

Potential Concepts to Further Incent Investment in Low-CI Fuels and Provide Additional Compliance Strategy Options

Please note that this document is intended to promote discussion and does not suggest that staff has determined which approach, if any, is most desirable. It is intended to enable ARB staff to work with interested stakeholders to better assess how these approaches might work, how they might impact the market for LCFS credits and fuels, and what other options might be available. As part of the dialogue with stakeholders, staff seeks a fully-informed, careful consideration of these concepts, taking into account the potential benefits—and any potential unintended consequence— associated with each of the concepts.

I. Introduction

As adopted in 2009, the Low Carbon Fuel Standard (LCFS) contains numerous design features to help minimize the cost of the program. Because the program is performance-based, it allows regulated parties to choose from a mix of strategies that achieve compliance in the most cost-effective and reliable manner. The mix includes: investing in production of low-carbon-intensity (low-CI) fuels to self-generate credits; purchasing low-CI fuels for blending with traditional hydrocarbon fuels; purchasing credits from other regulated parties; and banking credits for use in future years. Regulated parties can determine the most economical path to compliance by choosing one, or a combination of, the above strategies.

In addition to its performance-standard design enabling regulated parties to seek their own least-cost, in-house compliance strategies, the LCFS credit system incorporates a variety of other features that increase the ways regulated parties can achieve compliance using credits. First, credits do not have an expiration date, so they can be banked by regulated parties. This gives regulated parties the option to over-comply in the early years of the regulation so that they would have banked credits to use in later years. The program enables this strategy by setting modest reduction targets in the early years, then increasing the requirements in later years.

Second, credits are fungible across the gasoline and diesel sectors. For example, if a regulated party makes both gasoline and diesel, it can use credits generated by over-complying with the diesel standard (e.g., by blending its petroleum diesel fuel with lower carbon renewable diesel or biodiesel) and apply those credits towards its gasoline deficit, or vice versa.

Third, as noted above, credits can be bought and sold on the credit market, allowing regulated parties to meet their obligations with credits purchased from other regulated parties, in unrelated or non-competing market sectors, who have credits available for sale.

Fourth, the LCFS allows regulated parties several ways to achieve compliance even if they are in net deficit at the end of the compliance period (i.e., they possess insufficient

credits after an annual compliance period ends on December 31 of each year). The first is the application of “carry back credits.” These are credits that a regulated party can purchase during the first three months of the next compliance year to offset or reduce the previous year’s deficit. These credits must have been generated before or during the year when the deficit occurred. The second provision allows a regulated party to carry over a deficit if the deficit is less than 10 percent (note: a deficit larger than 10 percent can also be carried over into the next compliance year, but doing so subjects the regulated party to potential noncompliance penalties). In either case, this deficit must be reconciled the following year in addition to meeting the new obligation for the current year. This option cannot be exercised in two consecutive years.

In 2011, per the regulation, the Executive Officer formed an Advisory Panel to assist in a formal review of the Low Carbon Fuel Standard. This review process covered a range of topics outlined in the regulation, as well as topics that the members raised during meetings. During discussions on availability of low carbon intensity (low-CI) fuels, a subset of the Panel chose to explore mechanisms that would incent additional investment in low-CI fuels as well as provide additional compliance strategy options. This sub-group worked towards developing a concept (summarized later in this paper), which served as a starting point for additional consideration. When staff presented the final report to the Board in December 2011, the Board directed staff to follow up by exploring changes to the regulation that would help to both contain costs and facilitate additional pathways to compliance.

While ARB staff anticipates there will be sufficient credits available for many years and there are several promising low-CI fuels on the horizon that could enable compliance through 2020, we also agree that the regulation can be enhanced by sending a stronger signal to encourage low-CI fuel investments.

II. Potential Provisions to Further Incent Investment in Low-CI Fuels and for Additional Compliance Strategy Options

The 2011 Advisory Panel identified two major elements that this provision should address: (1) further stimulating investment in low-CI fuels; and (2) providing additional compliance strategy options. Addressing these elements will require consideration of a number of basic principles: (A) the provision has to be straightforward and predictable, with clear ground rules, (B) it should provide long-term stability for the program, and (C) it should clearly communicate to the investment community that low-CI fuels will have a secure market in California. A provision designed with these principles in mind would likely encourage regulated parties to make more long-term commitments to invest in the production of low-CI fuels. The goal would be to develop provisions that ensure the LCFS achieves the maximum amount of GHG reductions within a reasonable and predictable range of cost impacts.

This paper presents, at a high level, five options that have been suggested to date: (1) a “credit window” option that was developed by the 2011 Advisory Panel sub-group; (2) a “reinvestment plan” option based loosely on option 1; (3) a “credit multiplier”

option; (4) a “credit clearance” option, which would allow regulated parties to carry deficits from year-to-year, provided they purchase all available credits and certain other conditions are met; and (5) a “noncompliance penalty” option, whereby a regulated party who is out of compliance would pay a pre-established penalty.

Each of these options has the potential to strengthen the program by providing more certainty on cost containment and by providing additional incentives to invest in low-CI fuels. However, some of these options would have a more direct impact on achieving these goals, while others will achieve these goals indirectly. For example, an option that includes setting a price threshold is more effective in stimulating investment than an option that does not include setting a price threshold on credits. Setting a price threshold also gives regulated parties the ability to calculate the maximum potential cost of the program. Also, if a mechanism requires extracting all available credits out of the system before proceeding to a second action, it ensures that we are accounting for maximum GHG reductions. Lastly, an option that is relatively simple to implement and track is preferable over a more complex option. Following discussions with stakeholders and further analysis, staff will determine which option, or options, if any, should be developed in more detail.

a. Option 1 – Credit Window Option

The following concept was developed by the 2011 Advisory Panel sub-group. It would be available to any regulated party that, despite best efforts, is unable to obtain the credits on the open market that it needs for compliance (e.g., no credits available on the market, available credits too costly, etc.). Under this concept, compliance credits (credits that are generated solely for compliance purposes and not tied to low-CI fuel usage) would be available for purchase by regulated parties at a price set forth in the regulation. These credits could be bought only for the buyer’s compliance (i.e., they would not be tradable or bankable but would be immediately used during settlement of accounts for a given compliance period).

To encourage investment in—and more rapid deployment of—low-carbon fuels, funds collected from the sale of these compliance credits would be distributed to parties who use or produce low-CI fuels, thereby directly rewarding successful production and use of low-CI fuels. This would further incent the development of commercially-viable, low-CI technologies. Regulated parties who were the farthest away from compliance (i.e., in need of the most credits) would be funding more of the investment incentives.

b. Option 2 – Reinvestment Plan Option

Under this approach, ARB would establish a credit price threshold in the regulation similar to the threshold discussed in the prior concept; if credits consistently trade at or above that price, the reinvestment option would be triggered. Instead of using their money to purchase compliance credits, regulated parties would have the option of putting that money into a series of investments that would be specified in the regulation that advance the objectives of the LCFS. Such investments could include production

facilities for low-CI fuels, conversion of conventional petroleum processing equipment to use renewable feedstocks, infrastructure for the distribution of low-CI fuels, commercial scale carbon-capture-and-sequestration projects, and energy efficiency improvements, among others. These investments would bring the regulated party into compliance.

c. Option 3 – Credit Multiplier Option

Another way to incent the production of low-CI fuels is to apply a multiplier to fuels that are below a specified carbon-intensity (CI) threshold. In this option, ARB would set the CI threshold(s), the value of the multiplier, and the period during which it would remain in effect. A sliding scale of multipliers could be used based on different CI thresholds. This multiplier approach would send a stronger signal to fuel providers that the lower-CI fuels have a disproportionately higher value within the program. It should also ensure additional credits are available in the market.

d. Option 4 – Credit Clearance Option

In this option, a regulated party would be allowed to carry over deficits to the next compliance period provided they commit to buy their *pro rata* share of all credits made available for sale during a newly established “credit clearance” period. At the beginning of the credit clearance period, regulated parties would be asked to pledge any credits that they would like to sell. This would provide regulated parties an opportunity to sell credits that they were unable to sell during the normal credit trading period. When pledging credits during this period of time, the seller would agree that it: (1) will sell its pledged credits at or below the credit threshold price; (2) will offer those credits for sale for the duration of the credit clearance; and (3) will sell those pledged credits to any regulated party willing to pay the pre-established price. A regulated party’s *pro rata* share of the pledged credits would then be calculated based on the total number of credits pledged by sellers. Once a regulated party purchases its *pro rata* share of credits, it would be able to carry the remaining deficit over. Any deficits that are carried over would become part of the current compliance period obligation and incur “interest” to be repaid in subsequent compliance years. The credit clearance process would repeat for every year.

e. Option 5 – Noncompliance Penalty

Under this approach, a regulated party with a net deficit at the end of a compliance year (even after purchase of carry-back credits) would have the option to pay a pre-established non-compliance penalty in lieu of receiving a Notice of Violation. The noncompliance penalty could be calculated in one of several ways: (1) as a set increment above an established maximum credit price, so that the cost of noncompliance is always greater than purchasing compliance credits, or (2) by taking the regulated party’s total deficits, spreading them evenly throughout the year, and calculating the day in the year at which the party’s credits were no longer sufficient to offset its deficits. Under this calculation, the number of days of violation would be the number of days from that point forward to December 31st of that year, and the

noncompliance penalty would be a statutory amount (based on culpability and other factors) per violation per day times the number of days of violation calculated as described above.

These noncompliance funds would be deposited into the Air Pollution Control Fund and the regulated party would be considered in compliance. There are several examples of ARB regulations with similar provisions (e.g., the Oceangoing Vessel Fuels Regulation, Zero Emission Vehicle Regulation, etc.).

III. Summary and Next Steps

Currently, the LCFS is functioning as originally envisioned. It is valuing low-CI fuels which are being produced at increasing levels. However, staff believes that evaluating potential adjustments that strengthen the program have merit. The concepts discussed in this paper have the potential to provide:

- Stronger signals to investors on the value of low-CI fuels; and
- Additional options for economical paths to compliance.

Along with further discussion of the benefits and challenges of the above concepts and their development, staff is interested in other potential concepts that ought to be evaluated. Over the course of the next few months, we will hold several working group meetings so that staff and stakeholders have a clear understanding of each concept as well as others that may be identified including a clear understanding of their associated pros and cons. Our progress will be summarized during subsequent LCFS workshops and may translate into future recommended amendments, the need for further evaluation, or a conclusion that the potential benefits of the concepts are outweighed by the potential dis-benefits.

Comments on this draft discussion paper, including the identification of other concepts that should be considered, are encouraged. Please send your comments to Ms. Michelle Buffington via email (mbuffing@arb.ca.gov) or telephone (916-324-0368).