ENVIRONMENTAL DEFENSE FUND
finding the ways that work

August 11, 2008

Mary D. Nichols, Chairman
California Air Resources Board
1001 I Street
Sacramento, CA 95812
(916) 445-5025 (Fax)

RE: Draft Scoping Plan Comments – Electricity and Natural Gas

Dear Chairman Nichols,

Environmental Defense Fund (EDF) applauds the California Air Resources Board (CARB) on the release of the *Climate Change Draft Scoping Plan: A Framework for Change*. The draft Scoping Plan represents an important milestone in California's implementation of the landmark Global Warming Solutions Act of 2006 (AB 32), the first state-level cap on the greenhouse gas pollution that causes global warming.

EDF respectfully submits the following comments in response to the draft Scoping Plan, and looks forward to collaborating with CARB and other stakeholders in the coming months as further materials, including the evaluation supplements, are made available.

Sincerely,

Derek Walker
Director, California Climate Initiative
Environmental Defense Fund

Electricity and Natural Gas Sector

Reducing emissions from the electricity generation and natural gas sector is critical for California to meet its emissions reduction targets. To capture the full range of opportunities for emissions reductions, CARB must seek to make energy generation and transmission cleaner and more efficient, as well as seek to reduce overall demand for energy.

Inclusion in the Cap-and-Trade Program – Direct Emissions Reductions

Environmental Defense Fund supports the inclusion of the electricity and natural gas sectors at the outset of a multi-sector greenhouse gas emissions cap-and-trade program. This position was also endorsed by the Western Climate Initiative, the California Market Advisory Committee (MAC), and the California Public Utilities Commissions and Energy Commission Joint Proceeding. Furthermore, this framework is similar to other greenhouse gas reduction programs across the world and will enable the California energy sector to seek out and achieve the most cost-effective reductions in a rapid manner.

A robust and stable emissions trading market requires CARB to design and implement programs to ensure data accuracy, reporting consistency, prevention of double counting, etc. The mandatory reporting regulation adopted in 2007 took important steps toward those goals. However, additional steps must be taken to fully capture the realities of these sectors, such as establishing an emissions reporting and data release program to effectively manage compliance period-related market fluctuations and natural gas utility-wide emission portfolios.

Environmental Defense Fund supports the inclusion of both core and non-core users of natural gas in the cap-and-trade program. This can be captured in a fully upstream cap-and-trade program, or a program that regulates emissions in a midstream or downstream manner with utility distributions to non-core customers counting as an aggregated source of emission. This recommendation is similar to that proposed by the WCI in its market design documents released in May 2008. Core users include large businesses and industries that burn large quantities of gas for their industrial and commercial needs. Non-core users include residences and small businesses that each burn small amounts but in the aggregate use large quantities of gas. The point of regulation for non-core customers in a midstream or downstream program is typically thought to be at the utility provider. Currently, however, it is unlikely that sufficient reporting tools are in place to allow for regulation of utilities on this basis. Therefore, we recommend that CARB develop the reporting and tracking systems now to perform reporting of emissions from non-core natural gas end users on a regional or utility load-shed basis.

Increasing the statewide Renewable Portfolio Standard

Generating energy from renewable resources will be a key component of achieving statewide reduction mandates by 2020. Environmental Defense Fund supports the increase of the renewable portfolio standard from 20% to 33%. Though we recognize there may be challenges in integrating renewable sources onto the grid and siting new generation, we feel confident that stakeholders can work together to overcome these barriers. Therefore, we urge CARB to work

with the California Energy Commission and the Public Utilities Commission to ensure the state can meet the elevated standard and create a lower carbon energy infrastructure.

Carbon Capture and Sequestration – Direct emission reduction

Energy generation production methods and technology are changing. As our society shifts toward a lower carbon intensity infrastructure, cost-effective methods that produce reliable energy with reduced greenhouse gas emissions will be at an increasing premium. Environmental Defense Fund observes that carbon capture and geologic sequestration (CCS) is no longer hampered by technological barriers and has overcome significant constraints on location as better information on geologic formations and sequestration potential has been developed. As a result, CCS is quickly becoming a cost-effective technology to facilitate significant amounts of low carbon intensity energy production in California in both medium and long-term scenarios. For example, CCS has been proposed both for new IGCC coal plants in the state, new hydrogen production plants, and retrofits of cement manufacturing facilities. However, for cost-effective CCS to become a viable reality, significant safeguards to ensure proper site characterization, robust monitoring and verification, and accurate accounting methods must exist.

Ongoing efforts within the California Energy Commission's PIER research agenda have characterized a large potential for geologic sequestration of carbon dioxide in California and the Western States. Further, the US Department of Energy, independent domestic and international research institutions, and more recently the United States EPA have been actively developing and/or using monitoring and verification methods to ensure injected carbon dioxide currently is remaining sequestered at the injection site.

Environmental Defense Fund recommends CARB expand the discussion of carbon capture and sequestration in the scoping plan to identify near-term milestones and determine whether CCS will be part of the long-term solution in California. For example, CARB should identify projects that have the potential to implement CCS in the state and achieve reductions by 2020. Further, CARB should collaborate with state agencies (e.g. California Department of Conservation), using information from international and domestic research institutions, to ensure the development of robust and accurate accounting protocols to measure carbon dioxide sequestered in CCS projects.

Increase in Solar Hot Water Heating– Direct and indirect emission reductions

While Environmental Defense Fund is enthusiastic about increasing the deployment and use of thermal hot water heating in the state, we respectfully ask CARB to be more ambitious than expecting merely 200,000 water heater installations by 2020. With the current growth rates in housing construction and remodeling, the ongoing green building push for commercial and residential structures, and LEED certification growth and popularity, we see little reason why the vast majority of new homes and a significant portion of retrofit homes should not be expected to utilize solar thermal water heating.

While we observe that installation of solar units is one of the more cost-effective energy efficiency measures for new business or residences to do, we also recognize that up-front capital costs, lack of knowledge about technology, and inability to capture energy savings due to rental and lease contracts stifle technology adoption in existing buildings. Therefore, we urge CARB to seek to reduce the barriers to implementation of this technology in the existing building stock by working with the California Energy Commission and identify innovative funding mechanisms and educational campaigns for owners and renters.

Small Businesses and Low-Income Households – Indirect emissions reduction

Finding solutions to climate change will require action by small businesses to improve energy efficiency. While these actions require up-front investment, the end result will offset higher unit costs of electricity and fuel. Similarly, low-income households will enjoy more benefit from energy efficiency investments than wealthy households because the resultant energy bill savings will have a bigger marginal benefit on the household budget than in homes where energy bills are a relatively small portion of income.

The draft Scoping Plan notes that "opportunities for small businesses will be an important consideration." EDF urges CARB to be more aggressive in efforts to assist low-income households and small businesses to make energy efficiency improvements. This concept is detailed in a proposal titled, "Climate for Community: A Proposal to Allow Small, Dispersed Emission Sources to Participate in Assembly Bill (AB) 32 Carbon Cap and Trade Markets" (see Appendix C).

Appendix C

Climate for Community:
A Proposal to Allow Small, Dispersed Emission Sources to Participate in Assembly Bill (AB) 32 Carbon Cap and Trade Markets

Aggregation of Households' and Small Businesses' Emissions Would Provide Economic Benefits to Hard-Pressed Communities and Retire Hard-to-Reach Greenhouse Gases

Developed by Environmental Defense Fund (EDF) and San Francisco Community Power (SF Power)[1]

AB 32 requires that the framework adopted to reduce greenhouse gas emissions not disproportionately impact low-income communities; and, where possible, produce overall societal benefits, including reductions in other air pollutants, as well as economic and public health benefits. One powerful approach to meeting these objectives – and to gaining access to a large, hard-to-reach emissions pool – would be to enable small, dispersed, emission reductions by low-income households and small businesses to be aggregated together and placed on available carbon markets. By so doing a dynamic, ongoing incentive would be created to reduce emissions in vulnerable communities, with concomitant economic and equity benefits.

This approach would require that communities be invested with ownership rights of the emissions that occur in their neighborhoods. That is, homes and businesses located in areas that have historically been subjected to high polluting air and greenhouse gas emissions would be given the opportunity to reduce and sell their emissions. In this way populations who have previously suffered from pollution and who are at greatest risk of harm from global warming would be able to benefit economically and environmentally from reducing those harms, while achieving significant greenhouse gas emission reductions.

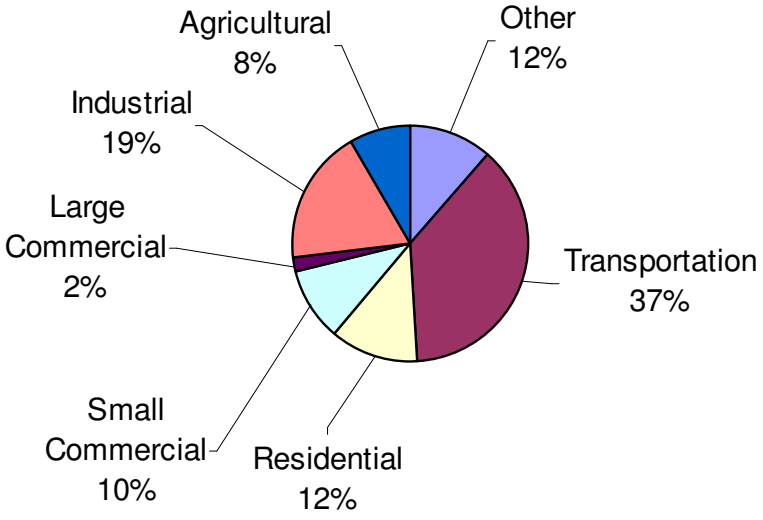
How this cap and trade element would be constructed would depend on the AB 32 framework that's ultimately adopted. For example, a "first-seller" allocation would allow for direct transactions between a community and an electric power wholesaler; a "load-based" allocation would require transactions between the community and the load-serving entity (LSE) to whom the emission responsibility has been assigned. Auctioning versus free allocation of allowances may have different implications related to what entity owns the rights to emission reductions. These issues will be addressed as the proposed market design solidifies; and a pilot project is being implemented by SF Power to demonstrate this concept. [2]

While this initiative focuses on homes and small businesses in low-income neighborhoods, community-based reductions may be achieved in the transportation, electric utility, and land use sectors as well and in most any neighborhood. The figure below shows that these four categories were responsible for nearly 60 percent of California's estimated 2007 greenhouse gas emissions.

---

[1] Contacts: Jamie Fine, EDF, jfine@ed.org, 916-492-4698, www.environmentaldefense.org; Steven Moss, SF Power, steven@moss.net, 415-643-9578, www.sfpower.org.

[2] See "Community for Climate: Carbon Emissions Crediting for Environmental Justice," by James Fine and Steven Moss [publication date and access?].



The "Climate for Community" approach could be implemented by including the following elements in the AB 32 emissions reduction framework:

(1) *Create Ongoing Incentives to Reduce Emissions*: A first step would be to create a market-based incentive to achieve reductions in low-income communities that are currently subjected to disproportionate emissions levels – termed "environmental justice" communities - or that may experience additional emissions burden as a result of emissions trading once a carbon market is established for California. This incentive could be created in several ways, including

(a) Emissions purchased from environmental justice communities[3] could fetch a higher value than standard emission reduction credits (e.g., preferred emission reductions); or
(b) Emitters located in environmental justice communities could be required to purchase a significant portion of their offsets from within communities that bear extra emissions burden as a result of local sources purchasing credits from elsewhere and continuing to emit at higher levels than if reductions occurred equally across all sources. In many cases, these credits will be the same as those defined by (1a) and (1c); or
(c) A portion of auction or tax revenues could be set aside and dedicated to being invested in emission reductions obtained from low-income households and small businesses.

[3] Program design needs to include a clear definition of the communities eligible for preferred emissions reductions. In this vein the California Air Resources Board (ARB) has engaged Manual Pastor, University of Southern California, and Jim Sadd, CalPoly, to develop a Cumulative Impact Screening Tool, which could form the basis to identify EJ communities. Similarly, the Bay Area Air Quality Management District's Communities at Risk Evaluation analysis, which estimates air toxic emissions on a two by two kilometer grid for the San Francisco Bay Area, along with other studies, could provide methodological guidance for characterizing these areas. And communities located nearby the 700 major green house gas point sources in California could be assumed to be EJ communities.

(2) *Establish a Clearinghouse to Facilitate Emission Reduction Measurement Development*. A clearinghouse for evaluating emission reduction measures and packages (see below) of emission reducing activities oriented towards households and small businesses would be established or integrated into an existing organization.[4] The clearinghouse would provide research resources, advice and protocols on verifying community-based reductions, specifically those oriented towards low-income households and small businesses. The clearinghouse would also facilitate program transparency and outreach to EJ communities by sponsoring public meetings, media communication, and technical support, and would be responsible for reviewing and approving third party verifiers and verification methods.

(3) *Package Reductions to Minimize Costs*: A combination of new technologies and behavioral modifications will be needed to achieve significant emission reductions in households and small business. Providing packages – education- and institutionally-based interventions and a full suite of appropriate technologies – will minimize programmatic costs and maximize cost-effectiveness. Possible packages, which could be developed by public or private sector entities, might include plug load management programs, in which schools or buildings reduce electricity consumption associated with devices that are not in active use;[5] transportation management programs, in which individuals or businesses tangibly reduce their vehicle use; and early adoption of emission-reducing technology.

Packages could include:

- Technology measures (e.g., refrigerator or streetlight replacement); or
- Technology measures with a behavioral component (e.g., automobile or general lighting replacement; land use changes); or
- Behavior-only measures (e.g., provision of localized or segmented transit services; reducing electricity use during peak periods through demand response programs).

The emission value of these packages would be determined by whether or not they are implemented in predefined communities; and the quality of the associated measurement and verification. For example, technology measures, or measures for which comprehensive outcome data can be provided, would receive full credit, with discounted credit provided for less reliable measurement and validation (e.g., statistical sampling). Estimates for measures that rely on behavioral changes would be based on existing data or supporting analyses created as part of package development. Actual outcomes could then be validated using parameters drawn from locally observable data (e.g., gasoline sales reported to the Board of Equalization for local service stations; ridership on specific transit routes; local circuit loads).

---

[4] Possible models for this include the California Energy Commission's Public Interest Energy Research building program; see http://www.energy.ca.gov/pier/buildings/index.html.; and the Statewide Emerging Technology Coordinating Council; see http://www.etcc-ca.com. This Council coordinates among its members to facilitate the assessment of promising energy efficient emerging technologies.

[5] This concept may be similar to "White Tags," or "White Certificates," in which bundles of electricity use reductions are sold.

(4) *Aggregate Community-Scale Reductions*: Allow aggregators to propose packages to the clearinghouse, and implement packages.

(5) *Secure Ownership*: Ensure that ownership of the resulting emission reductions would devolve to the entity paying to obtain them. If multiple parties pay for package implementation, ownership would be allocated according to a mutually agreed upon shares. Defining ownership rights as distinct from other instruments or measures being implemented by other parties could be assigned using several methods, including "carve out" for community-based reductions within the utility sector cap, and/or by implementing offsets rules and requirements.