Comments of the Natural Resources Defense Council (NRDC) on the 2007 *Integrated Energy Policy Report* Scope

Docket Number 06-IEP-1
May 8, 2006

Submitted by:
Audrey Chang

DOCKET
06-IEP-1
DATE MAY 8 2006
RECD MAY 8 2006

The Natural Resources Defense Council (NRDC) appreciates the opportunity to offer these comments on the California Energy Commission's (CEC) 2007 *Integrated Energy Policy Report* (IEPR) scope. NRDC is a non-profit membership organization with a long-standing interest in minimizing the societal costs of the reliable energy services that Californians demand. We focus on representing our more than 131,000 California members' interest in receiving affordable energy services and reducing the environmental impact of California's energy consumption.

We thank the Commission for soliciting public input on "The Integrated Energy Policy Report Committee's Preliminary List of Key Topics for the 2007 *Integrated Energy Policy Report*" (Preliminary List). NRDC encourages the CEC to continue its strong record of providing opportunities for public input as it prepares the Report.

We organize our comments following the Preliminary List. In summary, NRDC encourages the Commission to make the following issues among the top priorities for inclusion in the *2007 IEPR*:

- The IEPR should delineate an integrated planning process that includes portfolio analysis of future resource fuel types, and assesses and mitigates all significant risks, including the financial risk associated with the likely future regulation of greenhouse gas emissions.
- The IEPR should provide detailed information about California's publicly-owned electric utilities, including their investments in energy efficiency and renewable resources and their long-term investment plans. In addition, NRDC strongly urges the CEC to work with the publicly-owned utilities to set energy saving targets for each utility to enable the state to meet its statewide goals.
- The IEPR should build upon and update the 2005 Staff Paper, "A Preliminary Environmental Profile of California's Imported Electricity," to better inform state policymakers about the policies to reduce the impact of California's imported electricity.

General Comments

We support "Environmental Performance of the Energy Sector" as a key topic for the 2007 IEPR, and suggest that environmental protection be considered throughout the IEPR. NRDC supports the examination of the "Environmental Performance of the Energy Sector" as a key topic for the 2007 IEPR. However, we suggest that environmental protection should be reflected throughout the IEPR. Another key topic listed is "Reliability, Availability and Security through Diversity," in which the goal of protecting the environment is not mentioned. This goal

is expressed repeatedly throughout the legislation requiring the IEPR (Senate Bill 1389, Statutes of 2002, Chapter 568), and is prominently featured in the recently-adopted Energy Action Plan II, which states: "Our overarching goal is for California's energy to be adequate, affordable, technologically advanced, and environmentally-sound." We urge the CEC to correct this oversight when outlining the key topics for the *entire* 2007 IEPR, and we suggest the topic is revised to be "Reliability, Availability, Security and Environmental Protection through Diversity."

Electricity & Natural Gas Supply, Demand and Infrastructure

1. Integrated Planning, Procurement and Monitoring

A. The *2007 IEPR* should have as a primary focus the portfolio analysis of future resource fuel types, in order to ensure the appropriate implementation of the loading order, compliance with the state's greenhouse gas reduction targets, and to choose those resources that are best for California customers.

A key recommendation of the *2005 IEPR* is as follows: "The Energy Commission should ensure that portfolio analysis of future resource fuel types is a primary focus of the next Energy Report cycle and make the necessary changes in its Common Forecasting Methodology regulations to ensure appropriate information is collected from LSEs. Details of the evaluation methodologies used, as well as the analytical results, should be the subjects of public workshops or hearings." (p. 57)

An analysis of all LSEs' long-term plans that include detailed analyses of different potential resources and portfolio options will help ensure that California's public policy goals are met. Specifically, the loading order established in the Energy Action Plan calls for clean, fossil fuel, central-station generation following the optimization of energy efficiency, renewable energy and distributed generation. Yet, the current long-term plans do not differentiate between the different resource fuel types (i.e. natural gas, conventional coal, IGCC, etc.) that the utilities may consider building or may see in their competitive solicitations.

Without an analysis that compares these different resource types based on cost, risk, emissions and efficiency, policymakers cannot explicitly understand the tradeoffs of those choices and cannot properly implement the loading order called for in the Energy Action Plan, or ensure that California's greenhouse gas reduction goals are met. We urge the CEC to include in the 2007 IEPR a description of the long-term planning components for all utilities in the state—investor-owned and publicly-owned utilities (POUs)—that analyze portfolios of different resource types through a transparent, public process, in order to determine which portfolio provides the most affordable, least risky and most environmentally sensitive energy services.

B. The integrated planning process should ensure that all significant risks are appropriately assessed and mitigated, including the financial risk associated with the likely future regulation of greenhouse gas emissions.

It is highly probable that greenhouse gas emissions, particularly carbon dioxide emissions, will be regulated within the utilities' long-term planning horizon. NRDC estimates that the future financial risk of carbon emissions in the next decade addressed by utilities' long-term plans is on the order of *$3 billion for California's three largest investor-owned utilities alone*. This poses a significant and real financial risk for both utilities and their customers. In developing an integrated planning, procurement, and monitoring process, we urge the CEC to explore how the IOUs, the CPUC, and the Directors of POUs should mitigate the financial risk associated with future carbon regulation in their planning and investment decision-making.

The Commission can look productively to the "greenhouse gas adder" established by the California Public Utilities Commission for the IOUs, as well as both PacifiCorp and Idaho Power Company, both of whom explicitly address the financial risk of carbon emissions in their recent IRPs. For example, the base case scenario for Idaho Power Company's 2004 IRP assumed $12.30 per ton CO_2 as the estimated future cost of carbon emissions beginning in 2008, while also providing scenario analysis at $49.21 and $0 per ton CO_2.[1] PacifiCorp, the largest coal-based utility in the West, published a 2004 Integrated Resource Plan using $8 per ton CO_2 as the estimated cost of carbon emissions.[2] These examples provide conservative estimates: for example, the Energy Information Administration's analysis of the Climate Stewardship Act (S.139) found carbon dioxide allowances to be in the range of $22 to $49 per ton, over the period 2010-2020 (in 2001 dollars).[3] The Massachusetts Institute of Technology's Joint Program on the Science and Policy of Global Change modeled S.139, and found that the emissions allowance price of carbon dioxide would likely range from $21 per ton in 2010 to $36 per ton in 2020 (in 2001 dollars).[4]

We urge the CEC to ensure that the future cost of greenhouse gas emissions is appropriately integrated into the planning process.

C. The 2007 IEPR should provide detailed information about California's publicly-owned electric utilities, including their investments in energy efficiency and renewable resources and their long-term investment plans.

The publicly-owned, or municipal, utilities (POUs) are an important 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. The Energy Report should provide as much detail about the activities and plans of the POUs as it provides about the investor-owned utilities (IOUs).

As part of implementing the CEC's strategies outlined in the Climate Action Team Report to meet the state's greenhouse gas reduction goals, NRDC urges the CEC to solicit detailed

---

[1] Idaho Power Company. "2004 Integrated Resource Plan." p. 60. http://www.idahopower.com/pdfs/energycenter/irp/2004/2004_IRP_final.pdf

[2] PacifiCorp. "Integrated Resource Plan 2004." p. 55. http://www.pacificorp.com/File/File47422.pdf

[3] Energy Information Administration, "Analysis of S.139, the Climate Stewardship Act of 2003," Publication # SR/OIAF/2003-02, June 2003, http://www.eia.doe.Gov /oiaf/s139_analysis.html.

[4] S. Paltsev et al., "Emissions Trading to Reduce Greenhouse Gas Emissions in the United States: The McCain-Lieberman Proposal," MIT Joint Program on the Science and Policy of Global Change, Report No. 97, June 2003, p. 21, scenario 7.

information on the energy efficiency and renewable energy investments and the long-term resource plans of each LSE, including California's POUs, in order to provide policymakers with a better understanding of the state's energy industry. In particular, the CEC should report the detailed information on the POUs' investments in energy efficiency (per SB 1037) and renewable energy. The IEPR should analyze the POUs' contributions to the statewide goals of capturing all cost-effective energy efficiency, and work with the utilities to set energy savings goals for each POU. Specifically, we urge the Commission to address the following issues in the Energy Report and make recommendations about how the POUs might more fully realize these goals:

- What specific programs are being funded by the public-benefits charge? At what levels?
- What levels of energy savings are these programs achieving? How much renewable capacity/generation have these investments produced?
- Are the POUs making investments in cost-effective energy efficiency and in renewable resources beyond the funding from the public-benefits charge? Do they have plans to make such investments in the future?

Concerning the investments in renewable resources, the CEC should continue to report on the extent that the IOUs and POUs are integrating renewable resources into their procurement portfolios in order to reach the state's goal of meeting 20% of statewide energy consumption from renewable resources by 2017, as well as 33% by 2020.

2. Electricity Demand Forecast

A. NRDC encourages the CEC to include forecasts of average customer bills, both statewide and by utility territory, in addition to the commodity price forecasts.

Most customers care about the total amount that they pay to receive energy services, rather than the cost per unit of that energy. In other words, most customers could probably estimate the cost of their average monthly bills, but would not know the price of each kWh used. For that reason, price forecasts that focus on commodity pricing alone do not provide a complete analysis of customer satisfaction. We urge the CEC to calculate average bills not just for the state of California as a whole, but also for each major utility service territory, including those of the publicly-owned utilities. This requires an analysis of both the monthly average consumption by territory as well as the average price. By examining average customer bills, the Energy Report will be able to more fully evaluate whether each utility is achieving the goal of providing affordable reliable energy services to its customers.

Environmental Performance of the Energy Sector

We suggest here some further specific areas to be included in the 2007 IEPR, beyond those listed in the Preliminary List.

I. Environmental Impact of California's Electricity Imports

We urge the Commission to make the environmental impact of California's electricity imports a central part of the *2006 Energy Report Update* and *2007 IEPR*.
NRDC commends CEC staff for investigating the environmental impacts of California's imported electricity in the 2005 Staff Paper, "A Preliminary Environmental Profile of California's Imported Electricity." We strongly recommend that this paper be updated as part of the 2006 Update and also integrated into the 2007 IEPR, as it is an extremely valuable start to enable California to begin taking full responsibility for the environmental impact of its electricity consumption. Over time, we urge the Commission to continue to build its analysis of imported electricity, so that California has both a historical record as well as future projections of the environmental impact of California's imports. Drawing from our comments on the Staff Paper filed July 15, 2005, we suggest ways in which the analysis in this report could be strengthened.

The comparison of various technologies' emissions rates should also include existing technologies, including simple-cycle natural gas plants, to help policymakers determine the desirability of investing in different types of new power plants.
NRDC commends the Commission for assembling into a table the information on the emission rates of various technologies in "A Preliminary Environmental Profile of California's Imported Electricity." The comparison of various technologies' emissions rates will help California determine the desirability of investing in different types of new power plants. We suggest that the Commission expand this table to also look at the emission rates of existing technologies, so that policy-makers can compare the emissions associated with existing versus new technologies. We also urge the Commission to include simple-cycle natural gas plants in the table. Additionally, we recommend that the CEC include mercury, which is a significant pollutant from the out-of-state coal-fired power plants, in the table of emission rates.

The Commission should model the environmental impact of various scenarios of future electricity imports and the impact on California's ability to meet Governor Schwarzenegger's greenhouse gas (GHG) emission reduction goals.
The Staff Report provides helpful information about the various power plants proposed and under development throughout the West. Many of these plants hope to sell their power to California. The Commission should model various scenarios of future electricity imports to California and their environmental consequences, including the impact on California's ability to meet Governor Schwarzenegger's GHG emission reduction goals. In particular, the Commission should model the impact on GHG emissions if California were to make new commitments to out-of-state conventional coal plants.

Proposed acts in Congress to regulate greenhouse gas pollution should be included in the analysis of enacted and proposed regulation.
There are several bills pending before Congress that would regulate GHG emissions and have a significant impact on California's electricity system; this includes S.342 and H.R759, Climate Stewardship Act of 2005; S.150, Clean Power Act of 2005; H.R.1451, Clean Smokestacks Act of 2005; and H.R.1873, Clean Air Planning Act of 2005. And, in June 2005, the U.S. Senate passed a Sense of the Senate Resolution declaring that mandatory emission limits are required to reduce the pollution that causes global warming.

Transmission losses should be considered in looking at the environmental impact of imported electricity.

Electricity imported into California is often transmitted over long distances, resulting in losses over the transmission lines. With sizeable distances these losses can be significant. We suggest that the Staff Report examine to what extent the transmission losses increase the pollution per unit of delivered electricity associated with imported electricity.

NRDC urges the Commission to expand the analysis of IGCC and carbon capture and sequestration technologies.
NRDC commends the staff for including IGCC in the analysis of different generation technologies. IGCC plants are a relatively newer technology for the electric industry and hold significant potential for reducing GHG emissions from coal plants through carbon capture and sequestration. Since new IGCC plants have been proposed in the West, we urge the Commission to expand its analysis of this technology. In addition, we urge the Commission to expand its analysis carbon capture and sequestration, as it is an important strategy to responsibly dispose of the global warming pollution produced from these plants. Sequestration has been demonstrated for CO2 storage projects and has also been practiced commercially in enhanced oil recovery projects for many years.[5] Given the potential importance of this technology for meeting GHG reduction goals, we urge the Commission to provide more information on its performance and economics.

2006 Energy Report Update

NRDC strongly recommends the *2006 Update* include additional information on the environmental performance of California's imported electricity.
As we outline above, we believe the 2005 Staff Paper, "A Preliminary Environmental Profile of California's Imported Electricity," could be expanded in several ways. As the state is increasingly examining ways in which the Governors greenhouse gas reduction goals can be met, a full understanding of the environmental performance of California's imported electricity will be helpful.

NRDC supports the examination of the topic of Smart Growth/Smart Communities.
NRDC agrees that smart growth policies can help to achieve California's public policy goals, and we support further examination into existing policies and future opportunities to improve smart growth practices in the state.

[5] Herzog, H.J. and D. Golomb, "Carbon Capture and Storage from Fossil Fuel Use," in C.J. Cleveland (ed.), *Encyclopedia of Energy*, Elsevier Science Inc., New York, pp 277-287, (2004). Available at http://sequestration.mit.edu/bibliography/index.html. Several companies have experience with carbon sequestration. See for example, www.bp.com/sectiongenericarticle.do?categoryId=9002452&contentId=7004722, and www.pewclimate.org/what_s_being_done/in_the_business_community/sequestration.cfm.