



NATURAL RESOURCES DEFENSE COUNCIL

April 5, 2005

California Energy Commission
Docket Unit, MS 4
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Sacramento, California 95814-5512

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Subject: Docket No. 04-CCCA-1: NRDC comments on Climate Change and Policy Options Draft Papers

To Whom It May Concern:

Please find enclosed a copy of the Comments of the Natural Resources Defense Council (NRDC) on the "Global Climate Change" Draft Staff Paper in Support of the 2005 Integrated Energy Policy Report, and the "Policy Options for Reducing Emissions from Power Imports" Draft Consultant Report. These comments were filed by e-mail to docket@energy.state.ca.us.

If you have any questions, please feel free to contact me at 415-875-6100. Thank you.

Sincerely,


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**Comments of the Natural Resources Defense Council (NRDC)
on the
“Global Climate Change” Draft Staff Paper
in Support of the 2005 Integrated Energy Policy Report, and
“Policy Options for Reducing Emissions from Power Imports” Draft Consultant
Report**

Docket Number 04-CCCA-1
April 6, 2005

Submitted by:
Audrey Chang and Devra Bachrach

The Natural Resources Defense Council (NRDC) appreciates the opportunity to offer these comments on the California Energy Commission’s Draft Staff Paper on “Global Climate Change” in support of the 2005 Integrated Energy Policy Report (IEPR), and the Draft Consultant Report on “Policy Options for Reducing Emissions from Power Imports.” NRDC commends the CEC for proactively addressing California’s contribution to global climate change and examining policy options for reducing California’s greenhouse gas emissions.

We first offer general comments that apply to both draft papers, followed by specific comments for each paper.

General Comments

NRDC strongly commends the CEC for including both in-state and out-of-state electricity generation serving California load in its calculations and analysis of the state’s greenhouse gas emissions.

As the Draft Staff Paper points out, the carbon intensity of California’s imported electricity is at least two times (and as much as several times) higher than that of in-state electricity, and California has historically relied on a fifth to almost a third of its electricity consumption from out-of-state generators. The Draft Consultant Report expressly examines the policy actions California can take to address out-of-state electricity generation, which is essential in developing a comprehensive California policy to address climate change. We commend the CEC for acting on parties’ suggestions for improvements to the previous emissions inventory, and for recognizing and including this important segment of the state’s greenhouse gas emissions when considering possible policy actions.

Comments on “Global Climate Change” Draft Staff Paper

California’s position as the tenth largest emitter of greenhouse gases in the world warrants individual action.

In addition to identifying California as having the sixth largest economy in the world, NRDC suggests that the Paper's Introduction also note that California is the tenth largest emitter of greenhouse gases (GHGs) in the world.¹ While the Staff Paper states that "individual states cannot combat global warming alone" (p. 1), California alone contributes more to global warming than many countries that have already committed to lowering their greenhouse gas emissions in accordance with the Kyoto Protocol, which entered into force on February 16, 2005. Thus, as one of the largest greenhouse gas emitters in the world, it is beneficial for California to act even alone, while simultaneously pursuing broader regional and national policies. The state's individual efforts to reduce its greenhouse gas emissions *will* be significant in the context of the global effort to combat climate change.

California's record should be placed in the context of other states and countries.

California has been and continues to be a leader in both the nation and the world in addressing global climate change through various policies. While California is a large emitter of greenhouse gases, California has also done a lot to reduce emissions. NRDC suggests that the Paper show California's emissions in comparison with other states and countries using various metrics including absolute emissions, emissions per capita, emissions per gross state (or domestic) product, etc. This will help provide the context to understand California's emissions and policies to reduce emissions.

Effective policies can enable economic growth without similar growth in emissions.

The Draft Staff Paper's section on "Projected Greenhouse Gas Emissions" could leave the reader with the impression that emissions are largely dependent on economic conditions (p. 8). While economic conditions certainly have an impact, other factors also have a large influence. In particular, California's numerous policies to reduce emissions have effectively lowered the state's growth rate of GHG emissions. Indeed, California's experience in the electricity sector demonstrates that economic growth need not be accompanied by proportional increases in energy consumption: over the past 25 years, California's inflation-adjusted economic output per unit of electricity consumed increased over 40% while the rest of the nation increased by only 8%.² We suggest that the Staff Paper give credit in this section to the various policies that have helped make the GHG emissions curve flatter than it otherwise would be.

Existing and recently enacted state policies will continue to curb the growth of greenhouse gas emissions in the state.

¹ California's CO₂ emissions in 1999 were 346 MMTCO₂ from in-state sources and 73 MMTCO₂ due to imported electricity, for a total of about 419 MMTCO₂ associated with total demand (CEC, *Inventory of California Greenhouse Gas Emissions and Sinks: 1990-1999*, Publication #600-02-001F, November 2002, pp. 6, 180). This places California tenth in the rankings of the world's countries' CO₂ emissions (United Nations Environment Programme, *Global Environment Outlook*, 2004, <http://geodata.grid.unep.ch/page.php>).

² D. Bachrach, M. Ardeman, and A. Leupp, *Energy Efficiency Leadership in California: Preventing the Next Crisis*. April 2003, p. 2

The Draft Staff Paper's statement, "GHG emissions in California are projected to increase steadily in the future despite the benefits of recently enacted state policies" (p. 8), gives the impression that the current policies are ineffective. However, the Paper also says that California's emissions are expected to grow by 32 percent from 1990 to 2020 (p. 5), but that "[w]ithout these state policies in place, the state's GHG emissions would rise by another 40 percent above 1990 levels by 2020 (p. 8)." The fact that current policies have reduced the growth rate of GHG emissions by more than half is an impressive result and should be reflected more prominently and earlier in the paper, perhaps in the "Greenhouse Gas Emissions Trends" section on page 5.

The Energy Action Plan's "loading order" is an essential part of current state policy, and it establishes energy efficiency and renewable energy as the state's top priority resources.

Although the state's *Energy Action Plan* (EAP) is mentioned generally by the Draft Staff Paper in the context of utility resource procurement and state environmental goals, the Staff Paper currently does not discuss the state's important "loading order" policy for the procurement of energy resources. This "loading order" of resources places the acquisition of all cost-effective energy efficiency as the state's first priority, followed by renewable energy sources, and is a key part of California's strategy to combat global warming. NRDC recommends that the Paper include a more detailed discussion of the EAP "loading order" of resources.

The municipal utilities and other load-serving entities (LSEs) must play an important role in reducing the state's emissions.

The publicly-owned utilities are a significant segment of California's electricity industry, providing about a quarter of all the electricity sold in the state. They therefore play a significant role in determining whether or not California meets its public policy objectives for the electric industry. However, both the Energy Efficiency and Renewable Portfolio Standard sections of the "Existing State Policies and Programs" segment of the Draft Staff Paper primarily address the role of the investor-owned utilities. The resource investments made by municipal utilities and other LSEs have important implications for the state's GHG emissions. The CEC should provide more information on the municipal utilities' and other LSEs' actions to reduce GHG emissions, and explicitly include them in determining how the state can meet its emission reduction goals.

California's energy efficiency programs have and will continue to greatly reduce the state's GHG emissions.

The Energy Efficiency section of the Draft Staff Paper rightly gives large credit to California's building and appliance standards for reducing greenhouse gas emissions. However, the important role of energy efficiency programs in reducing greenhouse gas emissions should also be discussed, as they have historically saved an approximately equivalent amount of energy. Although "state level" energy efficiency programs are

given brief acknowledgement at the end of the section, there are numerous programs throughout the state whose impact should be discussed.

Moreover, these energy efficiency programs will become an increasingly important source of emission reductions in the coming years. Consistent with the EAP's "loading order" discussed above, the CPUC adopted in September 2004 the most aggressive energy savings goals in the country, which will more than double the level of savings over the next decade. Combined, the electricity and natural gas savings will reduce CO₂ emissions by more than an estimated 9 million tons per year by 2013. The energy savings goals will save nearly 5,000 MW and 444 million therms by 2013, and will cut the regulated utilities' electricity and natural gas consumption growth by more than half. And while California has already been successful at holding per capita electricity consumption fairly steady over the past quarter century, even as per capita consumption in the rest of the country increased by nearly 50%, the new saving goals will start to bend California's per capita consumption curve downward.

The CPUC's "GHG adder" represents the financial risk associated with the likely future regulation of GHG emissions.

The Draft Staff Paper's description on page 10 of the CPUC's "GHG adder" should be clarified. The GHG adder does not address "climate change risk," which could be interpreted to mean general risks associated with climate change, such as more heat waves, water shortages, etc. Rather, the GHG adder specifically represents the *financial* risk associated with GHG emissions due to likely future regulation of carbon dioxide emissions.³

In addition, the Paper states that "by internalizing climate change risk into the evaluation of bids for fossil-fueled generation, the utility procurement process will allow renewable and demand-side management options" (p. 10). As these options are already a central part of utility procurement, the Paper should clarify that by internalizing the financial risk of GHG emissions into the evaluation of long-term resource commitments, the GHG adder will encourage the utilities to invest in more low-emitting resources, such as efficiency and renewables, and in less high-emitting resources such as conventional coal.

Additional Comments/Requests for Clarification

- Since carbon dioxide emissions comprise the vast majority (82%) of California's greenhouse gas emissions, NRDC recommends an additional chart like Figure 2 of the Draft Staff Paper that shows the sources of California's CO₂ emissions. Such a graph indicating the end-use sector sources of CO₂ emissions will help identify the most effective sectors to target to reduce the state's CO₂ emissions.

³ We recommend revising the first paragraph on page 10 to read: "In December 2004, the CPUC recognized the importance of reducing GHG emissions in its decision on utility resource procurement that directed the state's investor-owned utilities to account for the financial risks associated with greenhouse gas emissions in their long-term procurement bid evaluations and resource procurement plans."

- While currently named “Global Climate Change,” the paper specifically addresses global climate change as it relates to California. As such, NRDC suggests modifying the title of the paper to be “Global Climate Change and California,” similar to the Staff Report entitled, “Climate Change and California,” prepared in support of the 2003 Integrated Energy Policy Report (Publication #100-03-017F).

Comments on “Policy Options for Reducing Emissions from Power Imports” Draft Consultant Report

NRDC strongly supports a statewide cap on greenhouse gas emissions associated with power demand, rather than a cap on generation emissions, as the best policy option for California to combat climate change.

The Center for Clean Air Policy Draft Consultant Report recommends that California implement a cap on greenhouse gas emissions associated with energy consumption (a “load-based” cap) rather than generation-based cap. This view is also supported by the general consensus reached by the parties in attendance at the recent CPUC Workshop on Procurement Incentive Mechanisms (March 7-9, 2005). NRDC agrees with the Report that a load-based cap makes the most sense for California. NRDC supports a statewide declining cap on emissions associated with electricity and natural gas sold to all end-use customers. Since the state relies on out-of-state imports for about a fifth of its power demand, and much of this imported power is very carbon-intensive, an effective cap must encompass all greenhouse gas emissions associated with the state’s power use. Such a policy places responsibility for meeting the cap on all retail sellers of electricity and natural gas in California, so that it captures all the CO₂ emissions from these sectors. NRDC supports different policy approaches in other states depending on the particular context, since circumstances differ in various states and regions.

A load-based GHG emissions cap would *not* compromise power reliability.

NRDC believes that the Draft Consultant Report’s places excessive emphasis on fears that a cap on emissions associated with power demand could result in increased potential for problems with power reliability. A cap on emissions must work in concert with the state’s other policies to ensure adequate reliability.⁴ For example, a cap would be one of dozens of factors that affect power flows and the grid operators have mechanisms in place to ensure reliability and they will continue to operate under a cap. A properly designed emission reduction program would *not* compromise reliability; the program must be *part* of the state’s efforts to ensure that customers receive affordable, reliable and environmentally sensitive energy services.

Indeed, to the extent that a cap drives more investment in energy efficiency and distributed resources, it could *improve* overall reliability by decreasing power demand over transmission lines. We urge the CEC to discuss the flexible compliance

⁴ The CPUC currently has a substantial effort underway to establish resource adequacy requirements as part of its effort to ensure adequate reliability.

mechanisms that would enable a cap to be met without compromising reliability, instead of focusing on the unlikely scenarios currently discussed in the draft Report.

“Contract shuffling” is a concern primarily for short-term commitments and existing resources.

The Draft Consultant Report places considerable emphasis on the potential for compliance with a cap through reallocation of existing resources or contracts (“contract shuffling”) (pp. 10, 13). While contract shuffling is a concern, it is a more limited issue than the Report currently reflects. Contract shuffling is primarily a *short-term* concern associated with existing resources. The reality in the current electricity market is that new resources are not going to be built without long-term contracts, and those long-term contracts will identify the unit (and thereby the associated emissions). In addition, the CPUC is considering requiring even shorter-term contracts to be unit-contingent as part of the resource adequacy requirements; if adopted, this policy would help with the problem of identifying emissions.

The CEC should consider additional alternatives for assigning emissions to unidentified market electricity purchases.

The Draft Consultant Report suggests “assum[ing] that all power imports meet a system average emission rate” (p. 20) to avoid gaming problems. One potential drawback of this approach is that it could encourage more coal to be sold at this average rate (which would be lower than coal’s actual emission rate) in order to appear cleaner. In addition, California utilities currently import power from particular plants whose emissions are identifiable, and therefore should be identified rather than assigned a system average rate. We urge the CEC to consider a policy that would assign a default emission rate for unidentified market purchases based on the emissions associated with a conventional coal-fired power plant. This policy would both encourage utilities and power plant owners to participate in the development of a system to identify and track emissions, and would prevent gaming by the highest-emitting plants.

The consideration of allowance allocation methodologies should be expanded.

The Draft Consultant Report states that “the same methods for allocating allowances to generators are available to allocate allowances to LSEs” (p. 21). While NRDC agrees with this statement, we also believe that *additional* allocation methods are available with a load-based cap. Because most LSEs are either publicly-regulated or publicly-owned entities, rather than private companies like most generators, the options for allocating allowances are expanded under a load-based cap. Allowances can be allocated to the “public” by allocating them to LSEs as trustees on behalf of their customers. This creates interesting alternatives to the “auction” approach to allocating allowances to the “public” discussed under a generator-based cap. We urge the Commission to consider additional allocation methodologies that take advantage of the unique attributes of a load-based cap. In particular, we urge the Commission to explore allowance allocations based on the number of customers each LSE has.

The choice of allocation can have a large effect on the distributional impact of the overall policy, and therefore requires careful consideration. NRDC recommends the following principles for establishing an allocation methodology:

- i. The allocation should not create large windfall profits for private businesses.
- ii. The allocation should not penalize “early actors” – those LSEs that have proactively reduced CO₂ emissions already.
- iii. The allocation should ensure that LSEs are appropriately motivated to make investments that will reduce emissions.
- iv. The allocation should minimize the administrative burden involved in implementation.
- v. The updating methodology should not penalize LSEs that have taken action to reduce emissions.

NRDC urges the CEC to include a discussion of the principles that should be used in determining the appropriate allocation methodology in the Report.

NRDC recommends a more thorough consideration of cost containment mechanisms.

The Draft Consultant Report recommends consideration of a price cap to control the costs of a load-based emissions cap (p. 21). However, there is little discussion about how California should determine whether and what type of cost containment mechanisms are necessary. The costs associated with a cap will depend on the level of the emissions cap, the rate at which that cap declines over time, the flexible compliance mechanisms, etc. Therefore, a more thorough analysis is needed to determine whether additional mechanisms would be desirable to help contain the costs of the policy. An important consideration in designing cost containment mechanisms is the trade-off between creating certainty about costs and certainty about emission reductions. We urge the Commission to consider additional cost containment mechanisms that provide more certainty about emission reductions than a price cap. In particular, we urge the CEC to consider a “circuit breaker;” under a circuit breaker, the cap would decline as long as the price of allowances remains below a predetermined “circuit breaker” price, but the decline of the cap would freeze once the “circuit breaker” price is exceeded.

Energy efficiency is an important low-cost mitigation option.

The discussion of “Encouraging lower-cost mitigation options” (p. 7) addresses the costs of reducing emissions at power plants, but leaves out the consideration of end-use energy efficiency as a low-cost alternative to installing emissions-reduction technologies on site at existing or new natural gas power plants. The Energy Action Plan and CPUC energy savings goals both emphasize the procurement of all cost-effective energy efficiency.

An additional limitation of an emission portfolio standard is that it would likely not allow for expansion into and integration with other sectors and other GHG trading systems.

In the discussion of an emission portfolio standard (EPS), an additional limitation of such a policy should also be discussed. If an EPS-type system allowed trading, it would be limited in its capability to expand to other sectors or regions, since a traded "allowance" under this policy would not be worth a unit of CO₂, but instead would represent a unit of CO₂ per MWh. This would make it incompatible, for example, with the Northeast's Regional Greenhouse Gas Initiative and the European Union's Emission Allowance Trading Scheme. NRDC recommends that California create a system that can be easily expanded to cover additional sources of GHG emissions outside of the power industry and to harmonize with policies implemented in other states and countries.

Additional Comments/Requests for Clarification

- The Draft Consultant Report states that "[e]missions from out-of-state power plants are estimated at 54 MMTCO₂ in 1999" (p. 6). However, the CEC's 2002 inventory of greenhouse gases states that "the CO₂ emissions associated with the imported electricity is on the order of ...73.0 MMTCO₂ Eq. in 1999."⁵ We urge the Commission to clarify why these two figures differ.
- The "Description of Policy Alternatives to Generator-Based Cap-and-Trade" (p. 7) should make it clear that all the policies listed could be pursued at the multi-state level as well as by California alone.
- As we described above, California is the tenth largest GHG emitter in the world. As such, NRDC suggests that the Draft Consultant Report's section on "Multi-state approaches" (p. 8) should emphasize that whether California acts alone or together with neighboring states to pursue a greenhouse gas policy, the actions will be meaningful.

Conclusion

NRDC commends the CEC for an excellent start at analyzing California's contribution to global warming and what additional policies California can implement to reduce emissions. We look forward to continuing to work with the Commission and the other stakeholders to explore the best policy options for California to reduce global warming pollution.

⁵ CEC, *Inventory of California Greenhouse Gas Emissions and Sinks: 1990-1999*, Publication #600-02-001F, November 2002, p. 180.