

Attachment B

Electricity Generation Sector Recommendations

ARB Scoping Plan Recommendations for Energy Generation

Background

Energy generation is one of the largest sources of greenhouse gas (GHG) emissions in California and a major barrier to achieving the GHG reduction levels mandated by AB 32. Moreover, the unfortunate reality of many of the state's fossil-fuel based generating plants is their close proximity to environmental justice communities. Many of these power plants were placed in these communities because they were closer to industrial areas and had less restrictive zoning than alternative locations. Predominately low-income and minority communities suffer a disproportionately higher burden to their health by hosting these emitters of NOx, SOx, Particulate Matter, and of course, GHG. The ARB Scoping Plan provides an opportunity to recognize that one of the most effective methods to reduce greenhouse gas emissions and provide real air quality improvement in these communities through the development of renewable energy and maximization of energy efficiency measures.

The concern many environmental justice organizations have with a proposed cap and trade system is that it allows many GHG emitters to buy their way out of compliance. Many generator operators will choose to purchase credits over making real emission reductions if the former is more cost effective. Poorer communities are already suffering from worse air quality than the average community and are far more likely to face disproportionate impacts from climate change.

The electricity sector in particular is a highly complex and volatile sector with many different aspects. Therefore, transparency and accountability are necessary to ensure real GHG emission reductions will be inherently difficult. A cap and trade system is not well-equipped to deal with many of the cost shifts that would allow energy generators to continue to emit GHG while still complying with the system.

Thus, it is imperative that the Air Resources Board look at alternatives to a cap and trade program with respect to reducing emissions directly attributable to energy generation.

Key Elements

1. Active enforcement of the loading order
2. Phase-out of older, more polluting power plants
3. Carbon Fee

1. Active Enforcement of the Loading Order

The Loading Order states that in terms of acquiring energy in the state of California, utilities should look first to energy efficiency measures, then to the development of renewable energy sources, and if the previous two sources are exhausted, only then should fossil fuel-based generation be utilized starting with the most efficient first. This would wean utilities away from fossil fuel energy and toward more sustainable means of generation. The Air Resources Board, the ultimate air quality authority in the state and the main agency with the responsibility of meeting the state's greenhouse gas emission

targets as stated in AB 32, must adopt measures to enforce the loading order from an air quality perspective.

The Loading Order fits with the ARB's mission and goals within AB 32 as the hierarchy of the loading order is consistent with each energy sources' overall emission of greenhouse gases. For example, energy efficiency and renewable energy, highest on the loading order, are the cleanest sources in terms of greenhouse gas emissions.

Fossil fuel generation, on the other hand, is the largest single emitter of greenhouse gas emissions in the state. Therefore, to ensure meaningful GHG emission reductions, ARB must include in the scoping plan measures that enforce and strengthen the loading order thereby decreasing the emissions from fossil fuel-based energy generation.

To enforce the Loading Order from an air quality perspective, we recommend ARB take the following actions:

- Explicitly adopt and include requirements to implement actions that comply with the Loading Order in the air permitting process as part of the AB32 Scoping Plan as integral to meeting the AB 32 limits.
- Tie issuance of air permits by local air districts to the loading order. For any permit issued, conditions of the permit or project must include actions that implement the first three priorities of the loading order: efficiency, demand response, and clean renewable energy.
- Create an in-state renewable energy project fund at ARB that will allow implementation of a requirement that fossil fuel-fired power plants will only be permitted if the capacity is matched by **an equal amount** of capacity from renewable energy projects.
- Adoption of incentive packages to encourage renewable energy measures designed to decrease carbon dioxide emissions. An aggressive incentive package should be passed as soon as possible to facilitate the phase out of aging power plants and replace significant carbon dioxide emitting energy generation with cleaner renewable energy.
- Require local and regional governments to adopt mandatory green building standards designed to maximize energy efficiency as part of their regional air quality compliance measures.
- The Scoping Plan must include an analysis of institutional and regulatory barriers to maximum deployment of solar and renewable energy such as limits on the wheeling of energy and lack of a feed-in tariff for solar power and urge CAL-EPA to sponsor legislation to remove these barriers.
- Establish incentive programs for large-scale renewable energy development for port districts adopting cold ironing.

2. The phase-out of older, more inefficient power plants.

ARB must adopt a strict emission standard for gradual phase out of aging power plants. This rule would apply to the emission of carbon dioxide by plants rated over 100 MW and built prior to 1980. Regulating and reducing carbon dioxide (CO₂) emissions through this emission standard is consistent with ARB responsibilities under AB 32.

Under our concept, these plants would be given until 2012 to bring their emissions down to a level equivalent to the 2008 cleanest combined cycle plant operating at a heat rate of

around 6500¹. There would be a **scaled and planned annual reduction** in the limit between 2008 and 2012. If the plant could not meet the interim and final limits, it would have to stop operating.

It is vital to clarify, however, that replacement energy generation that would have to be developed following this phase-out must come from renewable energy or other forms of clean, distributed generation such as fuel cells or combined heat and power. These cleaner forms of energy would dramatically decrease the level of overall carbon emissions and provide air quality relief to long-suffering environmental justice communities. According to a recent California Energy Commission report, *Resource, Reliability, and Environmental Resources of Aging Power Plants* (August 13, 2004), replacement of an aging power plant with solar energy could save up to 1400 lbs per MW hour of carbon emissions. Thus, it is imperative to couple this phase-out rule with the proposed rules implementing and enforcing the loading order.

An important part of this proposal is that ARB should communicate with the California Independent Systems Operator (CAISO) and urge them to develop an energy-reliability plan that will not rely on these aging power plants beyond 2012. However, unlike SB 1368, which requires coordination with CAISO, our proposal proposes action to be taken by ARB alone. CAISO does not have the responsibility to protect public health or stop global warming, and so has a narrower criterion to meet in terms of the energy decisions they make. ARB should set the standard here and encourage CAISO to develop alternate means to meeting their responsibilities. ARB should further encourage CAISO to develop and promote in-basin projects that reduce air pollution and increase security.

3. Establish a Carbon Fee for the Electricity Sector

The CPUC stated in their recent hearings that they did not seriously review carbon tax as part of their recommendations to the ARB regarding the AB 32 Scoping Plan. Evaluation of a carbon fee is important, especially considering the proposed imposition of a cap and trade policy, because a carbon fee is a more effective alternative and is more likely to bring about real emissions reductions within the sector than a cap and trade scheme.

A carbon fee is simply a fee attached to the emission of carbon. Rather than based on complicated reporting schemes, a carbon fee is based on generally accepted ratios of carbon emissions per type of fuel burned. A carbon fee would provide a cost stability and certainty and exert pressure on continuing carbon emissions over permissible levels that would not exist within a cap and trade scheme.

Within the context of energy generation, a carbon fee is much more appropriate as a means to reduce carbon emissions than a cap-and-trade system. The complexities of the electricity market make the imposition of a cap and trade system especially problematic. The electricity market contains too many issues such as who should bear the ultimate responsibility of the cap, how should out-of-state power plants be dealt with, and how to create a system in which ratepayers are protected from volatile energy prices. There is too

¹ New efficient combined cycle assumed to use FA class turbines.

much potential for a power plant to continue running and pollute over the cap if the price of energy sold to the utility is enough to cover the price of credits. This would not provide the reduction of emissions that AB 32 mandates.

Therefore, it is our recommendation that ARB Scoping Plan require a carbon fee within the electricity generating sector as one means to achieve that sector's reductions mandated under AB 32.