

## California Proposes "Cap-and-Trade" Program

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On October 28, 2010, the California Air Resources Board ("CARB") released a proposed rule that would establish the country's first state-level "cap-and-trade" program to regulate greenhouse gas ("GHG") emissions. The program is intended to establish a "cap" on GHG emissions in California, which will be gradually reduced to implement a reduction in GHG emissions to 1990 levels.

The "cap-and-trade" program is a proposal that remains subject to public comment. Comments are due December 15, 2010. CARB intends to meet and consider the adoption of the proposed rule on December 16, 2010, in order to attempt to meet the statutory deadline of January 1, 2011, for establishing the program. This memorandum identifies and explains likely areas of controversy and how they will affect the regulated community and the public.

### BACKGROUND

In September 2006, California adopted AB32, the California Global Warming Solutions Act of 2006, which requires CARB to develop a regulatory program to reduce California's GHG emissions to 1990 levels by 2020. Under CARB's proposed cap-and-trade program, CARB will establish annual caps on aggregate GHG emissions in California and allocate the rights to emit GHGs among various industry segments. Covered entities will be required to obtain and submit "compliance instruments," – either an "allowance" or an "offset" – for each ton of "carbon dioxide equivalent," or "CO<sub>2</sub>e,"<sup>1</sup> emitted during each three-year compliance period. By ratcheting down the aggregate limit and restricting the issuance of allowances and the creation of offsets, CARB intends to reduce the aggregate emissions of CO<sub>2</sub>e to the desired levels by 2020.

### IMPLEMENTATION

The program has five main elements: (1) covered GHGs; (2) covered entities; (3) the cap; (4) allowances; and (5) offsets.

Covered GHG Emissions. The most important gas included in the program is carbon dioxide (CO<sub>2</sub>), which is really the driver behind AB32 and the reason that it is economically significant. Other gases that are included, but which are less significant (for differing reasons) are methane (CH<sub>4</sub>); nitrous oxide (N<sub>2</sub>O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); sulfur

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<sup>1</sup> The global warming potential of GHGs varies, with some GHGs having a significantly higher global warming potential than CO<sub>2</sub>. GHG regulations address GHGs in terms of their equivalence to CO<sub>2</sub>, expressed as carbon dioxide equivalent, or CO<sub>2</sub>e.

hexafluoride (SF<sub>6</sub>); nitrogen trifluoride (NF<sub>3</sub>); and certain other fluorinated GHGs.<sup>2</sup> The GHG emissions covered in the proposed rule are the same as those required to be monitored and reported under EPA's mandatory GHG reporting rules, but are more extensive than those that will be regulated by EPA under federal regulations scheduled to take effect January 2, 2011, or the GHGs that are currently regulated internationally under the Kyoto Protocol.<sup>3</sup> This means that California is proposing regulatory obligations that are not expected to exist in any other jurisdiction.

**Covered Entities.** CARB proposes to implement the program in two phases, focusing on large emitters in the electricity sector and certain industries in Phase I, and on the remaining regulated entities in Phase II. Phase I commences January 1, 2012 and will encompass the next three calendar years. Phase II commences on January 1, 2015, and constitutes a second three-year compliance period. A third compliance period will commence January 1, 2018, and terminate on December 31, 2020.

During Phase I, compliance obligations are imposed upon "first deliverers of electricity" and "operators of [covered] facilities." "First deliverers of electricity" include all operators of electricity generating facilities located in California that emit more than 25,000 metric tons per year of CO<sub>2</sub>e, as well as electricity importers.<sup>4</sup> Operators of covered facilities include the operators of cogeneration facilities, stationary combustion facilities and certain other major industrial facilities<sup>5</sup> that emit more than 25,000 metric tons per year of CO<sub>2</sub>e.

Phase II expands the group of entities regulated under the program to include the production and importation of natural gas, liquefied petroleum gas and most liquid fossil fuels, in amounts representing the emission of more than 25,000 metric tons of CO<sub>2</sub>e. This expansion effectively regulates many other uses of fossil fuels, including the use as fuel for small electric

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<sup>2</sup> "Other fluorinated GHGs" is defined to mean SF<sub>6</sub>, NF<sub>3</sub>, and "any fluorocarbon except for controlled substances as defined at 40 CFR Part 82, subpart A and substances with vapor pressures of less than 1 mm of Hg absolute at 25 C. With these exceptions, 'fluorinated GHG' includes any hydrofluorocarbon; any perfluorocarbon; any fully fluorinated linear, branched, or cyclic alkane, ether, tertiary amine, or aminoether; any perfluoropolyether; and any hydrofluoropolyether."

<sup>3</sup> EPA's Tailoring Rule and the Kyoto Protocol address only six GHGs, or carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

<sup>4</sup> Phase I will include imports of electricity from "specified" generation facilities if the imported electricity is associated with more than 25,000 metric tons CO<sub>2</sub>e of GHG emissions. If the source of the electricity cannot be specifically identified, then the Phase I program will apply to all of the electricity imported by the importer, with an assumed default rate of GHG emissions assigned to that electricity.

<sup>5</sup> The applicable industrial processes or operations are:

Cement production	Cogeneration	Glass production
Hydrogen production	Iron and steel production	Lime manufacturing
Nitric acid production	Oil and natural gas systems	Petroleum refining
Pulp and paper manufacturing	Self-generation of electricity	Stationary combustion

generation facilities, commercial facilities and industrial facilities. The entities obligated to comply with the program would generally be the importers, producers and distributors. Accordingly, some of the smaller emissions sources, including residential and small commercial sources, would not be directly regulated under the program.

There are important exemptions from the program. Biomass from solid waste, waste wood, agricultural crops or crop waste, and certain harvested wood that are used as fuel would be exempt (subject to detailed specifications and verification). Biofuels from agricultural products or ethanol from cellulosic biofuels, corn starch, or sugar cane would also generally be exempt if they meet stringent technical criteria. Municipal solid waste may be exempt from the program if the municipal solid waste is directly combusted or if the waste is converted to a clean burning fuel through a process that comports with regulatory requirements. Biomethane from organic waste and landfill gas is exempt.

The “Cap” of Cap and Trade. CARB intends to establish the GHG emissions cap at what it considers to be “business-as-usual” levels for 2012 and to reduce the emissions on a straight line basis (slightly less than 2% per year) until the end of the program in 2020. When natural gas and transportation fuels are added as part of Phase II of the program in 2015, the overall cap is increased to account for the new sources covered by the cap-and-trade program.<sup>6</sup> CARB has proposed a cap of 165.8 million metric tons of CO<sub>2</sub>e in 2012, with a peak of 394.5 million in 2015, declining to 334 million by 2020. Eighty-nine million allowances will be distributed to the electricity sector in the first compliance year, and that number will decline at the same rate as the aggregate cap over time. The remaining allowances, totaling approximately 76 million in 2012, will be allocated to the other covered entities.

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<sup>6</sup> The annual allowance budgets from 2012-2020, as set forth in CARB’s Statement of Reasons:

Compliance Period	Year	Annual Allowance Budget
1 <sup>st</sup> Compliance Period	2012	165.8 MM
	2013	162.8 MM
	2014	159.7 MM
2 <sup>nd</sup> Compliance Period	2015	394.5 MM
	2016	382.4 MM
	2017	370.4 MM
3 <sup>rd</sup> Compliance Period	2018	358.3 MM
	2019	346.3 MM
	2020	334.2 MM

Allowances. Each year, CARB will create or “issue” an aggregate number of allowances equal the cap for that year, each of which is intended to authorize the emission of one metric ton of CO<sub>2</sub>e. In the initial compliance year, 97% of the allowances will be distributed to covered entities in accordance with as-yet-to-be-determined baseline calculations. One percent of the total allowances will be held in a “cost containment” reserve in the first year, with increasing percentages being held in reserve over time. Two percent of the allowances each year will be reserved for auction by CARB to fund governmental projects relating to clean air.

CARB’s allocation of allowances is the principal unsettled issue in the proposed rule. During Phase I, allowances will be issued for free to publicly-owned utilities and many (if not most) of the industrial users. Investor-owned utilities will also receive allowances for free (“IOU-Allocated Allowances”), but will be required to make them available to CARB to be publicly auctioned. Both the investor-owned utilities who receive “free” allocations, and other electricity deliverers (including importers) who do not receive allocations, will be required to bid for and buy allowances through the auction process. Publicly-owned utilities may retain the freely allocated allowances for their own compliance purposes, and may, but are not required to, sell allowances.

Industrial facility operators will initially receive allocations for free from CARB, and will not be required to submit them back to CARB for auction or to purchase allowances at auction. Over time, a portion of the allowances allocated to industrial facilities will be subject to auction requirements. The auction requirements vary by industry and over time, in an effort to avoid adverse competitive impacts upon California industry that would essentially transfer demand to out-of-state suppliers (referred to as “leakage”).

CARB plans to use “benchmarks” to make additional allowances available to those manufacturers whose business grows. Benchmarks will be set by product type and amount of thermal energy used, and CARB will factor in the efficiency of the manufacturing process as well as the overall number of allowances available into these additional allocations. The benchmark concept has not been fully developed, and CARB’s guidance notes that it may have to update the benchmarks, in particular as they relate to measuring the efficiency of manufacturing processes.

The proposed regulation sets a minimum bid price of \$10 per ton of CO<sub>2</sub>e in the first year, and escalates that minimum reserve price by 5% each year. As a result, all investor owned-utilities and independent power producers who sell energy to the IOUs, will be required to pay at least \$10 per CO<sub>2</sub>e (or approximately \$7 per MWh based on a gas-fired turbine generator) for allowances relating to their emissions. The auction is a closed-bid auction, and each quarterly auction will only consist of one round of bids.

The proceeds from the auction of IOU-Allocated Allowances will be used primarily to benefit ratepayers. Proceeds from the auction of allowances other than IOU-Allocated Allowances will be used by the state to further the goals of AB 32, either through rebate programs to ratepayers, or the distribution of grants or other benefits to community benefit funds, or low carbon investment funds.

In an attempt to limit gamesmanship or the ability to corner the market on allowances, CARB is proposing limits on the number of allowances a cap-and-trade participant may acquire. Covered entities may purchase a maximum of 10% of the total

number of allowances available for a budget year. Voluntary participants (i.e., non-regulated entities) may purchase a maximum of four percent of the total number of allowances. IOUs are exempt from the purchase limitations.

Offset Credits. A covered entity can demonstrate its compliance with cap-and-trade requirements either by acquiring allowances or offset credits. CARB will issue offset credits for authorized projects that result in verifiable emissions reductions. AB 32 requires that offset projects be evaluated to confirm that any reduction of emissions caused by the project are real, permanent, quantifiable, verifiable, enforceable, and additional. CARB will administer a program that is designed to define and enforce these criteria. CARB will also adopt protocols for specific project types that will be authorized to generate offsets. Only four protocols have been included in the proposed program: urban forest projects, ozone depleting substances, livestock manure digester projects, and U.S. Forest projects, and currently, only projects in North America are likely to be eligible. CARB will consider the approval of offsets for "sector-based" programs that reduce deforestation in other countries. Offsets will be available for "early action" projects that reduce or offset GHG emissions before the program was finalized. CARB proposes to limit the amount of offset credits that a covered entity may use at 8% of its compliance obligations.

#### COORDINATION WITH OTHER PROGRAMS

The proposed cap-and-trade program is being established to accommodate the development of similar programs on a regional, national and international basis. CARB may consider and approve for compliance purposes credits or allowances created in other jurisdictions, if the market mechanics and objectives of such programs are consistent with those established in California. These programs would be approved on a case-by-case basis.

#### NEXT STEPS

The public comment period will close at noon on December 15, 2010. CARB will conduct a public hearing to consider adoption of the proposed regulation on December 16, 2010. Following the public hearing, CARB may adopt the regulation as proposed, or with non-substantial modifications. CARB may also adopt the proposed regulation with substantial modifications, but the regulation, as modified, would be subject to another public comment period at least 15 days before it is adopted.

There are still major areas within the proposed regulation that are not proposed in final form. These components of the program may be finalized on a different schedule from the current regulations. If the current proposal is finalized, comments on future modifications will be limited to those modifications. Accordingly, comments should be prepared in light of possible future changes to the program in connection with the completion of the proposal.

#### ANALYSIS

The proposed cap-and-trade rules raise many substantial issues for California, and present a number of implementation challenges that may be problematic for the regulated community. Orrick will be preparing comments on the regulations for various sectors of the regulated community that correspond to these issues.

Auctions. The auction process imposes a minimum price of \$10 per CO<sub>2</sub>e for the market participants required to bid for allowances. Such a fee is essentially a tax that imposes unnecessary costs on consumers in California, without affecting or

enhancing the implementation of the program. If a cost is to be imposed, it should be imposed evenly, across all regulated entities, and should not be limited to investor-owned utilities and independent power producers and importers.

**Cap-and-trade mechanics.** Cap-and-trade systems need not require significant governmental management of the market, and are most efficient if the primary means of transfer is private transactions. By requiring most allowances to be distributed by auction, the AB32 cap-and-trade proposal makes the program dependent on governmental administration and loses much of the benefit of allowing trading of the allowances.

**Regulatory Redistribution of Revenues.** The costs of the cap-and-trade program will be borne by electricity ratepayers and by consumers of California goods and services. In the case of electricity ratepayers, most of the revenue generated by the cap-and-trade program is required to be rebated back to ratepayers. So, the ratepayers pay for the cap-and-trade program, including allowances. Then, California rebates the costs of the program (after administrative fees) to California ratepayers. On average, there is no significant benefit achieved by requiring the auction of the allowances and then rebating the proceeds to the ratepayers who will be paying those costs. The Air Resources Board is, however, considering alternative redistribution plans that would require some users to bear disproportionately large costs, while reducing the GHG costs for other users. It is unclear how this program incentivizes conservation or emissions reductions.

**Allocations of Allowances.** The most important issue in a cap-and-trade program is the initial allocation of allowances. Under California's proposed cap-and-trade program, most of the allocation issues have not yet been resolved. The Air Resources Board has not settled on the amount of the cap, and has not determined how to allocate allowances among industry segments. It may be premature to finalize a set of regulations when the primary issue affecting all regulated entities is not resolved, or even proposed, in a form that permits analysis and comment.

**Independent Power.** Independent power generators and importers are the one sector that will not directly receive allowances. All allowances that are obtained by these entities will need to be purchased at auction, from allowances auctioned by their utility customers, for the most part. In some cases, the commercial arrangements may allow the generators and importers to recover their costs in the price of the energy they generate or import. In other cases, those contractual arrangements will not allow such a passthrough of costs. The proposal will therefore treat independent power producers differently depending on their contract status.

**Inter-Sector Competition.** The allowances used in the electricity industry and in the industrial sectors are the same types of allowances, and they are freely tradable. It is likely that competition will develop between electricity generators or importers on one hand, and industrial users on the other. There is no mechanism in the program for preventing crossover price competition that could adversely affect one industry sector or another.

**Opt-In Entities.** The proposed regulations permit entities to "opt in" to the program (i.e., become regulated) to establish status as a voluntary purchaser or seller of allowances or offsets. Once an entity chooses to opt-in, it must comply with all aspects of the rule. But, the overall cap would not increase. So, any opt-in entity would compete with regulated parties for allowances and offsets, increasing compliance costs at the expense of existing generators or importers of electricity, or other industrial operators.

Voluntary Retirement of Allowances. Like the opt-in option, voluntary purchases by non-regulated entities that retire the allowances without emitting GHGs directly reduce the available cap for regulated entities. This type of market activity constrains operations by those subject to the program, and directly increases the cost for regulated entities that remain in the market.

Disconnection between Demand and Cap. In the area of electricity demand, there is a general rule that electricity suppliers will meet the public demand, and will recover their costs plus a regulated rate of return. There is no direct ability to limit or control demand. Instead, regulators count on price signals to limit demand increases. As a result, it is quite possible that the applicable cap, or sub-cap for the electrical sector, will be exceeded. The provisions of the rule relating to excess emissions do not provide a workable solution to this problem.

Exclusion of GHG Emissions from Biomass. The CARB proposal excludes emissions from most types of biomass from the program, thereby creating an incentive to burn biomass and municipal solid waste instead of fossil fuels. Since some of these alternative sources emit more GHGs per unit of heat output than gas or petroleum derivatives, the exclusion of these sources from the program's requirements is open to challenge.

Interstate Competition. CARB has attempted to address the problem of "leakage," which is the tendency of businesses to move out of California to secure less stringent GHG regulation. In order to maintain the electricity generation and industrial production in California, CARB has attempted to structure the program to intercept imported goods that reflect such leakage. In order to prevent "leakage" in the industrial sector, California would essentially need to impose taxes on imported goods or otherwise erect barriers to entry. Such solutions raise a host of legal and policy questions that CARB has not begun to address.

Validity of GHG Offsets. In the proposal, the invalidity of an offset is the buyer's risk. If the offset credit is later determined by CARB to be invalid, the buyer of the credit must replace the credit or face enforcement action. The validity of these credits will not be readily determinable by purchasers of the offsets. The lack of ability to independently verify the validity of allowances and credits is a serious impediment to an efficient market, and makes the market mechanics cumbersome.

The above list of issues are just a few of the significant legal, economic and technical issues raised by the AB32 cap-and-trade proposal.