



December 5, 2008

Mr. Chuck Shulock  
Office of Climate Change  
Air Resources Board  
1001 I Street  
Sacramento, CA 95814

**Re: Comments of the Energy Producers and Users Coalition and the  
Cogeneration Association of California on CARB Proposed Scoping  
Plan**

Dear Mr. Shulock,

The Energy Producers and Users Coalition<sup>1</sup> and the Cogeneration Association of California<sup>2</sup> (EPUC/CAC) submit these comments as owners and operators of combined heat and power (CHP) facilities in California. Members of these coalitions own and operate roughly 3,000 MW of existing CHP generation in California, located primarily at refineries and enhanced oil recovery operations. Several coalition members are also considering either replacement of existing CHP facilities with higher-efficiency equipment or the installation of new facilities to meet growing thermal demand. In the interest of maintaining existing facilities and further developing CHP capacity, EPUC/CAC offer the following comments on CARB's Proposed Scoping Plan:

1. The Scoping Plan should clarify that assumptions regarding the size of new CHP projects were made solely for purposes of estimating emission reductions; and
2. Reliance on CEC's CHP market potential analysis is an appropriate basis for the Scoping Plan emission reduction estimates.

Each of these points is discussed below. In addition, a copy of the September 24, 2008 comments is attached as a reference.

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<sup>1</sup> 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 LLC, Chevron U.S.A. Inc., ConocoPhillips Company, ExxonMobil Power and Gas Services Inc., Shell Oil Products US, THUMS Long Beach Company, Occidental Elk Hills, Inc., and Valero Refining Company – California.

<sup>2</sup> 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.

## **The Focus of CARB's Recommendation to Increase Reliance on CHP Should Be On Emission Reductions**

As noted in comments filed on September 24, 2008, measures that distinguish CHP by size will detract from the objectives of AB 32. Instead the focus should be on a project's efficiency. CHP promotes emission reductions by displacing conventional generation and in the process reducing the fuel that would otherwise be consumed by the separate generation of heat and power.<sup>3</sup> In addition, due to CHP's proximity to load, on-site use reduces transmission losses that would otherwise occur. Regardless of size, the better a CHP facility is at fuel efficiency and reducing transmission losses, the more emission reductions it can contribute. Given the state's objective to materially lower GHG emissions, it is appropriate for CARB's draft Scoping Plan to favor the most efficient CHP. The most effective way to ensure that CHP is more efficient than separate heat and power units is to rely on a double-benchmarking standard.<sup>4</sup>

To ensure that the Scoping Plan will effectively promote emission reductions, it must clarify that assumptions made in the Measure Documentation Supplement were done solely to generate an estimate of emission reductions, rather than to pre-determine where emissions reductions will come from. The Measure Documentation Supplement presumes that 80% of CHP expansions will be through the development of CHP less than 5 MW.<sup>5</sup> Arguably these assumptions were made to estimate emission reductions rather than to preclude savings that could result from larger CHP installations. To ensure that the Scoping Plan recommendation is not misconstrued, CARB should clarify that its focus remains on reducing GHG emissions.

## **Reliance on CEC's CHP Market Potential Analysis is Appropriate**

PG&E claims that reliance on the CEC's Integrated Energy Policy Report's assumptions regarding "*likely market penetration, likely efficiencies, likely operating characteristics, and suggested methods for overcoming market barriers are all preliminary.*"<sup>6</sup> It also claims that "*further study and analysis remains before the likely contribution from CHP to GHG emission reductions can be ascertained.*" Finally, PG&E asserts that because the CPUC is examining CHP issues through rulemakings, "*the Proposed Scoping Plan Appendix C's inclusion of CEC Integrated Policy Report ('IEPR') recommendations is either inappropriate for*

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<sup>3</sup> CARB Draft Scoping Plan Appendices, at C-73.

<sup>4</sup> Under a double-benchmarking standard, the emissions of a CHP facility are compared to the emissions of a electric reference unit and the emissions of a thermal reference unit. If the CHP emissions are less than the emissions of the standalone thermal unit and the electric generator, it demonstrates that the CHP facility is more fuel efficient.

<sup>5</sup> It is noteworthy that while the CARB draft Scoping Plan and the Measure Documentation refer to the CEC's CHP market potential analysis in support of its CHP expansion recommendation, CARB's overwhelming focus on small CHP is not supported by the CEC's analysis.

<sup>6</sup> PG&E's November 25, 2008 Comments on CARB's Proposed Scoping Plan, at 10.

*AB 32 Scope or is already being addressed by the CPUC for investor-owned utilities ('IOUs')."*<sup>7</sup> Accordingly, PG&E recommends that the "Appendix C be updated to acknowledge that some IEPR recommendations are contrary to legislation or to well-established CPUC findings/and other IEPR recommendations already being considered or implemented by the CPUC."

Contrary to PG&E's suggestions, the CEC and CPUC have consistently concluded that CHP carries great potential to generate emission reductions. These conclusions likewise have been validated by the ETAAC. Moreover, joint agency action – including CARB, CEC and CPUC – is both consistent with AB 32 and necessary to achieve these reductions. Finally, CARB's reliance on the CEC CHP estimate is reasonable both on theoretical and practical grounds. No better estimate exists at this time. For these reasons, the Appendix C modification recommended by PG&E should be rejected.

California agencies, devoted to examining environmental issues and policies, have consistently expressed support for CHP especially in developing GHG policy for the electricity sector:

- CEC/CPUC Final Decision on GHG Regulatory Strategies: *We want to avoid unintended negative consequences for CHP, which may be a valuable source of additional GHG emissions reductions in California.*<sup>8</sup>
- ETAAC Report: Cal EPA's ETAAC Committee efforts are directed to identifying and making recommendations regarding activities that will facilitate emissions reductions. Its report recognizes CHP's ability to "avoid transmission bottlenecks, decrease transmission losses and provide other operational benefits."<sup>9</sup> As part of its effort to identify such investments, it recommends the promotion of CHP projects that will contribute to lower GHG emissions and criteria air pollutants.<sup>10</sup>
- CEC's Integrated Energy Policy Report: The IEPR observes that CHP resources use fuel efficiently, minimize transmission and distribution line losses and will be important in the state's effort to lower GHG: *The importance of keeping this distributed generation capacity in the system is elevated by the state's need to reduce greenhouse gas emissions as part of AB 32. Combined heat and power in particular offers low greenhouse gas emissions rates for electricity generation taking advantage of fuel that is already being used for other purposes. The systems use waste heat for either process or electricity generation needs which results in very efficient*

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<sup>7</sup> PG&E's November 25, 2008 Comments on CARB's Proposed Scoping Plan, at 10.

<sup>8</sup> D.08-03-018, at 10.

<sup>9</sup> Recommendations of the Economic and Technology Advancement Advisory Committee Final Report on Technologies and Policies to Consider for Reducing Greenhouse Gas Emissions in California, at 4-4.

<sup>10</sup> *Id.*

*use of fossil fuels. Large combined heat and power units appear to offer the greatest fuel efficiency of available distributed generation technologies. Because combined heat and power systems are located close to the load, transmission and distribution line losses are minimized, further reducing greenhouse gas impacts.*<sup>11</sup>

- CEC's Report on CHP Market Potential: The CEC estimates that emissions savings from a high deployment of CHP resources can be as high as 9-11 MMtCO<sub>2</sub> in annual savings.<sup>12</sup>
- NARUC: NARUC's recently adopted resolution reflects several CHP benefits: *"The deployment of CHP and waste-energy recovery technologies increases generation efficiency, reduces fossil-fuel consumption, enhances generation diversity, and has the potential to improve system reliability, decrease line losses, reduce grid congestion, and reduce emissions of air pollutants and greenhouse gases . . . ."*<sup>13</sup>
- Joint Energy Action Plan 2008 Update: The EAP 2008 Update recognizes the value of CHP resources to the state's efforts to lower GHG emissions: *"In addition, new combined heat and power applications could play a large part in avoiding future greenhouse gas emissions due to the combined efficiency of the heat and power portions of the project".*<sup>14</sup>

These findings demonstrate that CHP resources will be a useful tool in the state's efforts to achieve AB 32 targets. Unless PG&E can provide specific examples of how promotion of CHP is contrary to state policy or state legislation, its claim is unsupported.

CARB's reliance on the CEC's CHP analysis is appropriate for the Scoping Plan estimate because it is the only study that has specifically examined CHP market penetration in California and its analysis is based on reasonable assumptions. CARB's CHP recommendations are based on the CEC's 2005 CHP Market Potential report's *"moderate market access scenario."* Unlike some of the other scenarios in that report that are based on incentives not existing in the California market, the moderate market access scenario is premised on reasonable assumptions: policy existing in 2005 plus a policy that facilitates CHP exports. Given these reasonable assumptions and the CEC's electricity sector expertise, it is reasonable for CARB to rely on these numbers. A more current estimate of CHP potential will be available once the CEC completes updating its recommendations regarding CHP market penetration.

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<sup>11</sup> CEC 2007 IEPR, at 209.

<sup>12</sup> Assessment of California CHP Market and Policy Options for Increased Penetration, dated July 2005.

<sup>13</sup> NARUC Resolution to Encourage the Use of Combined Heat and Power, including the Recycling of Waste Energy, adopted February 20, 2008.

<sup>14</sup> Joint Agency EAP 2008 Update, at 15.

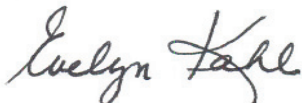
The CEC's CHP market potential estimate is not only reasonable on a theoretical basis but is also realistically feasible. Based on the EPUC/CAC constituency alone, up to 2,000 MW of CHP resource additions could be achieved by 2020 with proper CHP policy. It is noteworthy that the CEC's estimate does not fully capture this potential. While EPUC/CAC cannot speak on behalf of other large CHP coalitions or smaller scale CHP, this estimate suggests that the 4,000 MW addition is technically feasible and therefore a fair assumption.

The Proposed Scoping Plan estimate for CHP emission reductions is based on a well-documented state agency study. The projected expansion of CHP resources is also realistically feasible. Finally, the use of the CEC CHP estimate neither conflicts with agency findings on CHP or existing legislation. Accordingly, PG&E has not demonstrated that CARB's CHP recommendations must be qualified as "preliminary" or "contrary" to state policy.

### **Recommendations**

The CARB Scoping Plan has made great strides to promote statewide emission reductions through its comprehensive recommendations. It continues to reflect an informed understanding of the benefits of CHP. EPUC/CAC request that CARB refine the Scoping Plan consistent with the foregoing recommendations and look forward to discussing these issues further.

Very truly yours,

A handwritten signature in dark ink, reading "Evelyn Kahl". The signature is written in a cursive, flowing style.

Evelyn Kahl

**ATTACHMENT**



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September 24, 2008

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Air Resources Board  
1001 I Street  
Sacramento, CA 95814

**Re: Comments of the Energy Producers and Users Coalition and the Cogeneration Association of California on CARB Scoping Plan Measure Documentation Supplement**

Dear Mr. Shulock,

The Energy Producers and Users Coalition and the Cogeneration Association of California (EPUC/CAC) submit these comments as owners and operators of combined heat and power (CHP) facilities in California. Members of these coalitions own and operate roughly 3000 MW of existing CHP generation in California, located primarily at refineries and enhanced oil recovery operations. Several coalition members are also considering either replacement of existing CHP facilities with higher-efficiency plants or the installation of new facilities to meet growing thermal demand. In the interest of maintaining existing facilities and further developing CHP capacity, it is critical that CARB's Scoping Plan recommendation to promote emission reductions through addition of CHP resources focus on efficiency rather than size of the facility.

***CARB Recommendation to Increase Reliance on CHP Should Focus on Efficiency of Facility, Regardless of Size***

CARB's Measure Documentation Supplement, issued on September 17, 2008 reveals assumptions made in estimating emission reductions for recommended measures. The Measure Documentation Supplement presumes that 80% of CHP expansions will be through the development of small CHP smaller than 5 MW.<sup>1</sup> While assumptions regarding size are required to estimate emission reductions, greenhouse gas reduction benefits from CHP depend upon efficiency, not size. For this reason, CARB's efforts to implement AB 32 should focus on efficiency.

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<sup>1</sup> It is noteworthy that while the CARB draft scoping plan and the Measure Documentation refer to the CEC's CHP market potential analysis in support of its CHP expansion recommendation, CARB's overwhelming focus on small CHP is not supported by the CEC's analysis.

CHP measures that distinguish CHP by size will detract from the objectives of AB 32. Regardless of size, the higher a project's efficiency, the greater the energy savings that result when compared with stand-alone production of heat and power. The higher the energy savings, the greater the GHG reduction benefit delivered by a project. Given the state's objective to materially lower GHG emissions, therefore, it is appropriate for CARB's draft scoping plan to favor those facilities, regardless of size, that are capable of greatest fuel efficiency.

### **Recommendations**

CARB's recommendations for implementation of AB 32 policy reflect an understanding of the many benefits of CHP and the issues faced by CHP today. EPUC/CAC request that CARB refine the Scoping Plan consistent with the foregoing recommendations and look forward to discussing these issues further.

Very truly yours,

A handwritten signature in dark ink, appearing to read "Evelyn Kahl". The signature is fluid and cursive, with the first name "Evelyn" written in a larger, more prominent script than the last name "Kahl".

Evelyn Kahl