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August 12, 2008

The Honorable Mary Nichols, Chair
California Air Resources Board
1001 I Street
P.O. Box 2815
Sacramento, CA 95812

Subject: Comments on Draft AB 32 Scoping Plan and Appendices

Dear Madam Chair:

On behalf of the California Building Industry Association (CBIA), thank you for the opportunity to offer these comments on the recently-released *Climate Change Draft Scoping Plan* and related Appendices.

CBIA is a statewide trade association representing over 6,500 member-companies involved in residential and light-commercial construction. CBIA member companies account for over 80% of all new homes sold in California each year.

Madam Chair, CBIA is pleased to have worked with you and your staff on the development of the foundation for the implementation by the California Air Resources Board of AB 32, and particularly the elements of that law that impact land use and housing.

We are also pleased that with the recent agreement reached on Senate Bill 375 (Steinberg), tremendous progress will have been made in defining the scope and responsibility of the land use sector in achieving AB 32 compliance.

The Draft Scoping Plan attempts to articulate an ambitious template for future energy, transportation, and land use decisions in California. Long a leader in energy efficiency, the homebuilding industry contributes to greenhouse gas reductions by means of sustainable materials, technology and energy efficiency in new construction -- an effort we embrace through our support for low carbon project design and construction. The gap between the state's building code and low-carbon "green building" practices has shrunk to the point that they will soon be the same.

In July of this year, California's Department of Housing and Community Development's (HCD) Codes and Standards Division and the California Building Standards Commission (CBSC) announced their unanimous adoption of the nation's first "green" building code, most of which becomes effective concurrently with the 2010 California Building Code update.

Today, new residential construction accounts for 0.12% of the state's carbon footprint. As new residential construction complies with these progressively more stringent revisions to Title 24 building standards, carbon emissions from will further decrease.

Our comments will focus in particular on the following major issues:

Complexity Of Land Use Sector & Compliance with AB 32:

The land use/transportation sector of AB 32 implementation is extremely complex with changes occurring over time and in a decidedly more measured pace than most other sectors. This complexity is exacerbated if, under the name of greenhouse gas reduction, attempts are made to solve or to provide a foothold for solving decades old land use debates. The focus of the land use strategies must be on greenhouse gas reduction.

The challenge of developing strategies that encourage efficient growth to achieve greenhouse gas reductions is one that will take a great deal of collaboration and teamwork. Distractions from the core issues will only cause us to get sidetracked.

As we have noted both publically in hearings and privately in meetings with staff, we endorse regional blueprint planning as a core strategy. Planning in a way that integrates transportation decisions at the regional level with local land use activities with pose a challenge for some. We believe such a strategy will have the best chance for success if it is undertaken as an iterative and collaborative approach between the regions (and the counties and cities within the region) and CARB emphasizing a bottom's up approach. Additionally, achieving the goals of AB 32 in the land use/transportation sector must be balanced with the other statutory requirements placed on local governments, including providing for the full-range of housing and employment needs.

As noted earlier, CBIA supports the approach taken in Senate Bill 375 that establishes a pathway for the land use sector to achieve compliance with AB 32 and provides greater certainty in the planning and project entitlement and approval process for the development community.

Cleaner Vehicles and Fuels: AB 32's goal of returning to 1990 levels of greenhouse gas emissions while accommodating expected population and economic growth cannot be achieved unless there is a transformation of our vehicle fleet and fuels. Measures that accelerate vehicle turnover and cleaner fuels merit the greatest emphasis in the Scoping Plan.

If low carbon vehicle and fuel measures are fully implemented, the Scoping Plan will not be forced to rely as keenly on indirect and costly land use and transportation measures with only marginal potential to provide GHG reductions. For example, we estimate that an increase in electric vehicles to 5% of the passenger and light duty truck fleet by 2020 (up from .0.7% in EMFAC 2007), with a corresponding decrease in gasoline powered vehicles in the same categories, would yield a significant 8.08 MMTCO₂e per year reduction – the equivalent of eliminating 16.1 billion vehicle miles traveled (see our comment summary and Attachment A for details).

Therefore, we recommend that CARB place primary emphasis in the Scoping Plan on transportation strategies that will achieve direct, durable and quantifiable GHG reductions from cleaner vehicles and fuels.

Refine VMT and Fuel Assumptions: The Scoping Plan must be grounded in sound data on transportation fuel consumption and vehicle miles traveled. The Draft Scoping Plan and Appendices are not transparent on this critical point. Our detailed comments in Attachment B focus on the improvements needed to accurately quantify VMT growth in relation to population growth and fuel consumption. Prior to development of the Final Scoping Plan, we request that CARB release for public review the documentation of VMT, fuel price, fuel consumption and vehicle mix assumptions and associated GHG modeling upon which the transportation and land use sector measures and targets are based.

Business As Usual (BAU) 2020 Inventory on Updated VMT, Fuel Price, and Vehicle Fleet Assumptions: The Business As Usual 2020 Inventory is the yardstick for measuring progress in reducing GHG emissions. Therefore, it is of the utmost importance that the BAU 2020 inventories incorporate current information on the decline in VMT growth (according to the most recent Federal highway Administration data, VMT on all public roads for May 2008 fell 3.7 percent as compared with May 2007 travel), rise in fuel prices, and shift away from SUVs and light duty trucks toward more fuel efficient passenger vehicles.

Revise Scoping Plan Measures and Priorities Based on Cost

Effectiveness: The Draft Scoping Plan and Appendices are not grounded on a thorough economic analysis. We therefore recommend that CARB retain the flexibility to adjust strategies and GHG emission reduction targets to reflect the forthcoming economic analysis described in the Appendices.

Again, thank you for this opportunity to comment on the Draft Scoping Plan Appendices. We look forward to working with CARB and the Climate Action Team to insure that the Scoping Plan is founded on the most productive strategies to reduce transportation and land use sector GHG emissions.

Sincerely,

A handwritten signature in black ink that reads "R. Lyon". The "R" is tall and thin, followed by a period. The "Lyon" is written in a cursive style with a large loop for the "L" and a wavy line for the "yon".

Richard Lyon
Senior Legislative Advocate

COMMENT SUMMARY

Appendix B: List of Acronyms and Glossary

Business As Usual (BAU) is a key concept underpinning the measurement of progress in reducing greenhouse gases. However, while BAU is identified on B-3 as an acronym there is no definition of the term in the Glossary of Climate Change Terms (B-10). We recommend that BAU GHG emissions be defined as *the emissions that would be expected to occur in the absence of any GHG reduction actions after 2004*, consistent with the definition provided in the GHG Emissions Inventory and Forecasting index (at F-3).

Appendix C: Sector Overviews and Emission Reduction Strategies

General, Land Use as a Supporting Strategy

Because the Draft Scoping Plan and Appendices do not fully articulate the role that land use plays in the proposed document., many individuals and organizations that have commented at the draft scoping plan workshops have stated that the land use sector has an unacceptably low target.

The Draft Scoping Plan, in our opinion, properly positions land use measures as supporting strategies that enhance the performance of other sectors. For example, GHG reduction benefits of “land use” are accounted for in the transportation, water, green buildings, and energy sector strategies outlined in the Appendices. We suggest that CARB provide a more robust description of scoping plan’s land use/development component as an accessory strategy to correct the misperception that land use is not adequately addressed or emphasized in the Plan.

Transportation

Vehicles (C-21). The discussion of vehicles does not identify CARB’s data source on the type and number of vehicles between now and 2020. How do the estimates of AB 1493 effectiveness relate to the mix of vehicles imbedded in EMFAC 2007, which is used by CARB for estimating vehicle fuel consumption and emissions?

Transportation and Land Use/ Socio-Economic and Transportation Assumptions (C-22). This discussion claims that VMT increased by 35 % from 1990 to 2007, that VMT will increase another 20% by 2020 and then double by 2040. Curiously, no citations are provided for these VMT growth statistics. A complete discussion of the socio-economic and transportation assumptions underpinning the Scoping Plan is essential, as further discussed in the comment at C-40 below.

Transportation and Land Use/ VMT Assumptions for Different Vehicle Categories (C-22). Distinctions between passenger vehicle VMT, heavy duty truck VMT and other vehicle categories are unclear in the Appendices but are important to understanding the trends the Plan hopes to impact. Assumptions about how the vehicle fleet will change through 2020 are critical to projecting the transportation and land use sector GHG emissions and reduction targets. For example, we note that EMFAC 2007 assumes increases in SUV and light duty truck ownership through 2020, when, in fact, SUV and truck purchases are declining with drivers choosing more fuel-efficient vehicles. These changes in consumer behavior have already triggered shifts that need to be reflected in EMFAC assumptions about the future vehicle fleet. These shifts very well may be permanent, as auto and truck manufacturers shut down production lines for SUVs and trucks. EMFAC 2007 assumptions used to generate transportation sector targets need to be modified to reflect this change.

To illustrate the impact that reduced SUV/light duty truck growth will have on 2020 GHG emissions, our transportation experts tested the change in transportation sector GHG emissions that would result from increasing electric vehicles from 0.7% to 5% of the passenger and light duty truck vehicle fleet in 2020, while decreasing the gasoline powered population by the same population amounts. Such an increase in penetration of electric vehicles by 2020 results in a savings of 8.08 MMTCO₂e per year. Based on EMFAC 2007 results for 2007, the average vehicle emits 1.1 lbs CO₂e per vehicle mile traveled. Therefore, our test case for boosting the electric vehicle segment of the fleet results in GHG reductions equivalent to eliminating 16.1 billion vehicle miles traveled from the road. Assuming 20,000 miles per year for each vehicle, our test case equates to removing 809,500 cars from the road. Our EMFAC 2007 calculations and a comparison chart illustrating the results are included in Attachment A.

From this we conclude that the Scoping Plan and Appendices must account for the existing surge in consumer and manufacturer acceptance of electric and hybrid vehicles. This will result in greater transportation sector GHG reductions by 2020 than projections generated by EMFAC 2007 indicate.

We request that CARB provide documentation of the expectations built into the Draft Scoping Plan and Appendices about electric, hybrid, hydrogen and other clean fuel vehicle penetration by 2020, 2030, 2040 and 2050.

Transportation and Land Use/Land Use and VMT (C-22). The transportation and land use recommendations focus less on GHG reduction (as described in the Discussion Draft Scoping Plan) and more on VMT reduction. Appendix C states that “the key to addressing the VMT challenge is providing people with more choices through diversified land use patterns, greater access to alternative forms of transportation...” In our opinion, this statement mischaracterizes the role that VMT plays in reducing GHG emission. In fact, if the fleet can successfully be converted to electric, hydrogen, hybrid or other cleaner technologies in an accelerated fashion, the amount of VMT that passenger vehicles drive is of only short-term significance to achieving the goals of AB 32. We therefore urge that State and local resources be focused on cleaning up the fleet rather than well intentioned but ultimately marginal efforts to reduce GHGs through incremental land use changes. This is not to say that compact development, master-planned communities and “green” building practices do not have a role to play in energy efficiency and other areas of concern, but they are not the most efficient, cost-effective or certain means of reducing GHGs from vehicle trips.

We concur with CARB that land use strategies “are unlikely to provide significant reductions in GHG emissions by 2020 because of the time required to change land use patterns” due to their lack of certainty and their indirect relationship to GHG emissions. Between 2020 and 2050, it is anticipated that the vehicle fleet and fuels will be substantially cleaner than today. A clean fleet and fuels will diminish the GHG benefits of land use measures beyond the point that such measures are cost-effective. Thus, characterizing land use as a “central element” of the GHG reduction strategy – either pre-2020 or post-2020 -- is an overstatement that creates the expectation that this sector can deliver more emission reductions than it can.

Goods Movement (C-22). No information is provided to place goods movement related GHG emissions into context. What percentage of transportation emissions are caused by goods movement? How much of the proposed goal will be satisfied by existing requirements and agreements aimed at criteria pollutant reduction?

Conclusion (C-22). We agree that “California has the opportunity to lead the nation in reducing emissions from the transportation sector.” For this reason, we recommend orienting the Transportation/Land Use/Local and Regional Government component of the plan around the need to directly transform the vehicle fleet rather than overlying upon indirect means such as land use. Programs such as the proposed feebate program should be further evaluated as a cost-effective way to accelerate fleet turnover.

Local Government Actions and Regional Targets

CBIA believes that the authority, process, procedures and methodologies for the setting of regional transportation-related greenhouse gas reduction targets by CARB should be articulated in state legislation. Senate Bill 375 – still pending in the Legislature as of this writing – is regarded by most as providing the pathway by which transportation planning at the regional level coordinate with city and county local land use planning to accomplish an integrated process to reduce GHG emissions from automobiles and light duty trucks as a result of land patterns.

Furthermore, CBIA very strongly believes that once a region has an approved GHG reduction plan pursuant to Senate Bill 375 that that plan be recognized as the comprehensive AB 32 land use compliance mechanism for the region.

Transportation Emissions (C-40). The scientific basis for estimating transportation sector emissions is not presented in the Draft Scoping Plan or Appendices. We note that the transportation sector GHG targets are based on fuel consumption, but the proposed methods of monitoring progress is based on VMT reduction. These two metrics result in different GHG inventories: GHG emissions predicted by CARB's EMFAC 2007 model, which is used to calculate VMT, provides a different estimate of transportation GHG emissions than Department of Energy fuel consumption data.

Further, the draft Appendices do not present VMT and fuel consumption data to justify the proposed transportation and land use measures. Figure 3 at C-40 provides no data source so it is not clear what VMT growth and fuel consumption assumptions underpin the passenger vehicle GHG emission growth levels in all of the emission reduction proposals. Figure 3 shows that 2020 passenger vehicle GHG emissions are projected to be approximately 150% higher than 1990 levels - an average annual growth of about 5% per year. Earlier versions of this Figure showed that the 150% increase in GHG emissions was related to total VMT growth (including passenger vehicles and other vehicle categories) of approximately 165% by 2020, or an annual average VMT growth of 5.5% between 1990 and 2020.

Figure 3 at C-40 appears to show approximately 8% of GHG emissions to be reduced to meet 1990 levels after the Pavley standards and low carbon fuel standard take effect. This is half the amount depicted in earlier versions of the chart, but it is not clear how this outcome was calculated without additional data on VMT growth and fuel consumption assumptions.

As our Attachment B to these comments demonstrates, even a small difference in annual VMT growth rate assumptions has a dramatic impact on Figure 3. Our analysis indicates that the likely VMT growth rate is far below 5 % per year through 2030. At present, the Bay Area and Southern California metropolitan areas are experiencing a significantly lower VMT growth rate. When high fuel prices and the shift away from SUVs are taken into account, the VMT growth rate in these metropolitan areas may be further decreased.

VMT growth of less than 2% per year, combined with the Pavely standards and low carbon fuel, plus fewer SUVs and light-duty trucks in the fleet, as well as high fuel costs as a driving disincentive, would result in few if any GHG emissions remaining to be reduced by the transportation and land use sector by 2020. We therefore request that CARB revisit the most basic VMT growth, fuel consumption, and vehicle turnover assumptions undergirding the Scoping Plan to insure that emphasis are being placed on appropriate transportation and land use measures. Prior to development of the Final Scoping Plan, we request that CARB release for public review the documentation of VMT, fuel price, fuel consumption and vehicle mix assumptions and associated GHG modeling upon which the transportation and land use sector measures and targets are based.

Integrated Land Use and Transportation Strategies (C-41). The Appendix states that “Land use patterns strongly influence driving behavior.” Once again, we want to stress that curbing VMT is less important to reducing GHG emissions than achieving a cleaner vehicle fleet and cleaner fuels. With a clean fleet, GHG emissions reductions will not rely as strongly on indirect efforts such as land use.

Regional Transportation-Related Greenhouse Gas Targets (C-43). We agree that VMT reduction is best addressed at the regional plan and general plan level rather than through project-specific features or mitigations. It is important to note that regional transportation plans for the two largest metropolitan areas in the state (LA Basin and the Bay Area) home to 65% of its population in 2030, project VMT growth rates that are lower than historic rates. These regional transportation plans already project significant declines in VMT growth rates and have designed regional land use and transportation networks that reinforce lower VMT growth. Recent Federal Highways Administration data, including documentation of the most recent decline in absolute VMT in California and across the nation due to high fuel costs, support this continued trend.

Rather than capture this benefit in the form of a control measure, we recommend that this existing regional/local contribution to GHG emission reductions be reflected in the VMT growth assumptions that support the Scoping Plan. Recent FHWA monitoring data document the decline in VMT growth.

Declining VMT growth rates should be factored into transportation and land use sector GHG reduction targets.

Indirect Source Rules for Development (C-47). The previous comment notes that, to the extent that VMT reduction beyond current declining rates is needed, it is best addressed at the regional and general plan level. VMT reduction requires changes to density, diversity of land uses, and relationships among land uses that can be achieved only through regional and local General Plans. Indirect source rules carried out at the project review stage occur too late in the planning process to address these underlying relationships. Also, the potential impact of indirect source rules is limited by the small portion of the built environment affected – approximately 1% each year. Further, indirect source rules can achieve only marginal improvements from projects that already incorporate the latest energy conservation and efficiency standards, low emission building materials and other project design features related to lower greenhouse gas emissions. For these reasons, we urge CARB to focus on efforts at a more appropriate geographic level and to apply realistic expectations of what can be achieved over and above the decreased VMT growth rate already resulting from increased density and strategic transportation investments included in federally-approved Regional Transportation Plan and project design features that respond to Title 24 and other energy efficiency incentives.

Public Education and Programs to Reduce Vehicle Trips (C-47). We note that CARB estimates that education and voluntary efforts to reduce vehicle trips will be as effective as would more costly and burdensome indirect source rules. It makes more sense then to implement broad based voluntary measures aimed at the entire population, rather than expensive indirect source rules aimed at a fraction of the built environment with limited effect.

Costs (C-48). The Draft Scoping Plan Appendices suggest cost and benefits for local government and regional actions that are based on limited case studies that do not reflect actual conditions in many parts of the state, Southern California being an example. Prior to selecting local government or regional measures for implementation, it is important to test whether Sacramento or Utah conditions hold true for the far more populous and dense regions of the state.

Electricity and Natural Gas

Energy Efficiency and Conservation. “Smart Grids”(C-57) are identified as a key strategy to reduce carbon in the 2020 timeframe. While it may take time to transform the entire grid into a smart mechanism, the Scoping Plan should not overlook the short-term benefits of components such as “smart meters” in both existing and new buildings to allow consumers to monitor their consumption and change behavior accordingly.

Energy Efficiency and Conservation (E-1 & CR-1 (C-59)). We note the overlap between measures such as Zero Net Energy buildings and the building codes and green practices that underpin the transportation and land use sector measures. CARB must take great effort to insure that the emission reductions associated with these energy efficiency measures are not double – or triple--counted in the various sectors in which new construction plays a role.

Zero Net Energy Buildings (C-65). Some day at some point in the future zero net energy building may be cost-effective and commercially viable. However, energy system transformations --such as metering systems to allow consumers to return unlimited electricity to the grid – will be needed before this can become a commonplace reality.

Whether the goal of all zero net energy development by 2020 is practicable depends on a full accounting of costs, efficiency, and benefits. If the cost of achieving ZNE increases costs too much, it will increase new home costs that will also drive up the cost of existing housing as well. Failing to assess the cost effectiveness of ZNE for all new buildings could result in major impacts to affordable housing.

Further, this recommended program projects significant GHG reductions even though it will apply to less than 1% of the housing stock each year. Given that new residential development is far less carbon-intensive than existing housing, this points out the major GHG reduction potential by focusing on cost-effective measures addressing the existing stock instead.

We recommend that CARB spell out the prerequisite steps, a realistic schedule for achieving those prerequisites and all other assumptions that affect the ultimate GHG reduction target associated with this program. Further, we recommend that CARB establish the cost-effectiveness of this approach relative to all others in the Scoping Plan as well as those that impact the building industry.

Solar Water Heating (C-69). CARB proposes to expand the AB 1470 goal of 200,000 solar water heaters by 2017, to require 75% of all new homes to be equipped with solar water systems by 2020. We note that this measure requires the cost of both a traditional water heater as well as an auxiliary solar roof unit. CARB claims that it is cheaper to install such auxiliary systems in new buildings than existing buildings, but that is not the same as being cost-effective. We recommend that CARB establish the cost-effectiveness ranking of this measure compared with other Scoping Plan measures prior to making a decision to expand it to all new construction.

Million Solar Roofs (C-70). The Draft Scoping Plan Appendices do not provide cost-effectiveness information on solar roofs in comparison with other GHG reduction measures. We recommend that CARB distinguish between the total cost for new buildings versus existing buildings before including a requirement in the final Scoping Plan.

We also urge CARB to address potential environmental ramifications of white or reflective roofs, especially in locations with higher densities, high rise and compact development where glare will result from these applications.

Water

CBIA agrees with the Scoping Plan's premise that increased water use efficiency not only enhances water supply reliability in California but leads to reductions in GHG by limiting the energy required to distribute and heat water throughout the state. Much of the energy consumption savings will be achieved through system-wide water efficiency improvements and by increased renewable energy production. However, because there is incomplete data available to accurately assess the actual GHG emissions from the water sector, CBIA supports the proposed recommendation to conduct thorough research and evaluation to verify the energy impacts from the water system and the potential for GHG reductions. All efforts should be made to balance the co-equal goals of reducing GHG emissions while ensuring our current and future ability to capture, store and distribute water to California businesses and residents.

California homebuilders have made tremendous strides in reducing water consumption in the homes they build. With the growing use of high efficiency clothes washers, smart irrigation controllers, greater use of native and drought resistant plants, increased recycled water use, and low impact development strategies, new homes in California are some of the most water-efficient in the world.

Water Use Efficiency (W-1 (C-82))

In addition to increasing water saving in new homes, CBIA supports Governor Schwarzenegger's goal of reducing per capita water use by 20 percent by 2020 and supports AB 2175 (Laird), in concept. CBIA is actively participating in the California Water Plan Update 2009 and other processes in support of cost-effective water use efficiency strategies to advance this goal. Last month the Building Standards Commission adopted the nation's first statewide Green Building Code that will achieve another 20% reduction in new home water use.

Homebuilders are pleased to be able to contribute to greater water use efficiency in new homes, but to achieve the 20 percent per capita goal, significant improvements must be implemented by residents in the 13 million existing homes in California.

Water Recycling (W-2 (C-83))

CBIA strongly supports the expanded use of recycled water. However, the state needs a proactive policy to promote increased water reuse and a reduction in conflicts among state agencies in regulating recycled water. State regulatory policy should support the expanded use of recycled water by treating it as a "resource," rather than as a "waste discharge."

CBIA supports the installation of dual piping and the other increased expenses in new development to accommodate recycled water, but only when the local infrastructure provides recycled water to the new development project site.

CBIA strongly supports the expanded use of seawater and brackish water desalination. Seawater desalination should be a priority water supply for the state, and the legislature should adopt policy direction and requirements that the Coastal Commission approve desalination plants co-located with coastal power plants as soon as possible.

Water System Energy Efficiency (W-3(C-84))

CBIA believes there are GHG reductions to be achieved throughout the system, but a more thorough assessment and evaluation must be performed first. All efforts should be made to protect the water delivery functions of the system.

Reuse Urban Runoff (W-4(C-85))

For the state to realize the projected water savings and water supply gains from the reuse of urban runoff there needs to be a common sense approach that is based upon the location of aquifers and actual development site characteristics. CBIA members have been required to incorporate low impact development (LID) standards to recharge aquifers on sites sitting on bedrock. In situations such as this everyone loses – housing prices are significantly increased and no additional water supply is realized.

The state should not adopt a one-size fits all approach to urban runoff reuse, but needs to promote regional approaches that are rainfall, watershed, aquifer and site specific approaches to be implemented when cost-effective to do so. The state needs to promote regional solutions because new development-only approaches will only affect the one percent or less of annual additions to the state's housing stock and take 100 years to have a significant impact.

The Draft Scoping Plan and Appendices must recognize that LID practices are still being defined and adapted to different development circumstances. Key issues remain to be resolved that will impact how LID can support GHG reduction. The most important one is the disconnect between higher density, infill development and LID requirements for less than 5% impermeable surfaces on a development site. Urban infill and redevelopment sites typically are not large enough to accommodate a project while limiting impermeable surfaces – roofs, sidewalks, parking, etc. – to less than 5% of the site. Additional requirements to match pre-project drainage characteristics may also limit density and financial viability of projects, particularly affordable housing projects. Table 22 on page C-86 provides no cost estimates for this measure.

Increase Renewable Energy Production from Water (W-5(C-86))

The potential for hydroelectric power generation from new storage projects necessary to react to climate change should be evaluated in the planning and environmental analysis for those projects. If new reservoirs are built for water supply or Delta flow purposes, the state should take advantage in the design of the facilities to generate cleaner renewable electricity whenever water is released to rivers or canals.

Public Goods charge for Water (W-6(C-87))

CBIA would not be able to support a public goods charge -- a new water tax -- unless and until the state can specify in detail how the revenue collected would be spent. If the revenue generated would directly improve California's water supply, infrastructure or reliability, CBIA would be willing to reconsider its position.

Green Buildings

CBIA is supportive of CARB's focus on the need to include existing homes, commercial buildings and state buildings in the overall GHG reduction plan. With respect to the housing sector, the Construction Industry Research Board (CIRB) has determined that California has an existing housing stock of 13, 270,000 housing units. This figure includes single-family dwellings, condominiums and apartment units (but does not include hotel and motel units).

Of these 13,270,000 housing units, 9,153,400 were constructed prior to 1983 when the first set of mandatory statewide energy efficiency standards were implemented throughout California. Simply put, 7 out of 10 homes in California have never had to comply with any energy efficiency mandate whatsoever. New residential construction accounts for less than 1% of the total housing stock on an annual basis.

As such, a program aimed at reducing greenhouse gas reductions in the residential sector should focus primarily on the existing housing stock while continuing to maintain ongoing efforts associated with the new residential market. CBIA supports CARB's recommendations that focus "green building" efforts on the existing housing stock.

New Home Construction

CBIA has and continues to be supportive of efforts that promote green building in new construction. CBIA supported the recent adoption of the mandatory residential green building standards by the Building Standards Commission. Of the 18 measures in this initial set of residential green building standards, the California Energy Commission's (CEC) mandatory energy efficiency provisions will take effect on July 1, 2009. The provision requiring a 20% reduction in indoor water use will take effect on July 1, 2011 and all of the other (16) measures will take effect on January 1, 2011.

However, CBIA must take exception with the statement on Page C-92 that "With upfront planning, new green buildings can be constructed at little or no additional cost." This statement is attributed to a study entitled "The Cost of Green Revisited" by Davis Langdon. This study is, for the most part, based on comparisons of various commercial buildings done at the national level and is not at all appropriate for reference to estimating green building compliance costs for the residential sector within the State of California.

Consider the evolution of the California Energy Commission's residential energy efficiency standards over the past seven years. In 2002, the CEC implemented new energy efficiency mandates for new residential construction that were 15% more stringent than the previous (1998) standards. In 2005, the CEC implemented yet another set of revised residential energy efficiency standards that were 15% more stringent than the 2002 standards. Most recently, the CEC has adopted the 2008 Update to their residential energy efficiency standards which become effective on July 1, 2009 and will require compliance with building standards that are 20% more stringent than the current (2005) standards. With regard to cost, compliance with the new 2009 energy efficiency standards will raise the cost of construction of a new single family home by approximately \$2,500 when compared to a home built to the current (2005) standards. It is anticipated that the CEC's next update, planned for 2011-12, will more than double that cost simply because we have clearly reached a point of diminishing returns. It is going to cost more and more to get that next additional increment of increased energy efficiency because California's base code is already so stringent.

In the past seven years, the CEC has raised the stringency of the statewide residential energy efficiency standards by a total of 50% when compared to similar standards used at the national level. CBIA supported all three of these recent regulatory packages adopted by the CEC, primarily because all three of these rulemakings resulted in a set of standards that were clearly cost-effective to the home-buyer (as required by Public Resources Code 25402). However, it is simply inaccurate to describe these “green building” changes to state code as “having little or no cost”. That may well be the case for certain green building provisions in states such as Vermont or Alabama, but it is not the case in California.

Zero Net Energy - Compliance Cost and Design Factors

There are numerous references to the “Zero Net Energy” (ZNE) policy goal that has been adopted by both the PUC and the CEC. There are a host of issues that will make the goal of “all new homes ZNE by 2020” very difficult if not impossible to achieve, and none of these real-world issues appear to be addressed within the ARB Scoping Plan or the Appendices. Significant issues of concern include:

Cost of Compliance: In a study by National Renewable Energy Laboratory (NREL) commissioned by the Sacramento Municipal Utility District (See Attachment C), the NREL study explored what it would take to take a typical single-family home constructed in CEC Climate Zone 12 (Sacramento Valley Region) at minimum compliance with the 2005 CEC residential energy efficiency standards and make it effectively zero net energy. A listing of the increased energy efficiency measures along with the on-site energy production measure is highlighted on Page 6 of that study. In addition to numerous energy efficiency measures that are far more stringent than those required by current regulations, the study also calls for both a 4.5 kilo-watt photovoltaic energy system and a solar hot water unit on the homes roof. The total cost of going beyond current code and making the home ZNE is estimated to be \$20.00 per square foot or \$50,000 for a standard 2,500 square foot home. Such a cost increase would have a staggering effect on low- and moderate-income housing.

PV Cost and Availability: During the legislative years of 2003-2005, numerous bills were introduced with the intent of mandating solar PV on some or all of new residential dwellings. During this same time period, the sponsors of these efforts and many of the solar manufacturers assured Legislators and Administration officials that the cost of residential solar PV systems could be expected to drop by 6%-8% per year for the seven year period starting in 2005. This clearly has not happened. Instead, due to a worldwide shortage of processed silica, the cost of these systems has instead increased by 25% where the price has stayed for the past two years. At the present time, the state (CEC) offers a substantial rebate for installation of residential PV systems on new residential construction.

However, that rebate will disappear in just a few years and when 100% on new homes are required to install these systems, the state and local utilities will be offering no subsidy to help offset the installation costs.

PV System Size: The PUC has significantly underestimated the size of the PV solar system that will be needed to make the standard home ZNE.

A typical 2.0-2.5kW PV system is not nearly large enough to produce the amount of electricity that will be needed in the home, even after all of the increased energy efficiency measures have been added. The NREL study suggests installation of (at least) a 4.5 kW PV system. Our own analysis suggests the use of a 5.5-6.0kW PV system. In either case, the fact that the PUC has so underestimated the size of the system means they have also significantly underestimated the cost of ZNE compliance. The difference in design assumptions appears to be related to “plug load” and much of the indoor lighting energy use (neither of which is regulated by the CEC).

Design constraints: The NREL study commissioned by SMUD utilized a single-story “ranch-style” home in performing the ZNE analysis. Unfortunately, the most common production housing designs used in California is that of a high-density two- or three-story single-family dwelling. Single-story homes account for less than 10% of the new housing market in this state. As such, there simply is not enough roof-top space on the standard two- or three-story-home to allow for the installation of a 4.5-6.0kW PV system. Further exacerbating this design constraint is the fact that the NREL analysis also assumes the placement of a solar water heating system on the same roof-top.

Fire Safety: At the present time, the fire service in LA County is rejecting 2-out-of-3 solar retrofit applications due to a perceived lack of adequate clear space on the rooftop allowing maneuverability of fire fighters during a fire. The standard size of the system being rejected in Southern California is a relatively small, 2.0kW PV system. This is a serious issue and needs to be addressed sooner than later as new construction will need to make use of PV systems twice that size under the policy plan being suggested by the PUC and the CEC.

Green Building: State Regulations and Local Programs

As pointed out in the Appendices, the Building Standards Commission recently adopted the first set of green building standards for California. The residential provision will become mandatory according to the following timetable:

- CEC’s 2008 Update residential energy efficiency standards: July 1, 2009
- HCD requirement for 20% reduction in indoor water use: July 1, 2011
- All other HCD green building measures: January 1, 2011

As with any state building standard, local cities and counties are authorized to adopt local building standards that are more stringent than the state standards,

but they are not allowed to adopt standards that are less stringent than those required by the state. (H&S 17958.7 and PRC 25402.2). The State Building Standards Code sets the regulatory “floor” by establishing the minimum set of building standards to which all new homes and commercial buildings must be built in every city and county. At the present time, there are some 50-60 local jurisdictions that have adopted green building standards more stringent than those adopted by the state. Of course, that means there are another 450-60 jurisdictions that have not adopted a local green building ordinance and it is these local jurisdictions that will be main focus of the new state regulations.

It should also be noted that HCD and the BSC have indicated their intent to update their green building standards on a very regular basis. For that matter, the BSC has already publically announced their intent to conduct public hearings in 2009 in order to determine which of the currently voluntary green building measures for commercial buildings will become mandatory when the 2010 Edition of the California Building Standards Codes takes effect (1/1/11). In addition, HCD will be looking at water conservation features on the outside of the home, as well as other green building measures to augment their existing residential standards during this same period. And, as with any state building standard, local jurisdictions will retain the authority to adopt more stringent provisions. They simply need to insure that they are staying up with, or ahead of the state minimum standards.

Appendix F: California’s Greenhouse Gas Emissions Inventory

Transportation F-4). The description of the BAU 2020 forecast for the transportation sector is based on 2007 fuel sales data, projected forward based on EMFAC 2007 VMT growth rates. We continue to be concerned about unresolved differences between fuel-based GHG emissions estimates and VMT-based GHG emission estimates. We request that CARB release documentation explaining the differences in these two transportation GHG inventory estimates, and the proposed resolution for the Scoping Plan.

Further, our comments on Appendix C-22 detail the likely reduction in 2020 GHG emissions due to the precipitous and permanent change in vehicle fleet mix as SUV and truck sales decline and manufacturers close their production lines. This major shift will affect the composition of the 2020 vehicle fleet. The Appendices do not indicate that CARB is validating the current EMFAC assumptions about ZEV and PZEV passenger vehicles and light duty trucks to insure that they reflect significant and permanent changes in SUV and light duty truck sales.

We strongly recommend that the BAU 2020 inventory be based on updated vehicle mix assumptions for SUVs, light duty trucks, and the more fuel efficient

passenger vehicles that are already replacing many of these vehicles – and will continue to replace them over time.

As detailed in our comments on Appendix C-40 and in Attachment B to this letter, EMFAC projects a 2.05% annual average VMT growth rate between 1990 and 2030, which is notably higher than VMT growth projected by SCAG and ABAG (1.26 and 1.37% annual average, respectively), the Metropolitan Planning Organizations federally mandated to prepare transportation forecasts for 65% of California's expected 2020 population.

However, it is also significantly lower than the “almost 3 %” per year attributed to the VMT growth responsible for the GHG emissions level depicted in Figure 3 on C-40, which represents core assumptions shaping the transportation and land use sector GHG reduction potential.

CARB has previously indicated that it was working to reconcile different GHG emissions produced by fuel consumption estimates and EMFAC modeling. The Appendices do not provide further information about if or how these two methods were resolved.

We strongly recommend that the BAU 2020 transportation inventory be based on the most likely VMT growth rate as based on the VMT growth validation efforts outlined in Attachment B to this letter. The BAU 2020 VMT growth rate should reflect MPO VMT modeling that best reflects actual monitored VMT and regional growth factors.

Appendix G: Economic Modeling Assess Potential Impacts of AB 32 Scoping Plan (Not yet available)

Economic Analysis. We are deeply concerned that the Draft Scoping Plan and Appendices have been constructed without critical information on the cost-effectiveness of recommended measures and measures undergoing further evaluation. We recommend that all potential measures be ranked by cost-effectiveness prior to selection of measures for the final Scoping Plan.