ALCANTAR & KAHL, LLP

June 7, 2010

Kevin Kennedy
Office of Climate Change
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: May 17, 2010 Cap and Trade Workshop

Dear Mr. Kennedy,

The attached comments are offered on behalf of the Energy Producers and Users Coalition[12] (EPUC). Members of these coalitions own and operate roughly 2,400 MW of existing combined heat and power (CHP) generation in California, which is located primarily at refineries and enhanced oil recovery operations. These CHP facilities generate roughly 18 million MWh of power for the state of California. In addition, EPUC members have the potential to develop additional CHP capacity, depending on market conditions and the removal of existing development barriers.

These comments offer observations regarding CARB's May 17, 2010, presentation addressing revised cap and trade (C/T) regulations. CARB's presentation contemplates the possibility of allocating free allowances to the industrial sector, using an output-based benchmark, where needed, to mitigate the threat of leakage. Because a CHP resource is an integrated part of an industrial operation, providing electricity and thermal energy to its industrial host, the proposed use of an output benchmark for allocation would affect CHP in some way. While the concept is in its early stages of development, it is possible to envision alternative approaches that would either encourage or discourage CHP use and development. Consequently, EPUC's comments draw no conclusions, but simply highlight CHP-related issues for CARB's consideration as it further develops its proposal.

CARB also presented its proposal to provide allowance value to retail electricity providers to subsidize the purchase and development of renewable power. EPUC agree with CARB that there is a need to ensure that the value is not used for the benefit

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[1] EPUC is an ad hoc group representing the electric end use and customer generation interests of the following companies: Aera Energy LLC, BP West Coast Products LL, ConocoPhillips Company, ExxonMobil Power and Gas Services Inc., Shell Oil Products US, THUMS Long Beach Company, and Occidental Elk Hills, Inc., ConocoPhillips Company, Shell Oil Products US, THUMS Long Beach Company, and Occidental Elk Hills, Inc.

[2] CAC represents the combined heat and power and cogeneration operation interests of the following entities: Coalinga Cogeneration Company, Mid-Set Cogeneration Company, Kern River Cogeneration Company, Sycamore Cogeneration Company, Sargent Canyon Cogeneration Company, Salinas River Cogeneration Company, Midway Sunset Cogeneration Company and Watson Cogeneration Company

of utility shareholders. Consequently, EPUC recommend that the allowance value directly reduce the suite of GHG-beneficial programs administered by the utilities, including renewable power, energy efficiency, self-generation incentives and other programs. This would require the application of the allowance value to reduce the utility rate components that are designed to recover the GHG-beneficial costs. For example, the value could be applied directly against the generation component of utility rates (which includes the cost of renewable power), potentially the public purpose program charges (which hold other renewable power and energy efficiency costs) and other related rate components.

In addition to the specific comments on C/T allowance allocation, EPUC provide a primer on the interaction of CHP with C/T regulation in the attached appendix. The primer reviews the following points:

- CHP is an energy efficiency measure that should be encouraged in the industrial sector to promote emission reductions;

- Affirmative efforts are required to ensure that regulations will promote CHP due to the "CHP paradox" and because recovery of incremental carbon compliance costs in the marketplace is not assured;

EPUC look forward to further coordination with CARB to address C/T allowance allocation.

I. BENCHMARKING FOR INDUSTRIAL CHP

A. General Principles

CHP's hybrid nature makes placement in a sector and fair treatment challenging. In previously filed comments, EPUC recommended that CHP be placed in its own sector or split between the industrial and electric sector. Given CARB's concern about trade exposed industries, however, placement of CHP and consideration of CHP as part of its host industrial operations will best protect these industries

Because CARB's proposal for benchmarking is in the early stages, it is unclear how reliance on an output-based benchmark will impact treatment of CHP. In particular, CARB's proposed C/T concepts and staff comments indicate that CHP would be in the industrial sector. The question remains, however, whether CHP emissions would be benchmarked as an element of the industrial host's product benchmark or separately against a separate heat and power benchmark. At this stage, however, CARB should evaluate industrial benchmark proposals with an eye toward promoting three foundational principles. Stated differently, CARB should ensure that the adopted allowance methodology:

1. Accounts for the higher, on-site direct carbon obligations that come with CHP;

2. Does not provide an over-allocation of allowances to operations that purchase, rather than produce, electricity and thus have only indirect electricity emissions; and

3. Provides the same level of leakage protection to CHP outputs as provided to its host industrial operations to avoid detrimental impacts on host operations.

Each of these points is discussed below.

B. CHP Output Requires the Same Level of Protection as a CHP's Industrial Host to Effectively Mitigate Threat of Leakage and Trade Exposure

CARB's efforts to limit leakage and trade exposure must account for CHP outputs, which are tied into the host industrial operations. At the May 17, 2010, workshop, CARB staff indicated that it is considering C/T regulations in a manner that will allow a "*gradual transition to a low carbon economy*."[3] In particular, CARB staff noted that it seeks to "*[k]eep California industry competitive*," "*[r]eward those who have invested in energy efficiency and greenhouse gas reduction*," and "*[e]ncourage[] continued investment in efficiency and clean energy*."[4] In order to carry out these goals, CARB must provide the same trade exposure protection to all CHP output, whether thermal or electric energy. CHP is a form of energy efficiency and results in greenhouse gas reductions and is an integral part of the industrial host's cost structure and competitive position.

Where CHP has been sized to meet the thermal load expectations of the industrial host, resulting in surplus electricity, the protection must be extended to the exported electricity. Installing CHP that matches a host's thermal load optimizes the facility's efficiency. Without proper protections, however, "*right*" sizing exposes the facility to economic risk because it forces the CHP facility to market the excess electricity. Historically, these sales were protected and governed by the Public Utility Regulatory Policies Act (PURPA). As PURPA protections have weakened, CHP has been exposed to more economic risk. When California transitions into a carbon constrained market, the degree of economic risk will increase further. While it is possible that regulatory policy will allow carbon compliance costs to be passed through to entities purchasing the exported power, this issue remains unsettled. To mitigate this risk CARB should provide CHP exports the same level of free allocation accorded to the industrial host. This protection, as discussed in the Appendix, is particularly important given that CHP cost recovery is not guaranteed.

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[3] May 17, 2010 CARB Greenhouse Gas Cap-and-Trade Regulation Status Update, at Slide 3.

[4] *Id.*

C. Benchmarking Alternatives

1. Including CHP Emissions in an Output Benchmark for the Industrial Host Operations, Depending on the Formulation, Could Disadvantage Operations Employing CHP

Establishing a single output benchmark for the industrial sector will no doubt be complex, and it is impossible at this point to know precisely how the petroleum refining and oil and gas extraction industries will be benchmarked. It is possible to envision, however, circumstances under which a CHP-dependent industrial operation could be disadvantaged relative to an operation that purchases its power from the utility.

Assume, for example, that CARB were to adopt a single product benchmark for a widget producer, representing the energy intensity required to produce one widget ($MMtCO_2e$). Assume that Widget Producer 1 produces the electric and thermal energy required for the process using CHP and that Widget Producer 2 employs a boiler to produce thermal energy and purchases electricity from its interconnected utility. The single product benchmark presumably will reflect assumptions about (i) the use of thermal and electric energy by the widget producer and (ii) the energy intensity of producing that energy. If those assumptions are based on a CHP operation, the emissions associated with CHP – direct, on-site emissions -- will be reflected in the benchmark. Under these conditions, Widget Producer 1 will be protected. If Widget Producer 2 receives an allowance allocation based on that benchmark, however, it would receive an over-allocation. More specifically, Widget Producer 2 would receive allowances assuming on-site electricity production while having a less significant compliance obligation for the indirect emissions associated with the electricity it secures from its interconnected utility. In effect, Widget Producer 2 would be rewarded for not investing in CHP, the exact opposite of CARB's intended policy outcome.

This example is one of many possible outcomes, and CARB cannot predict at this point how industrial benchmarks will develop for each type of industrial operation. Moreover, it would be inappropriate to drive the development of an industrial output benchmark solely based on CHP impacts. For this reason, EPUC requests only that CARB evaluate proposals with this "*CHP paradox*" in mind to determine potential impacts on CHP.

2. While CHP Should Remain in the Industrial Sector to Address Leakage and Trade Exposure, Separately Benchmarking CHP Output May Be a Solution.

As its thinking progresses, CARB may need to consider carving CHP outputs out of the industrial benchmark. This could allow CARB to separately allocate allowances using a CHP-specific benchmark. EPUC have previously suggested benchmarking and allocating allowances to CHP (and, here, trade exposed CHP) against its less efficient

alternative. Allowances would be allocated based on the emissions that would have resulted from separate heat and power production of the same amount of electric and thermal energy.

This "*double benchmark*" requires the use of two references: one representing the emissions for alternative thermal production and one for the emissions from alternative electric production. A well-accepted thermal reference would be the emissions of an 80% efficient heat-only boiler. The electric reference is typically more controversial, with debates regarding whether it should be based on average or marginal resource emissions and the assumed level of those emissions. CARB employed such a reference in developing its Scoping Plan recommendation for CHP. The ICF International (ICF) study, sponsored by the California Energy Commission, evaluated the CARB Scoping Plan CHP measure. ICF's analysis indicates that CARB assumed as an electric reference central station electricity emissions of 963 lb/MWh CO_2 (equal to 8,231 Btu/kWh HHV heat rate).[5] Notably, the ICF's marginal generator analysis also accounts for a decrease of 8.5% in line losses that can be avoided with CHP.[6] Once these savings are reflected in the electric reference, the heat rate increases to an 8,930.6 Btu/kWh heat rate.

If the Commission elects to disaggregate single output benchmarks for industrial operations, a reasonable option exists for separate treatment of CHP within the industrial sector. Double benchmarking, using an 80% boiler, 8,231 Btu/kWh HHV heat, and incorporating an appropriate line loss savings factor, would ensure that industrial facilities investing in CHP will not be disadvantaged when compared to their non-investing counterparts.

II. Allowance Value Allocated to Retail Providers Should Decrease the Costs of GHG-Beneficial Programs

To decrease ratepayer costs of funding investment in renewable generation, CARB should require retail providers to apply 100% of the allowance value to reduce the generation component of end-user rates. At the May 17, 2010 workshop, CARB staff indicated that a significant amount of allowance value would be allocated to retail providers to offset the costs of renewable energy investment.[7]

EPUC agree that any allowance value provided to retail providers should be used to decrease the costs of GHG reduction to energy consumers. The value should be used to reduce not only renewable power costs, however, but a wider range of GHG-beneficial programs including energy efficiency. Consequently, the value conferred on investor-owned utilities should be used to reduce the renewable component of generation costs, public purpose program charges and other GHG-affected rate

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5 California Energy Commission ICF Presentation, dated October 13, 2009, at Slide 13

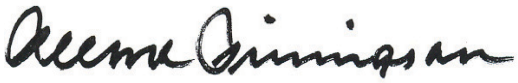
6 *Id.*

7 May 17, 2010 CARB Greenhouse Gas Cap-and-Trade Regulation Status Update, at Slide 24.

elements. Finally, care must be taken in accounting to make certain that the value does not result in shareholder benefit.

We are available to discuss these and other CHP issues at your request.

Very truly yours,



Evelyn Kahl
Seema Srinivasan

APPENDIX

1. CHP is an Energy Efficiency Measure That Should Be Encouraged to Lower Emissions in Industrial Sector

Tools to promote energy efficiency will be critical to help transition California industries into a carbon market. CHP is one such tool. It is and will continue to be an important part of the industrial sector's efforts to increase energy efficiency. As noted in the Scoping Plan, promotion of CHP is an important energy efficiency measure that can generate 6.7 $MMTCO_2e$ in reductions.[8] The Western Climate Initiative also recognizes CHP as an important energy efficiency measure:

> *Compared to traditional thermal electricity production, CHP can be viewed as an energy production or energy efficiency measure to reduce GHG emissions. Located at customer sites, CHP improves energy efficiency in two ways:*
>
> 1. *Increasing fuel-use efficiency – Heat produced in the electric generation process that otherwise would be wasted is used for process or other thermal needs.*
> 2. *Eliminating energy lost in delivering power – Electricity is produced on-site, so none is lost transmission and distribution lines.*[9]

Despite its societal benefits, however, without affirmative efforts, the C/T program can inadvertently discourage investment in CHP for reasons that are discussed below.

2. Affirmative Efforts Are Required To Ensure that Regulations Will Promote Reliance on CHP

An investment in CHP increases the CHP investor's direct emissions responsibility even though it decreases societal GHG emissions. As CARB has noted in its Scoping Plan appendices and the WCI has noted in its Complementary Policies white paper, CHP more efficiently uses fuel to generate an electric and thermal output.[10] However, from a practical aspect, moving from utility provided electricity to CHP will increase the direct carbon emissions and compliance costs borne by the industrial host. This is referred to as the "*CHP Paradox*."

There is no question that, from a societal standpoint, CHP can be more efficient than the separate production of heat by a boiler and power from a fossil-fired generator. The chart below compares the emissions of CHP with the emissions associated with the

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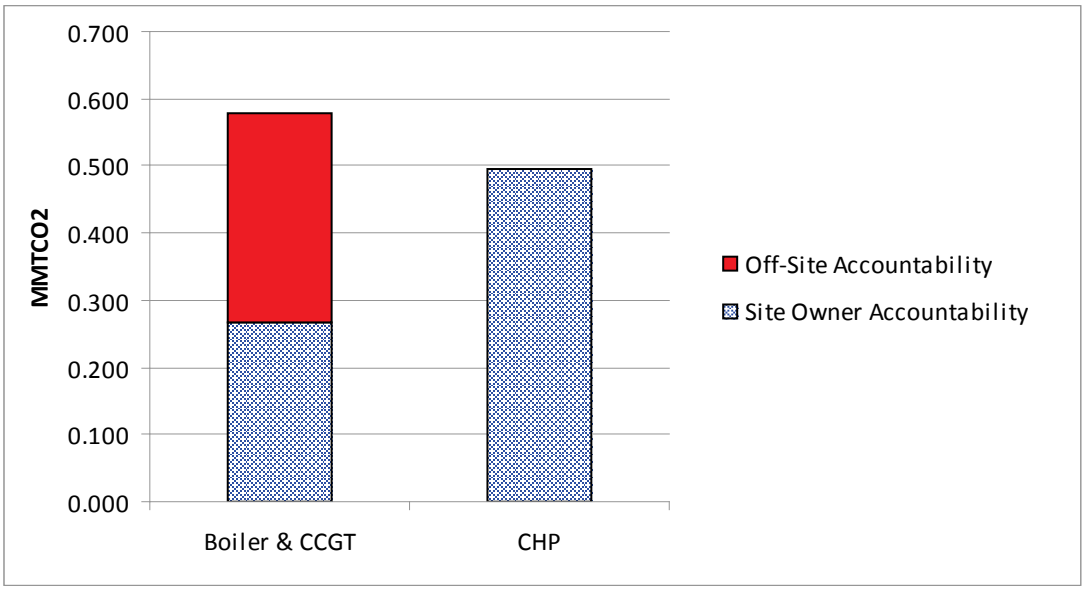
[8] Scoping Plan Appendices, at C-122 and C-123.

[9] Western Climate Initiative Final Complementary Policies White Paper, dated May 20, 2010, at 12-13.

[10] Scoping Plan Appendices, at C-122 and C-123, WCI Complementary Policies, at 12-13.

separate production of heat by a stand-alone boiler and power by a combined-cycle gas turbine. It highlights the societal benefit that CHP generates.

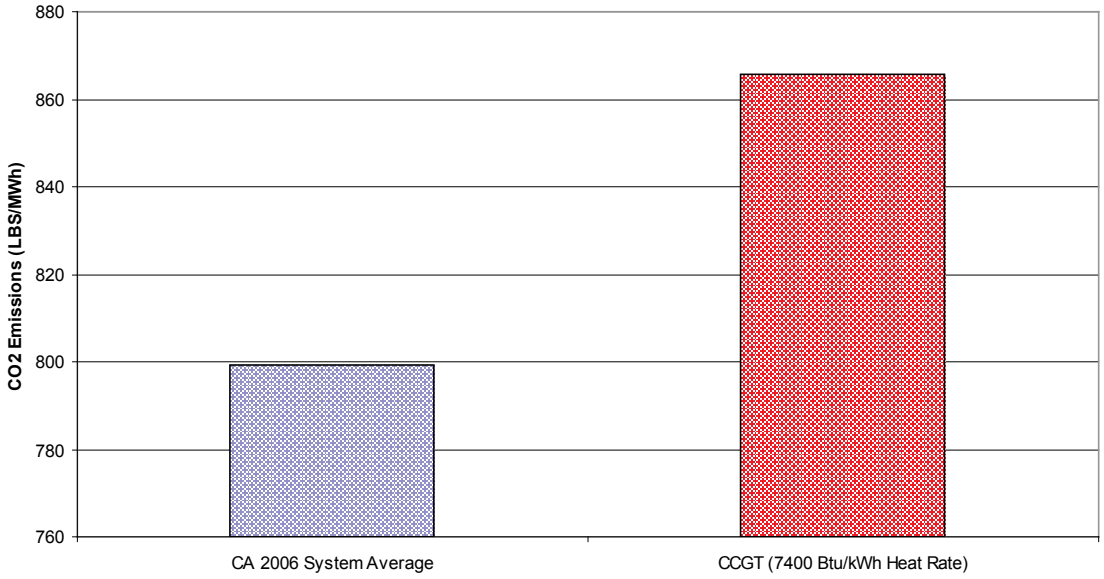


Importantly, it is appropriate to compare CHP emissions to the emissions associated with a boiler and fossil-fired generator because realistically these are the separate heat and power (SHP) alternatives. In fact, recent utility filings demonstrate that when new generation is required to meet load, fossil-fired generation is considered over other options.[11] In 2009 alone, the CPUC adopted power purchase agreements for 1,305 MW of new fossil-fired capacity in PG&E's service territory by 2015.

A CHP investor, however, evaluates CHP investment potential differently. Rather than examining societal benefit, it evaluates the option from an economic and uncertainty standpoint, including potential GHG compliance costs. Prior to CHP investment, an industrial host was securing thermal energy from a stand-alone boiler and electricity from its interconnected utility. It thus would be directly responsible solely for the boiler emissions; the indirect electricity emissions would be accounted for in some uniform manner in its electricity rate. Moreover, the ***average hybrid*** emissions rate of an interconnected utility in many cases is lower than a ***pure fossil emissions rate*** of a CHP plant since the utility portfolio includes a large amount of non-emitting generation such as hydropower and nuclear power – resources that cannot be repeated in new investment. Even though the CHP resource would displace the marginal fossil

[11] See A.05-06-029 (Commission approved asset transfer agreement for a new combined cycle, 530 MW unit associated with Contra Costa 8); A.09-09-021 (Commission approved two contracts with a combined capacity of 1,305MW of fossil-fueled capacity to provide new generation needed by 2015); A. 09-10-022 and A.09-10-034 (PG&E seeking new power purchase agreements including 254 MW of new fossil-fuel capacity).

resource, the investor would be faced with higher carbon compliance costs.



In short, without the right incentives, an investor has the incentive to rely on power supplied by its interconnected utility rather than invest in CHP.

3. CHP Cost Recovery in the "Market" is Not Guaranteed

The right regulatory infrastructure is also critical because there is no guarantee that CHP will recover incremental GHG compliance costs "*in the market*." To recover these costs, CHP facilities would need to be able to recover the costs either through their bilateral agreements with the utilities or in the prices they secure in CAISO day-ahead or hour-ahead markets. The issue of GHG cost recovery in CHP contracts has been very controversial and remains unresolved in the CPUC's CHP proceeding. Cost recovery in CAISO markets is also not assured. As a preliminary matter, most of California's generation is priced through utility bilateral agreements and therefore done outside of the scope of CAISO markets. The CAISO itself admits that this market is really an "*optimization*" market, not a market that will sustain new generation. In reality, only utilities, whose generation receives cost-of-service treatment, and merchants selling power under new or recently-negotiated bilateral contracts have an opportunity today for full GHG cost pass-through. Thus while CHP can secure compensation from the CAISO markets, the reality is that it may not be a sustainable price. The inability of CHP to secure a sustainable price would threaten not only existing CHP, it would preclude new investments. Without assured cost recovery, therefore, CARB's expectation to increase reliance on CHP is overly optimistic.