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President

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Via Web link: http://www.arb.ca.gov/cc/cc.htm

Ms. Rajinder Sahota
Mr. Michael Gibbs
Air Resources Board
1001 I Street,
Sacramento, CA 95814

Subject: Joint agency workshop to initiate discussion of an update to the AB 32 Scoping Plan to reflect the state's "40% by 2030" GHG emission reduction target.

Dear Mr. Gibbs and Ms. Sahota:

The Western States Petroleum Association (WSPA) appreciates this opportunity to comment on the first of what we are informed of a series of workshops eliciting public comments on the upcoming Scoping Plan. WSPA, an association representing 26 companies that explore for, develop, refine, market and transport petroleum and petroleum products in California and the West has been an active participant in discussions concerning elements of previous Scoping Plans and we note that this plan expands on concepts that have been raised in the past – some that we have supported and some that we have expressed concerns.

While it remains unclear whether existing law imparts adequate authority to the various state agencies to support implementation of the aspirational goals expressed in recent Executive Orders, it has become very clear that the state intends to proceed down this path. As the Governor has acknowledged, the envisioned transition is unprecedented in its scope and dramatic by design. It would undoubtedly result in cost increases across all sectors of the state's economy.

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Bearing this in mind, WSPA offers the following basic tenets to guide the post-2020 planning process:

- The planning process must not be rushed. The timelines currently proposed are far too short and would lead to decisions that undermine achievement of emissions reductions and the economic integrity of the program.
- California must mitigate local impacts on the economy by adopting stronger cost containment measures and contingent goals. Cost containment will become increasingly important as the rate of emission reduction increases and opportunities for reductions diminish.
- Technological progress must be measured and programs adjusted on a go forward basis.
- Pathways to achieve post-2020 targets should not be pre-ordained and agency responses to public comments should not be relegated to the back end of the process.

Scoping Plan Development Time Horizon is Too Short

At the outset, we are concerned that the state is needlessly truncating the timeframe for development of its post-2020 greenhouse gas emission reduction program. The current schedule, which would bring a final plan to the Air Resources Board for adoption in the fall of 2016, is much shorter than the timeframe for development of the first Scoping Plan required by AB 32. Yet by comparison, the administration's post-2020 vision is far more ambitious in terms of scale, complexity and uncertainty. The proposed timeframe is likely to lead to politically expedient policy choices that will undermine progress on post-2020 emission reductions. WSPA recommends that the involved agencies reconsider their current schedule and allow more time for stakeholder input and in-depth analyses of alternative approaches.

Post 2020 Authority

As WSPA indicated in our comments on the post-2020 elements of ARB's 2014 Scoping Plan Update, the Scoping Plan process was created by AB 32 to achieve emission reduction goals authorized by AB 32. Use of the AB 32 Scoping Plan to frame the administration's post-2020 climate agenda implies a grant of authority for post-2020 emission reductions that does not exist in current law. The fact that SB 32 (Pavley, 2015) failed by a wide margin on the Assembly Floor this year suggests that the Legislature is not prepared to grant broad post-2020 authority to state regulators.[1] Accordingly, the post 2020 planning process should be detached from the AB 32 Scoping Plan.

Moreover, because the post-2020 targets set forth in recent executive orders lack statutory authority and have not been demonstrated to be technologically or economically feasible, they should be explicitly characterized and studied only as aspirational goals. In other words, the hypothetical post-2020 pathways should be flexible, allowing for course corrections to account for externalities that cannot be accurately predicted, much less controlled by ARB or regulated entities.

[1] http://www.leginfo.ca.gov/pub/15-16/bill/sen/sb_0001-0050/sb_32_vote_20150908_0504PM_asm_floor.html

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Feasibility/Advisability of Administration's "Climate Pillars"

The administration's five "climate pillars" are similarly arbitrary, aspirational targets that are poorly defined and not supported by any analysis of actual emission trends in target sectors[2] or technical and economic feasibility analysis that incorporates actual and verifiable data. We consulted the ARB web site and noted that even a cursory of data shows a discrepancy between 2010 to 2020 trajectory expected by ARB (essentially a straight line) and actual emissions. (http://www.arb.ca.gov/cc/reporting/ghg-rep/reported-data/ghg-reports.htm).

In particular, attempting to force a 50% reduction in petroleum use by 2030 could have significant negative impacts on the economy, including but not limited to disproportionate impacts on middle and lower income consumers. Consequently, this proposal was excised from SB 350 (De Leon, 2015).

While we understand the administration's desire to motivate change by setting aggressive goals, framing a post-2020 program around pre-ordained, sector-specific outcomes will severely constrain the range of policy options available to the state, as well as its ability to respond to unforeseen circumstances such as limited consumer acceptance of alternative technologies or failure of other jurisdictions to take meaningful actions to reduce GHG emissions. These policies conflict with the very core of AB 32 objectives to establish cost-effective, technologically feasible measures for GHG reductions. Artificial constraints will also lead to more extreme implementation measures such as the back-end loaded Low Carbon Fuels Standard (LCFS) which requires huge percentage decreases in carbon intensity. Such approaches greatly increase the likelihood of emissions leakage and net negative economic impacts.

Rate of Transformation

The rate of transformation envisioned in Executive Order B-30-15, which establishes a GHG emission reduction goal of 40% below 1990 levels by 2030, is unprecedented and counterintuitive. Pursuant to this EO, the rate of emission reduction would increase dramatically between 2020 and 2030 despite the fact that the most cost effective strategies will have already been employed to achieve the pre-2020 reductions required by AB 32. In addition, the administration's post-2020 vision relies on technologies that do not yet exist, are not cost-effective, or are not yet commercially scalable. Moreover the administration's vision would require dramatic changes in societal behavior such as mass migration from rural and suburban areas to urban centers, dramatic expansion and greatly increased utilization of mass transit and a contemporaneous decrease in vehicle ownership and aggressive, sustained consumer investment in energy efficient technologies.

Given that the administration's post-2020 targets are aspirational and the potential paths to achieve them involve considerable uncertainty, they should not be enforced as inflexible regulatory standards. To the contrary, the administration's post-2020 program and implementation plan should contain measures that provide incentives for actions by other jurisdictions including contingent post-2020 goals and measures that address sectors outside of the Cap and Trade program. A post-2020 program

[2] The current trend in *actual* GHG emissions from the transportation sector departs significantly from a straight-line 2010 to 2020 trajectory.

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should rely on Cap and Trade to an even greater extent than ARB is already forecasting in the context of proposed changes to the Cap and Trade Regulation, in lieu of "complementary measures" such as the LCFS. Complementary measures tie specific sectors to predictions of technology development and deployment that may not materialize and will mask carbon price discovery, which will blunt changes in consumer behavior. They are also much more expensive. An independent study by The Charles Rivers Associates, co-sponsored by ARB and industry, concluded that eliminating complementary measures from the current suite of AB 32 policies would reduce program cost by up to 50%.[3]

The post-2020 program should also include off-ramps tied to specific metrics for technological progress (or lack thereof), triggers to reduce the stringency of the program if concrete actions are not taken by other jurisdictions to reduce GHG emissions within defined timeframes and rate of reduction and cost containment measures informed by robust and externally peer reviewed assessments of potential economic impacts. As we discuss in separate comments on ARB's proposed changes to the Cap and Trade regulation, the current suite of cost containment measures are fraught with problems and are essentially untested. These measures and other Cap and Trade program design flaws cannot be carried into a much more stringent post-2020 program and be expected to effectively mitigate economic impacts.

California Program as a Model for Future National and International Efforts

As Governor Brown has acknowledged, climate change is a global phenomenon and California must have widespread global cooperation, especially from large developing nations, to reverse the current global emissions trend. To achieve the cooperation it seeks, California's actions must inspire confidence that aggressive GHG emission reduction programs can be cost effective in practice, not just in theory. California must show how the transition to a low carbon economy can be achieved with a minimum of economic disruption, job displacement and off-shoring of emissions due to relocation of economic productivity to other jurisdictions (emissions leakage). Lack of clarity on post-2020 measures and feasibility assessments based on unrealistic assumptions will not inspire confidence and other jurisdictions will not follow California's lead.

More importantly, California's post-2020 policies must be linked to concrete actions by other jurisdictions. Some countries have recognized this dilemma by conditioning their post-2020 policies on similar actions by other jurisdictions. California should do the same. Non-specific, non-binding pledges in memoranda of understanding are symbolic and provide no assurance that other jurisdictions will actually deliver meaningful emission reductions.

Consumer Equity

All classes of consumers should receive adequate protection from escalating costs associated with implementation of aggressive emission reduction requirements in a post-2020 program environment. For example, ARB should consider mechanisms to reimburse consumers for the cost of regulating transportation fuels under Cap and Trade, consistent with mechanisms currently employed for natural

[3] *Analysis of the California ARB's Scoping Plan and Related Policy Insights,* The Charles River Associates, April 21, 2010.

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gas and electricity consumers. This equity becomes even more important as the stringency of the reduction requirements increase.

Transportation Sector Vision

The state is forecasting expanded reliance on the LCFS regulation in the post-2020 program environment. As we stated in our recent comments to ARB on the reauthorization of the LCFS, this approach is misguided, both because it emphasizes a continued prominent role for complementary measures during a period when market based measures are necessary to control cost and minimize emissions leakage, and because the LCFS is fundamentally and fatally flawed. It relies on a future low carbon fuels market that is not likely to materialize within the timeframe and at the scale the regulation requires. In fact, if one compares actual data on California fuels consumption with ARB projections, emerging data suggest that the state will lack sufficient volumes of low carbon intensity (CI) fuels to meet the prescribed compliance schedule. (See for example: http://www.arb.ca.gov/cc/reporting/ghg-rep/reported-data/ghg-reports.htm)

This is not simply WSPA's view, as it is significant that ARB has readily acknowledged that development of commercial-scale low CI fuels, such as cellulosic ethanol, has been much slower than originally envisioned. The fact that a multitude of credit generation options and a cost containment provision were included in the program reauthorization acknowledges a lack of agency confidence in future program success. If the current 10% target proves to be infeasible leading up to the 2020 deadline, then continuing with the program at all, much less counting on a doubling of the 2020 target by 2030, would be irresponsible because it could result in disruptions in the transportation fuels market.

ARB characterizes the Cap and Trade program as the backstop to existing complementary measures, including LCFS. We agree, and as ARB indicated during its October 2 workshop on potential amendments to the Cap and Trade regulation, California should transition from a pre-2020 climate policy that is heavily invested in the success of complementary measures to a post-2020 policy that is dominated by Cap and Trade. Given this anticipated shift in approach and mounting uncertainty about the long term feasibility of LCFS and what it may mean in terms of consumer access to reliable fuel sources for the prevailing vehicle population and delivery infrastructure, the state should plan to sunset the LCFS before 2020 and rely on Cap and Trade to meet emissions reduction targets moving forward.

Economic Impact Analysis

WSPA supports a more rigorous approach to economic analysis than was conducted during development of the 2014 AB 32 Scoping Plan update. It is in the state's best interest as a leader on climate policy and it is in the best interest of its citizens that GHG emission reductions be achieved at the least possible cost and in a manner that minimizes disruptions in economic productivity, energy security and quality of life. The slides presented during the October 1 workshop and recent discussions with ARB staff suggest an in-depth, transparent analysis of specific emission reduction measures that could be employed to achieve post-2020 goals, analogous to ARB's approach in the 2008-09 Scoping Plan update. WSPA supports this approach in concept.

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We also note that the role of the Economic and Technology Advisors (ETA) is critical in evaluating and selecting modeling tools, validating model inputs and assumptions (e.g., technology development and adoption rates, emissions trajectory, costs and savings, etc.), and interpreting the results of model runs to inform policy choices. These individuals should be third party experts in the field and their range of expertise should be relevant to all of the sectors likely to be subject to a post-2020 program. They should also be carefully screened to prevent conflicts of interest and any biases toward a particular outcome.

In addition to ETA review, ARB should also solicit input from stakeholders who have expertise in relevant sectors on alternative models and policy scenarios/assumptions that better reflect long term economic realities in those sectors. For example, in the Energy Efficiency section of the 2030 Target Scoping Plan slides, the Energy Commission suggests potential "electrification of end uses that are primarily natural gas today (water heating, space heating)." However, the natural gas industry has indicated that use of natural gas for such purposes is more energy efficient than producing and transporting electricity for the same purpose. The data upon which this statement is predicated should be included in the post-2020 economic impact analysis. At a minimum, a more focused stakeholder inquiry along these lines will be necessary to test the validity of the state's assumptions and preferred models.

Model Selection

The proposed approach of merging the PATHWAYS model developed by Energy and Environmental Economics (E3) with a macro model (REMI) is inadequate and this a-priori model selection, absent input from stakeholders, undermines the state's commitment to transparency in its economic impact analysis. Neither model is a cost optimization model, which is critical to defining pathways that can achieve the most cost-effective emission reductions. By itself or in combination with REMI, the PATHWAYS model is inadequate to demonstrate commercially scalable, viable technologies. Individually and collectively, the scenarios identified in the E3 study rely on highly improbable assumptions, including but not limited to:

- **Unprecedented Rate of ZEV Penetration.** E3 assumes that California's vehicle fleet will be transformed in only 15 years from just over 100,000 zero and near zero emission vehicles (ZEVs) today to as much as one hundred times that amount - 10 million ZEVs - in 2030. This rate of turnover to new technology is unprecedented for California vehicles, which have an average life span approaching 15 years. A major impediment to increasing the prevailing vehicle turnover rate is the purchase price of a new vehicle which, regardless of drive train technology, is much higher than most other consumer products. E3 also assumes that current technology limitations, such as EV battery life, charging time and range, and adequate fuel supply infrastructure will be resolved in time to facilitate this transformation. It also disregards the lack of alternative fuel supply infrastructure outside of California, which would greatly reduce interstate mobility.

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- **Low Cost Carbon Neutral Power Available 24/7.** E3 assumes that 100% zero carbon renewable electricity will be dispatchable 24 hours a day and will be cheaper than current electricity rates, despite the need for storage capacity and back-up power to balance renewable generation cycles with energy demand cycles. E3's assumptions about biogas supply, wind energy and carbon-neutral natural gas (which would necessitate unprecedented levels of carbon capture and storage) ignore practical realities such as political resistance to certain technologies (e.g., gasification, carbon dioxide storage), land acquisition, facility permitting and capital costs. These challenges exist for all renewable energy technologies and cannot be overcome simply through grant funding and CEQA streamlining.

- **Public Acceptance of Dramatic Lifestyle Changes.** E3 assumes that the general public will embrace the wholesale lifestyle changes necessary to meet the 2030 goal, such as migrating from suburbs to urban centers, adopting electrification technologies and tolerating less effective home heating and cooling, and will act immediately to implement these changes.

The E3 authors also implicitly acknowledge that the range of potential error in their cost impact estimates is even larger than the actual cost estimates themselves[4], indicating that the underlying assumptions are not only aggressive, but also highly speculative. Accordingly, the PATHWAYS model is useful only in defining possible aspirational pathways and as one of several inputs into an analysis that will inform post-2020 policy choices.

WSPA recognizes that ARB plans to update these models to reflect current information and planned activities (e.g., mobile source strategy, SLCP strategy, etc.), but if the underlying assumptions are overly optimistic or outcome oriented, then the model output will be inherently biased and unreliable.

ARB should also consider results of previous research and alternative models that incorporate more realistic assumptions such as the 2013 Lawrence Berkeley National Laboratory report "Estimating Policy-Driven Greenhouse Gas Emission Trajectories in California: The California Greenhouse Gas Inventory Spreadsheet (GHGIS) Model." This report was commissioned by and designed with input from ARB. All of the data and modeling tools available to the state to support post-2020 program design should be publicly disclosed, along with the state's rationale for selecting some sources and rejecting others. Absent such disclosures the planning process will lack transparency, the feasibility of the administration's post-2020 targets will remain largely unresolved and other jurisdictions will be discouraged from following California's lead.

Conclusion

The state should approach this post-2020 effort as a planning process that does not assume implementation. The need for this approach is demonstrated by the fact that the design and selection of economic research is coordinated with arbitrarily established targets. Evaluating options and

[4] *California Pathways: GHG Scenario Results; slide 18, "Cost impacts of timing decisions"*; April 6, 2015.

encouraging R&D of the technology needed for the next 15 years cannot be accomplished with a-priori assumptions and policies that effectively discourage innovation by presuming that only certain technology pathways will be viable.

The post-2020 plan should include reliance on off-ramps tied to specific metrics for technological progress (or lack thereof), triggers to reduce the stringency of the program if concrete actions are not taken by other jurisdictions to reduce GHG emissions, and rate of reduction and cost containment measures informed by robust and externally peer reviewed assessments of potential economic impacts.

WSPA appreciates your consideration of our comments. If you have any questions, please do not hesitate to contact me at my office or my staff Mike Wang (cell: 626-590-4905; mike@wspa.org).

Sincerely,

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