overall net costs, not savings, for the LCFS.” Staff has neither tried to quantify the impact of this nor take this into consideration before rushing to implement LCFS without regard for current market conditions or the ability of the California economy to absorb the economic shock associated with AB 32 and LCFS.
- The costs of storage, transportation, and distribution are not static. The demand and supply cycles associated with them and the resulting prices can experience changes, disruptions, and additional costs that Staff has not factored in. Also while Staff admits and accounts for the fact that some of the alternative fuels production and distribution will actually increase emissions (due to for example trucks transporting ethanol from northern to southern California), Staff has not accounted for resulting changes to prices. Staff assumes that the production, storage, transportation, and distribution will all occur seamlessly with no disruptions, frictions etc. and that the short term impact of price adjustments will be zero. Even though dependent on gasoline or diesel, Staff did not factor in variations in prices through a sensitivity analysis based on market conditions driving prices.

- The economic analysis completed by Staff makes no attempt to either discuss or quantify changes to demand, prices, and resulting emission levels of traditional fuels under scenarios of very high crude prices when consumers will change behavior and consumption patterns and hence impacting the level of emissions.
- Staff includes a positive value of co-products of alternative fuels in their economic analysis – this appears to overstate their benefits, and reduce costs creating perception of value greater than what may be real.
- It also does not appear anywhere in their economic analysis that Staff has factored in research and development costs for lower carbon intensity alternative transportation fuels.
- It appears that the cost of production of alternative fuels is artificially lowered due to the associated tax incentives offered for their use. In economic terms, these incentives represent a cost borne by tax payers since they are revenue not collected by the state since such incentives are not available for all fuels. In this sense the users of alternative fuels are essentially being subsidized by those who are not using these fuels. This not only distorts the true costs of alternative fuels but also renders the comparisons to traditional fuels unfair.
- Staff uses interest rates (discount factors) for their analysis that are not reflective of current markets risks, returns, and risk premiums. Staff admits that at higher market rates the estimated savings will disappear. Current market conditions and rates, if used by Staff, would show major costs/losses (not savings), with no other changes to their methodology, due to the implementation of LCFS or any other portion of AB 32.
- While Staff is quick in pointing out the new jobs that will likely be created due to the new bio refineries expected to be built in the state, they do not discuss the potential job losses due to lower consumption of traditional fuels, the various costs of regulation, and the adverse economic impact on businesses and consumers.
- Staff claims that LCFS will not adversely impact the competitiveness of California businesses and that LCFS will not result in any leakages of business to other states. In our opinion, as long as others states do not implement a similar standard, California businesses will automatically be rendered less competitive. This will eventually force California businesses to tolerate the higher costs, shut down, or relocate, in all cases reducing the tax revenues for the state. This has not been accounted for in the economic analysis. California currently ranks last in the country for its business friendliness, and 39th for its restrictive regulatory

environment as ranked by Forbes using 33 economic metrics. California also leads the nation in the highest corporate tax rates, one of the highest for personal income tax rates, and the highest job losses this year. California also leads the nation for high cost of living, and cost of homes. These are all recipes for a complete collapse some day with the LCFS serving as the catalyst. CARB is underestimating the ability and willingness of California businesses and people to relocate to other states, and overestimating the benefits of living in California. This reflects a certain degree of arrogance on the part of the lawmakers suggesting that people will continue to take the punishment and pain regardless of how much is inflicted. This false sense of security has resulted in the failure of many businesses, states, and countries as today, mobility is high for labor and capital, and geographic barriers have been overcome by technology advancements. Californians will eventually leave California if the scale gets tipped too heavily against them.

- Staff attributes nearly all of the ethanol related infrastructure costs to RFS 32 but only 30% of the benefits through lower emissions. This shows a tendency to overstate the benefits and understate the costs by Staff.
- There may be other hidden costs to LCFS. On page ES 22, Staff writes “Pursuant to H&S section 38597, staff is also considering inclusion of a schedule of fees, to be paid by the regulated parties, to fund the use of third party services.” The economic analysis makes no mention of costs or fees that are under consideration that would have an economic impact on producers or consumers in California.
- California small business constitute 99.2% of all employer firms, 99.9% of all businesses, generate 75% of the gross state output, and account for 89% of the net new job creation. In light of these statistics, Staff does nothing to measure the impact on small business by simply dismissing the impact with the assumption that small business will recoup the investment and financing costs of the required additional equipment for implementation under LCFS through their future sale of alternative fuels to consumers. Staff does not account for the secondary effects on all small businesses – even those that are not in the business of providing transportation fuels – since every business – regardless of the sector (food, construction, etc.) will be impacted due to the change in transportation modes and costs.
- Finally, Staff does nothing in their study to truly measure economic impact using an input output model that can measure the direct, indirect, and induced costs or benefits that account for the multiplier effect on the economy and jobs and take into account regional economic dynamics. They also do not use any economic model such as the DRAM model used for the scoping plan. With no economic modeling or major sensitivity analyses, the Staff economic analysis is not robust, reliable, or understandable. Their analysis could benefit by incorporating many of

the important and critical but omitted economic principles that drive economic impact studies. In this sense the Staff study reads more like an afterthought to support a decision already made, and a strong opinion expressed without much numerical support.

Each of the 50 states in the USA superimposes an array of regulations over and above those that exist at the federal level. Over 90% of the firms in the USA employ fewer than 20 employees, and large firms (500 or more employees) constitute only 0.3% of all firms. Small business drives the economic engine and the gross state product. An adverse impact on small business is bound to adversely impact the production of goods and services, the risk tolerance of the American enterprise, the productivity of labor, the quality of life, and the overall well being of the State and its citizens.

The ultimate drivers of growth and economic prosperity are innovation, economic risk taking, and investment. The majority of this comes from small business. Legislative and regulatory mandates often result in practices and enact policies that raise the costs of operating for small business or provide a deterrent to small business growth and hence provide disincentives for economic risk taking and entrepreneurship.

Future research should attempt to understand how to minimize the intended and unintended costs of regulation. Since small businesses are the lifeblood of California's economy constituting 99.2% of all employer businesses, efforts to make the regulatory environment more attractive will make California a more attractive state for doing business. This in turn will improve the state's output, employment, labor income, indirect business taxes, economic climate, quality of life, living standards, and growth prospects.