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Dr. Lawrence Goulder, Chair
Economic and Allocation Advisory Committee
California Air Resources Board
1101 I Street
Sacramento, CA 95814

Dear Dr. Goulder and members of the Economic and Allocation Advisory Committee:

Chevron shares the concerns of governments and the public about climate change, and understands the desire of California to continue to address this challenge. In addition to energy efficiency and conservation measures, Chevron supports the reduction in greenhouse gas (GHG or CO₂e) emissions through a balanced framework based on transparency, broad and equitable treatment of participating sectors, cost containment and avoidance of duplicative regulation.

There are two essential points we would like to convey:

1. Leakage of economic activity and associated increases in GHGs is a likely result from a CA-only or Western States-only Cap and Trade Program, and can be remedied only by equitable and fair allocations to trade exposed industries and by access to offsets. These two policies will act to contain costs and to equalize rather than concentrate operational cost impacts on certain industries in California.
2. California has led the nation in reducing emissions and in energy efficiency through incentives, grants and regulations. Companies who have not only followed California's policy and legal requirements but who have also led their industries in these areas must be treated fairly and must not be punished for their early actions. CARB has stated that they believe that these early actions are already rewarded through the need to acquire fewer greenhouse gas allowances. However, as you will read about below, companies who have made investments and taken early actions face much higher marginal abatement costs for making additional required reductions. Consequently, companies who lead their industry sector by example are punished with higher compliance costs. The only solution to this equity issue is to allocate allowances based on benchmarking as is being done in the European Union (EU) for the refining sector.¹

¹ See attachment *Petroleum Refinery Benchmarking Concepts, Cap and Trade Allocations and Benchmarking Workshop*, Toronto, Ontario, Sept 17, 2009

With over 130 years' history in the state, Chevron is part of the fabric of California and has a stake in the state's economic strength. As the state's largest company, Chevron's business indirectly supports nearly 60,000 jobs in addition to those held by our 10,000 employees. Those 70,000 jobs equates to one in every 250 jobs in California is because of Chevron. We generated more than \$9 billion in economic activity in 2007, directly or indirectly, through our supply chain and consumption, as determined by standard multiplier effects². We're committed to supporting the building blocks of California's economy and competitiveness — education, career and technical training, and support for small businesses. In 2007, we spent about \$750 million with small businesses — approximately half of this with minority- and women-owned businesses in California.

We appreciate the significant task before you and the Economic and Allocation Advisory Committee (EAAC) to reach beyond the recommendations and concepts of a cap and trade system as described in the scoping plan in order to create a fair and reasonable blueprint for allocations and cap and trade design, and to develop a balanced evaluation of the economic impacts of the cap and trade program on California.

We would like to share our challenges conducting business here, our experiences reducing CO₂e, making investment decisions based on AB 32 constraints and having to compete in the competitive global marketplace. We believe that our experience enables us to present some real world examples for your committee's consideration. We raise these examples to you so that you can see that these are not just concepts and that they deserve serious treatment and incorporation in your analysis and report. We are concerned particularly with the prospect of a California only cap and trade market with limited offsets and even more limited linkage to other markets. These limits will result in higher costs of operation and eventual leakage of emissions and jobs outside the state.

We have significant experience as a company reducing greenhouse gases in our refineries in order to operate with reduced energy costs. Our rating within the industry worldwide is in the top quartile and we have effectively reduced our energy use by almost 30% in the last ten years. This change is the result of significant investments that we began making long before AB32 was passed. In addition to such voluntary reductions, California itself is ahead of the nation in energy efficiency with the result that the low cost opportunities for energy efficiency and CO₂e reductions in California are gone. This means that the cost of complying with the AB 32 program even in the early years will be higher in California than in other areas such as Europe.

Richmond Refining Conditional Use Permit

Our Richmond facility operates under a Conditional Use Permit (CUP) from the City of Richmond. The latest CUP was issued with a condition that we reduce our CO₂e emissions by 432,000 mtonnes per year between 2009 and 2020. This requirement was added by the City to ensure early, local compliance with

² Energizing California. Milken Institute. March 2009,
<http://www.milkeninstitute.org/publications/publications.taf?function=detail&ID=38801190&cat=resrep>

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AB32. As a result, we have firsthand experience today working to reduce CO₂e in order to operate our facility. The reduction required is 36,000 tons per year beginning in 2009, which represents about a 1%/year reduction in total CO₂e emissions.

Because the facility already operates at a high level of energy efficiency, the cost of compliance is significant. We have identified feasible options for the first two years that result in a cost of carbon of less than \$100/mtonne. In the following four years, however, the marginal cost of abatement rise to \$100 to \$200/mtonne of CO₂e for measures that could be implemented onsite. In reality after four years, no currently recognized technology exists to reduce each additional 36,000 mtonnes of CO₂e per year. That leaves only three remaining options which are 1) reducing our refining operations and thus our production of transportation fuels; 2) carbon capture and sequestration (CCS) which has significant barriers to implementation and permitting; and 3) offsets.

This case study highlights several issues for your committee. The availability of known cost-effective reductions is limited particularly for companies that have already invested in energy efficiency. The cost of carbon is critical to the economic analysis. New technology provides only small additional opportunities for GHG reduction, and can be risky in terms of safety and reliability. In this case, offsets and CCS with its significant potential barriers to implementation are the only options for ongoing operations. The estimated cost of CCS at the Richmond Refinery is approximately \$54 Million per year.

Our other California facilities will face similar situations in 2012 when the cap and trade program is implemented. Since California is the only state with a mandate to reduce CO₂e in the United States, and there is significant lead time required to develop these programs, it is unlikely that facilities in other states will face similar programs or costs in the first five years of the cap and trade program.

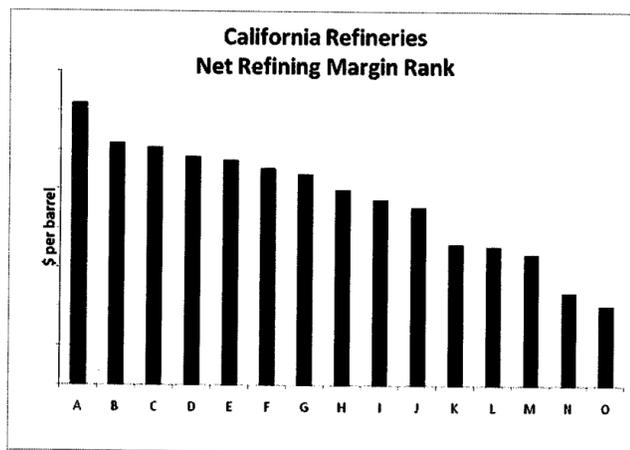
As an accomplished economist, you understand that any refiner (or any other firm in a competitive market) should shut down operation on an economic basis when market prices fall below the refiner or firm's average variable costs in the short run. New costs, specific only to California refiners run a very real risk of pushing a number of California refiners average variable costs above market prices because refiners are price-takers in a competitive intrastate, interstate, and international market the remainder of whom do not face the increased California costs. The FTC examinations of gasoline prices and oil markets continually find that the market is competitive.

Global Competition in California's Gasoline Market

In addition to the overall higher cost of operations that we face in California, we also face global competition. California refineries are "trade exposed". California refiners have a range of profitability as shown below by their net margins (revenue from refinery product sales less operating costs and raw material costs). California refinery margins have come under downward pressure from the U.S. recession and may continue to see downward pressure from increased CAFE standards and biofuels substitution as a result of the Low Carbon Fuel Standard. As long-term costs associated with AB 32 increase for California refiners, low margin refineries are susceptible to partial or permanent closure.

Increased refining cost impacts associated with AB32 include: significant exposure to the carbon market due to inclusion of transportation fuels in the cap and trade, increased allowance auction levels, non equitable allocation of allowances to each capped sector, limited access to offset credits. Transportation fuels produced by these marginalized refineries still need to flow into California. Consequently, product imports from other domestic and international sources are likely to increase to fill the gap.

Since California refineries represent some of the most environmentally controlled and energy efficient refineries in the world, the incremental barrels of fuel imported into the State will be produced by more GHG intensive refineries coupled with increased GHG emissions associated with shipping these barrels into the State. A reduced long-term margin environment associated with AB 32, coupled with increased foreign competition, increases the probability of reduced discretionary capital investments in California's refining sector.



California gasoline is a unique fuel that can be produced by a limited number of refineries outside of California. Imports come into California from three major sources: 1) offshore from the Asia Pacific with Korea as major supplier; 2) the Pacific Northwest (PNW) with somewhat more limited California transportation fuel export capability, and; 3) the Gulf Coast where there is additional California fuels manufacturing capability. More refineries world-wide now have the capability to make California fuel specifications, particularly in India and China. Overall, the California gasoline market is tightly balanced with approximately 5% imports today. For a detailed analysis of these cases, please see Attachment 1.

While there are seasonal variations for California gasoline/diesel supply and demand, California refinery production and imports are generally balanced with demand. Disruption to gasoline or diesel supply at California refineries can cause price volatility in the market, due to the tightness of the supply.

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In summary, GHG cost burdens on the California refining sector will change the supply/demand relationship in California. Increased refinery costs associated with AB32 will reduce refining net margins placing increased financial pressure on the State's marginal refiners. Refinery closures will translate into lost jobs, both direct and indirect, and more reliance on non-California sourced product supply. Refinery closures, along with a higher cost-refining sector will directionally reduce discretionary capital spending resulting in direct and indirect impacts to building trades and other suppliers. While new fuel supplies will come from offshore, the Pacific Northwest, and Gulf Coast, they will come with the potential for reduced supply reliability, higher price volatility, and increased aggregate GHG emissions. California fuels production will shift into non-GHG regulated markets resulting in carbon leakage and likely higher net levels of GHG for each gallon of transport fuel consumed in the State. This is counter to California's Global Warming policy goals of net reduced GHG emissions over time for each of the capped sectors under AB 32.

Leakage is Already Occurring in California

While reviewing the possibilities of leakage from California refineries on an industry-wide basis is critical to your review of methods to fairly allocate allowances, we would also like to share a real world example of investment decisions that are driven by the need to return fair value to stockholders under least risk scenarios

Our refinery in El Segundo was selected as the best Chevron location to implement breakthrough technology in new hydro processing that would have included significant capital investments of over \$1,000,000,000. It would have resulted in the creation of 500 construction jobs and 50 permanent full-time jobs. The project would have required permitting in the South Coast Air Quality Management District (SCAQMD), which had pledged that they would work with us to get the permit approved. However, two factors combined to force this project out of the state. First, SCAQMD was nearing a crisis in the availability of emission reduction credits (ERC) in 2006, which ultimately drove a freeze in the permitting of all new economic activity in early 2009. Second, the project was estimated to generate 200,000 mtonnes of CO₂e annually. The uncertainty regarding California's regulatory treatment of such a project with the passage of AB32, coupled with other uncertainties, especially permitting uncertainties, resulted in the transfer of the project to Pascagoula, Mississippi at the end of 2006. We point out this example simply to explain that leakage is not something that could theoretically happen; rather it is something that does happen, when significant uncertainties and fiduciary responsibilities require tough choices.

The Fate of New Projects

The October meeting of the EAAC and the October CARB memo focused on methods for addressing allowances for the existing stationary sources in California. Originally, the AB 32 Scoping Plan recognized that there needed to be an estimate of business as usual, one that was developed by CARB for 2020. The CARB memo abandons this concept as unnecessary. In so doing, they are also abandoning the concept of the need for new economic growth and expansion in California between 2012 and 2020. We are concerned that this approach does not recognize the importance of balancing California's dual long-term needs: one to reduce greenhouse gases and the other to continue to grow and develop energy

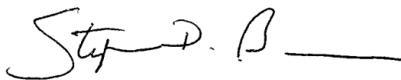
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resources, the economy, and jobs within our state. How would a large project that has an emissions footprint today have any opportunity to be developed if offsets are limited? We have such a project. The benefits to the project are quite real. It applies new technology to an existing oilfield whose production would otherwise decline. It would increase the energy resources available and prolong the life of the field in California, which would be preferable to increasing imports and closing the facility. It results in continued jobs and economic investment in California. It is only possible if 100% offsets for the project are available. In this case, whether allowances or offsets are purchased, it is necessary to acquire all of the CO₂e credits for a new project or large expansion.

There are several areas discussed above where the EAAC's recommendations are critical. One is in the allocation of allowances. Benchmarking within industries is recommended to recognize early actions rather than penalizing companies for having made their efficiency investments before the baseline years. Benchmarking is the process of comparing the business processes and performance metrics including cost, cycle time, productivity, or quality to another that is widely considered to be an industry standard benchmark or best practice. These policies create a reasonable technical basis for determining the appropriate amount of allowances and reductions that are required for distribution of allowances within a sector so that the surrender requirements of the allowances and access to offsets does not create windfall gains to the very companies that delayed greenhouse gas reductions. CARB likes to consider that early actions are automatically rewarded by the fact that the facility has fewer allowances to hold. This is not true when allowances are allocated based on historical emissions, since the larger the source the more allowances it receives regardless of efficiency. Essentially the larger sources that are more efficient have much less internal ability to reduce and without a benchmarking approach that accounts for internal efficiency, these sources would have to subsidize others who have not invested. Since one of the prime criteria of the EAAC is equity, a system that rewards efficient use of resources such as industry specific benchmarking would make sense.

Thank you for this opportunity to provide real life examples of our company's experience in California's economy working to reduce our CO₂e footprint. We trust that you will use it to place in context the very important work that you are doing to create recommendations on a fair and workable allocation program for California's cap and trade program. We look forward to working with you and your Committee as a constructive part of the process.

Best Regards,

A handwritten signature in black ink, appearing to read "Stephen D. Burns", followed by a horizontal line.

Stephen D. Burns