July 9, 2013

Richard Corey, Executive Officer
Steve Cliff, Chief, Climate Change Program Evaluation Branch
California Air Resources Board
Email: scliff@arb.ca.gov
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Re: Cost Containment of the AB 32 Cap-and-trade regulation

Dear Mr. Cliff and Mr. Corey,

Please accept this letter in response to the June 25, 2013 discussion paper entitled "Policy Options for Cost Containment in Response to Board Resolution 12-51" and the accompanying public workshop held on the same date.

We offer this letter with the understanding that additional cost-containment features are being considered by the Board for the AB32 cap-and-trade regulation, and not as recognition that such features are actually needed to control costs. Further, we strongly recommend that prior to any consideration or implementation of changes to the design or implementation of cap-and-trade for cost containment, the potential for disruption to the program and to market participant expectations is taken into account and minimized. Avoiding disruption to the program's regulatory certainty must remain a guiding principle to ensure the program's overall success, and in turn, an implicit control of overall program costs.

Importance of maintaining a steady program that includes existing cost control features

Upon full implementation in the year 2015, the California cap-and-trade regulation will cover approximately 85% of CA economy wide emissions. With the inclusion of transportation fuels and natural gas into the program, a carbon pricing signal will be created throughout the vast majority of the economy, enabling California cap-and-trade to reach its full promise, and incent the lowest cost abatement options throughout the state and beyond. This broad programmatic design, coupled with specific cost containment features in the regulation makes cap-and-trade the lowest cost option for reducing emissions throughout California and achieving long-term emissions reduction goals in 2020 and into the future.

As effectively laid out in the June 25, 2013 paper, California's cap-and-trade program currently includes numerous cost-containment features such as provisions for allowance banking, multi-year compliance periods, a broad program scope, an auction price floor, emissions offsets, administrative allocation of allowances, direct complimentary regulations that reduce emissions in capped sectors and an allowance price containment reserve (Reserve).

Among these existing cost control features, one of the most important is the large breadth of program scope – namely the full inclusion of transportation fuels and natural gas in the year 2015. According to empirical and observed evidence related to demand elasticity and incentives for innovation, the inclusion of these sectors in cap-and-trade increases flexibility of compliance by expanding the universe of possibilities to achieve emissions reductions in California's economy while also establishing a model for other jurisdictions to follow. Consequentially, the planned expansion of covered emissions in AB32 not only fulfills the programmatic design, it controls costs. The importance of retaining this program design cannot be understated.

Although the CARB cap-and-trade rulemaking record is replete with discussion and evidence, there is an additional recent and useful paper highlighting the importance of maintaining the current design of the AB32 cap-and-trade regulation to bring transportation fuels under the cap in 2015 by Chris Knittel (2013) entitled "The Importance of Pricing Transportation Fuels within California's Cap-and-Trade Program."[1]

> *"Not including fuels within the cap will have adverse effects on the price of allowances… Including transportation fuels within the cap is justified on efficiency grounds, but also provides a number of co-benefits. These co-benefits not only include the traditional co-benefits such as reductions in criteria pollutant emissions, but also the benefits such a decision will have on the general performance of the cap-and-trade program. Including transportation fuels will tend to decrease allowance prices and their volatility. Finally, their inclusion will serve as a positive model for other cap-and-trade programs."*

In support of his conclusions, Knittel cites an earlier paper of his that documents – with respect to demand elasticity from the transportation sector – less efficient, higher polluting vehicles are preferentially changed out when carbon pricing is established for the sector.[2] Accordingly, in addition to improvements in the greenhouse gas emissions profile of the overall vehicle mix, carbon pricing preferentially targets the most inefficient, highest polluting cars, thereby resulting in oversized benefits to public health and welfare. And, when these benefits are taken into account, "the reduction in criteria pollutant emissions alone … are roughly equal to the cost of such a [program]."

Although we are aware of the possibility that even with the suite of cost containment features already built into the program, external or otherwise improbable circumstances may transpire that cause program costs to rise beyond expected price ranges, EDF believes it is highly improbable that those market conditions will actually occur. Rather, based on our analysis of the market conditions and cost containment features in AB32 cap-and-trade regulation as well as lessons derived from other cap-and-trade programs, EDF believes features currently embedded into the program make it highly unlikely that allowance prices will escalate towards the extreme scenarios where experts are concerned that political pressure could force programmatic modification.

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[1] Available at http://web.mit.edu/knittel/www/

[2] Knittel and Sandler, The Welfare Impact of Indirect Pigouvian Taxation: Evidence from Transportation, February 20, 2013, Available at http://web.mit.edu/knittel/www/

In 2011, EDF conducted economic modeling that found, as designed, there is an 85% chance that the price containment reserve will not be needed at all, and that even if needed, it is highly unlikely the reserve would ever be exhausted. Even if only half of allowable offsets are available, we estimated that there is only a 1/10 of a percent chance that prices would rise above $40 per ton.

CARB's own modeling predicts that the current program design will result in the environmental goals being met at low cost.[3] It is only under extremely unlikely sensitivity scenarios where either offsets are limited or complimentary measures achieve significantly less reductions than anticipated that additional cost containment measures could be needed.

Another reason we expect allowance prices to remain in check stems from examples provided by other programs such as the European Union Emissions Trading System, the Regional Greenhouse Gas Initiative, and the U.S. Acid Rain program. As entities like the Emissions Market Assessment Committee (EMAC) know, allowances prices have been much lower than expected in these programs[4]; essentially, emission reductions have occurred faster and more cheaply than many thought possible prior to the program start. We expect the same to be true for California's program – a product of a well-designed market based regulation.

Importance of pursuing cost-containment features that maintain environmental integrity and public confidence in the program

While we believe additional price containment measures are unnecessary, we understand that CARB may nonetheless decide to consider new provisions to backstop existing cost containment measures. In such a situation, we strongly urge CARB to safeguard the program certainty and environmental integrity of the emissions reductions achieved by the cap – as directed in the board's Resolution. Put simply: Including cost-controls through measures that inject uncertainty or undermine environmental safeguards put overall program reductions at risk.

One example of a cost containment mechanism that CARB can look to as an example within a greenhouse gas cap-and-trade program can be found in the EU-ETS. In that program, borrowing of future allowances is allowed if prices spike (meaning they are above a specified multiple of the average price of allowances during a pre-defined historical time period unless the price change

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[3] *See Case 1 of* Updated Economic Analysis of California's Climate Change Scoping Plan: California Air Resources Board, March 24, 2010. http://www.arb.ca.gov/cc/scopingplan/economics-sp/updated-analysis/updated_sp_analysis.pdf

[4] *See* Lucas Merrill Brown, Alex Hanafi, Annie Petsonk, Environmental Defense Fund, The EU Emissions Trading System: Results and Lessons Learned (2012) at page 15 *available at* http://www.edf.org/sites/default/files/EU_ETS_Lessons_Learned_Report_EDF.pdf.
See also Rob Stavins, Low Prices a Problem? Making Sense of Misleading Talk about Cap-and-Trade in Europe and the USA, April 25, 2012 http://www.robertstavinsblog.org/2012/04/25/low-prices-a-problem-making-sense-of-misleading-talk-about-cap-and-trade-in-europe-and-the-usa/
See also U.S. Environmental Protection Agency, Clean Air Market Programs, Cap and Trade: Acid Rain Program Results http://www.epa.gov/capandtrade/documents/ctresults.pdf

corresponds to changing market fundamentals).[5] Applying this mechanism in California would mean that under circumstances of unusual price spikes, in compliance period 1, borrowing could be allowed from compliance periods 2 and 3. Similarly, in compliance period 2, borrowing could be allowed from compliance period 3. Finally, in compliance period 3, borrowing may occur from a post-2020 period – in this case it is critical that a future program is developed such that those tons are recovered. This type of mechanism most closely resembles Option 3 found in Section 3.3 in the CARB paper on cost-containment whereby:

> *"allowances from what would otherwise have been a future vintage would become eligible for compliance on the delayed date. Consequently, this approach allows the use of future vintage allowances for current (delayed) compliance."*

Another alternative to cost control features that allow emissions to exceed firm limits is to accelerate approval of high-quality offsets from both domestic and international sources as well as allow for increased use of such offsets if prices stay above certain levels for a specified period of time. In this context, developing protocols for international sectoral credits from reduced emissions from tropical deforestation (i.e. REDD+) is critical. From an environmental perspective, this alternative could be preferable to borrowing allowances since it would allow greater use of low-cost emissions reductions that can be achieved right now instead of delaying reductions to future years. This proposal most closely resembles the option found at Section 3.5 in the CARB paper on cost-containment "Maintain Existing Cost Containment Features," though is it predicated on an acceleration of the approval of protocols that generate California compliant offset credits.

With respect to the other three options in the CARB cost containment paper (Options 1, 2 and 4), EDF must express strong reservations. These options are listed by CARB as follows:

1. Increase the availability of allowances at the highest price tier of the Reserve.
2. Allow compliance obligations to be fulfilled through price-per-ton payments at the highest price tier of the Reserve, and,
4. Cancel compliance obligations under specified circumstances.

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[5] See the specific regulatory text for the EU ETS:

Article 29a: **Measures in the event of excessive price fluctuations**

1. If, for more than six consecutive months, the allowance price is more than three times the average price of allowances during the two preceding years on the European carbon market, the Commission shall immediately convene a meeting of the Committee established by Article 9 of Decision No 280/2004/EC.

2. If the price evolution referred to in paragraph 1 does not correspond to changing market fundamentals, one of the following measures may be adopted, taking into account the degree of price evolution:

(a) a measure which allows Member States to bring forward the auctioning of a part of the quantity to be auctioned;

(b) a measure which allows Member States to auction up to 25 % of the remaining allowances in the new entrants reserve.

Those measures shall be adopted in accordance with the management procedure referred to in Article 23(4).

3. Any measure shall take utmost account of the reports submitted by the Commission to the European Parliament and to the Council pursuant to Article 29, as well as any other relevant information provided by Member States.

4. The arrangements for the application of these provisions shall be laid down in the regulation referred to in Article 10(4).

Unfortunately, these three options (1, 2, and 4) as described each have the potential to threaten the environmental integrity of the overall program. Simply making more credits available without an equivalent reduction of the cap (option 1), allowing compliance obligations to be met through payments (option 2), or cancelling requirements to surrender credits (option 4) do not protect the hard declining cap at the heart of AB32.

We'd further like to emphasize that if CARB continues to consider option 2 (a price ceiling), it is essential that provisions be put in place to manage and monitor that process – in particular to record exactly how many tons are emitted over the cap, and to develop plans to recover those tons in the future. The price ceiling must also be sufficiently high – such as not below the highest price tier of the Reserve– to ensure it is only utilized during true emergencies and unusual price spikes.

Option 4 (cancelling compliance obligations) seems particularly problematic, given that the reason for considering additional cost containment features is precisely to avoid such a scenario and to ensure the environmental goals of the program can be achieved.

Although each proposal may be modified to achieve environmental performance (such as through using payments to secure emissions reductions of equivalent greenhouse gases), without caveats and additional details, we cannot offer more at this time.

We appreciate the opportunity to provide comments. As stated above, EDF respectfully requests consideration of the points made in this letter.

Sincerely,

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cc:

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