

# **CHAPTER 1: INTRODUCTION**

The science is clear. Global warming is a real and significant threat to humankind. However, our response to this threat presents opportunities to create a more livable, equitable and economically vibrant community. By using energy more efficiently, harnessing renewable energy to power our buildings, enhancing access to sustainable transportation modes, recycling our waste, and building local food systems, we can keep dollars in our local economy, create new green jobs and improve community quality of life. In fact, most of the actions in the plan will provide more savings – nearly \$500 million in total by 2020 - than initial costs.

Even beyond the benefits of local climate action, the impacts associated with climate change make action at all levels an urgent and absolute necessity. Globally, the rise in temperatures has profound implications for the availability of the natural resources on which economic prosperity and human development depend. The changing climate also has potentially severe economic, health, social and environmental consequences for us close to home, including:

- **Threats to coastal infrastructure due to a rising San Francisco Bay:** The Bay rose seven inches over the past 150 years. Estimates are that by 2100, the bay could rise up to a meter.<sup>5</sup>
- **Increased incidence of large wildfires:** The risk of large wildfires in California could increase by as much as 55 percent by century's end.
- **Serious public health threats:** Increasing temperatures exacerbate local air pollution, lead to intensified heat waves, and expand the range for infectious diseases.
- **Water shortages:** Due to rising temperatures, the Sierra Nevada mountain snow-pack that supplies much of the state's water supply could decrease by 80 percent by century's end. Loss of snow-pack threatens drinking and agricultural water supplies as well as hydropower generation and the health of the state's creeks and rivers.<sup>6</sup>

Berkeley citizens recognize the growing threat that the climate crisis poses and are eager to do something about it. In November 2006, Berkeley voters issued a call to action on the climate challenge by overwhelmingly endorsing ballot Measure G. The mandate was simple but bold: Reduce our entire community's greenhouse gas (GHG) emissions by 80 percent by the year 2050. The measure directs the Mayor to develop a Climate Action Plan to reach that target.

## **Berkeley Measure G:**

*Should the People of the City of Berkeley have a goal of 80% reduction in greenhouse gas emissions by 2050 and advise the Mayor to work with the community to develop a plan for Council adoption in 2007, which sets a ten year emissions reduction target and identifies actions by the City and residents to achieve both the ten year target and the ultimate goal of 80 percent emissions reduction?*

**Passed with 81 percent of the vote in November 2006**

Mayor Tom Bates embraced Berkeley citizens' call to action and provided leadership in engaging the community in a local climate protection campaign. The goal of the campaign was twofold. One, provide as many opportunities as possible for Berkeley residents to engage in developing local climate protection strategies that will affect our community for years to come. Two, educate community members about the role each of us can and must play if the Measure G targets are to be achieved.

<sup>5</sup> San Francisco Bay Conservation and Development Commission website: [www.bcdc.ca.gov/index.php?cat=56](http://www.bcdc.ca.gov/index.php?cat=56) (2008)

<sup>6</sup> Our Changing Climate: A Summary Report from the California Climate Change Center (2006)

This plan is the result of the campaign that Measure G set in motion. It is rooted in the vision for a sustainable Berkeley that emerged from the climate action planning process. The plan's purpose is to serve as a guide for setting the community on a path to achieve that vision.

### **Vision for year 2050:**

- ❖ **New and existing Berkeley buildings achieve zero net energy consumption through increased energy efficiency and a shift to renewable energy sources such as solar and wind**
- ❖ **Public transit, walking, cycling, and other sustainable mobility modes are the primary means of transportation for Berkeley residents and visitors**
- ❖ **Personal vehicles run on electricity produced from renewable sources or other low-carbon fuels**
- ❖ **Zero waste is sent to landfills**
- ❖ **The majority of food consumed in Berkeley is produced locally, i.e., within a few hundred miles**
- ❖ **Our community is resilient and prepared for the impacts of global warming**
- ❖ **The social and economic benefits of the climate protection effort are shared across the community**

Turning the vision and this plan into action rests on more than just ideas and good intentions. It requires Berkeley residents, businesses, and institutions to urgently rise to the challenge of making big changes - changes in our infrastructure, technological advances, ramped up green workforce development, and change in the decisions we make every day as members of the Berkeley community. No one entity or sector – not the City government, nor schools, nor industry or small businesses, nor individual residents – can create these changes alone. Everyone must play a role.

At the same time, our community must ensure that the solutions we propose and implement are sensitive to a broader set of societal concerns such as social justice, local economic vitality, public health, and dependence on oil, a finite resource. Addressing the climate challenge is not only an opportunity to reduce greenhouse gas emissions, but also an opportunity to build a positive, community-based movement in Berkeley that results in increased civic pride and improved quality of life.

The time for complacency and old habits is over. The time for bold action has begun.

## **CLIMATE ACTION PLAN PURPOSE**

The Berkeley Climate Action Plan was designed under the premise that local governments and the communities they represent are uniquely capable of addressing the main sources of the emissions that cause global warming: the energy consumed in buildings and for transportation, and the solid waste sent to landfills.

The purpose of the plan is to guide the development, enhancement, and ultimately the implementation of actions that aggressively cut Berkeley's greenhouse gas emissions. The plan does the following:

- Describes Berkeley's GHG emissions sources
- Provides an estimate of how those emissions could be expected to grow

- Recommends goals, policies and actions that we as a community can implement to achieve GHG reductions and other community benefits such as increased green job opportunities and improved public health. Several of the recommendations in the plan require Council approval separate from adoption of the Climate Action Plan and also require additional funding in order to be implemented.
- Provides a timeline for the plan’s implementation, including identifying existing and potential costs and funding sources
- Defines a strategy for turning this plan into action and transparently tracking and reporting progress toward our goals

Clearly, our community does not start from scratch. Berkeley is known throughout the world as a pioneering green city that is willing to lead social change through innovative and creative action. Ways in which Berkeley exhibits climate action leadership include:

- Berkeley was the first city in the nation to offer curbside recycling
- The City government pioneered the use of bio-diesel and car-sharing in its fleet
- The City was the first to require that energy and water saving measures be implemented at the time a residential or commercial building is sold or being substantially renovated
- Small businesses in Berkeley receive subsidized energy and lighting retrofits
- Residents have access to free energy and water saving devices
- Berkeley was the first City to establish its climate protection targets through a vote of the people

Furthermore, this plan builds on already adopted City policies and plans, including: the Berkeley General Plan, the Bicycle Plan, the Pedestrian Plan, the Green Building Initiative, the Environmentally Preferable Purchasing Policy, the Zero Waste Goal, and Berkeley’s official endorsement of the Kyoto Protocol, among others.

Partly as a result of these and many other existing actions and planning efforts, the community reduced the GHG emissions that result from electricity, natural gas and transportation fuel consumption by nearly nine percent between 2000 and 2005 – a truly remarkable accomplishment.

## **HOW WAS THIS PLAN DEVELOPED?**

Just as the climate action planning effort was set in motion by Berkeley voters, the plan itself is a product of community members’ ideas and vision for a “climate friendly” city.

The City Council allocated two years of funding to enable City staff to perform extensive research on potential climate protection strategies and to conduct a robust community input process. Development of the plan was a cross-departmental effort coordinated by the City’s Office of Energy & Sustainable Development (OESD). OESD relied on the expertise of staff from the Department of Public Works, which includes the Transportation Division and the Solid Waste Management Division; the Department of Planning & Development; the City Manager’s Office, which includes the Office of Economic Development and neighborhood services staff; and the Department of Health and Human Services; among others.

The public process was designed to maximize the opportunities community members have to contribute ideas, learn more about the various components of the climate issue, and get involved in existing sustainability efforts.

There was extensive opportunity to engage in the development of the plan prior to the release of the first draft in 2008, including:

**Climate Action Kick-Off:** This event was held in May 2007 and attended by over 170 community members.

**Framework Report for Community Engagement:** A summary report released in June 2007 that outlines where Berkeley's GHG emissions come from and some potential emissions reduction strategies, and invites community input on Berkeley's Climate Action Plan.

**Commission-Hosted "Climate Action Workshops":** Seven City Commissions hosted public workshops for the purpose of providing a forum for participation in plan development.

**Community Events & Meetings:** City staff persons and volunteers participated in many community events. Over 1,500 people stopped by a "Berkeley Climate Action" booth or attended a community event with a climate action component.

**Emails, Phone Calls & On-Line Forums:** The City also solicited ideas and feedback on a website specifically designed for that purpose ([www.BerkeleyClimateAction.org](http://www.BerkeleyClimateAction.org)) and through various email networks.

At the invitation of the mayor, a number of local experts in the fields of climate science, energy, transportation, and public engagement also served as informal advisors leading up to the release of the 1<sup>st</sup> and 2<sup>nd</sup> drafts of the Climate Action Plan.

In addition, UC faculty, staff members and student leaders contributed to the plan through their research, volunteerism, and guidance. Chancellor Robert Birgeneau also set a positive example by setting aggressive carbon reduction targets for the University and empowering staff and faculty to develop a concrete and detailed plan on how to reach those targets. Appendix D includes an overview of UC Berkeley's climate protection initiative.

In January 2008, City staff presented to City Council and released for public comment the first draft of the Berkeley Climate Action Plan. Hundreds of community comments were submitted on that draft through a variety of means, including:

- At another round of public workshops hosted by City Commissions and the City's Office of Energy & Sustainable Development
- At additional community-led meetings hosted by organizations such as the Sierra Club, League of Women Voters, Livable Berkeley, and the Bicycle Friendly Berkeley Coalition
- On-line at [www.BerkeleyClimateAction.org](http://www.BerkeleyClimateAction.org)

An underlying theme of public comments on the first draft is that the plan offered a strong vision, but more specific implementation steps are needed, including an implementation timeline, estimates of costs associated with implementation, and identification of potential sources of funding. Community members also urged the City to be bold when designing strategies to achieve our GHG emissions reduction goal.

A second draft of the Climate Action Plan was presented to City Council in September 2008. It carried forward the main program elements from the first draft, and filled in those program elements with specific measures needed to achieve the necessary scale of GHG emissions reductions. Because the second draft included significant new information staff undertook another round of public review and

comment. The public comment period on the second draft was open from September 23, 2008 to January 16, 2009.

This revised draft of the plan, presented to Council in April 2009, once again benefited from community feedback and discussion gathered at approximately a dozen community, including commission meetings, “town hall” meetings hosted by Council Members, and presentations at neighborhood associations. Several community members also provided detailed comments on the second draft at [www.BerkeleyClimateAction.org](http://www.BerkeleyClimateAction.org).

The result of the extensive community and expert input is a detailed and far-reaching plan that reflects a wide range of ideas and influences and that benefited from the creativity, diversity and passion that is Berkeley. The City will continue to reach out to local residents, businesses and community organizations to monitor the plan’s efficacy, maximize its benefits, and keep it up to date so it can serve as a dynamic blueprint for achieving the necessary scale of GHG reductions.

## **HOW DOES LOCAL CLIMATE ACTION INTERFACE WITH ACTION AT THE REGIONAL & STATE LEVELS?**

The Berkeley Climate Action Plan was prepared at a time of unprecedented potential for local, regional, and state government agencies to collaborate on addressing the climate crisis. In December 2008, the California Air Resources Board (CARB) approved the Climate Change Scoping Plan, which contains the main strategies California will use to reduce GHG emissions. The Scoping Plan is a central requirement of **Assembly (AB) Bill 32**<sup>7</sup> (Nunez), the Global Warming Solutions Act of 2006 that requires California to reduce its greenhouse gas emissions to 1990 levels by 2020. Essentially serving as the state’s climate action plan, it recognizes the fundamental role of local governments in reducing the emissions that result from energy consumption and waste generation. Many of the measures in the state’s plan rely on local government actions. Through the plan, the state also encourages local governments to adopt GHG reduction targets for City government and community-wide emissions, and to develop local action plans for achieving those targets. Berkeley’s Climate Action Plan is already serving as a model for cities across the state that are embarking on their own action planning processes.

An essential component of the state Scoping Plan is reducing GHG emissions from transportation. In September 2008, Governor Schwarzenegger signed **Senate Bill (SB) 375** (Steinberg). SB 375 mandates an integrated, regional land use and transportation planning approach to reducing GHG emissions from cars and light trucks. Cars and light trucks generate about 31 percent of statewide GHG emissions, and a little over one quarter of GHG emissions within the Bay Area and within Berkeley. The law directs CARB to establish regional GHG reduction targets for cars and light trucks and assigns Metropolitan Planning Organizations (MPOs) throughout the state (the Association of Bay Area Governments and the Metropolitan Transportation Commission in the Bay Area) to develop plans for achieving those targets. Essentially, SB 375 is a mechanism for implementing the measure in the state’s Scoping Plan related to reducing regional transportation-related GHG emissions. Through the SB 375 process local governments in the Bay Area (and in other regions) will have to work together to integrate development patterns and transportation networks in a way that achieves regional GHG reduction targets while also meeting housing needs, protecting greenspace, and addressing other regional planning objectives. SB 375 also provides relief from certain California Environmental Quality Act (CEQA) requirements for development projects that are consistent with regional plans that achieve the established GHG reduction targets. The City of Berkeley looks forward to the opportunity to work

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<sup>7</sup> See more on state-level climate legislation at <http://www.arb.ca.gov/cc/cc.htm> (2009).

collaboratively with other cities in the region and views the Berkeley Climate Action Plan as an important resource for developing the regional plan required by CARB.

Another central piece of state legislation that affects climate action at the local government level is **SB 97** (Dutton). Signed into law by Governor Schwarzenegger in August 2007, SB 97 provides that greenhouse gas emissions and their effects are subject to the California Environmental Quality Act (CEQA). CEQA requires that agencies identify a given project's potentially significant effects on the environment and mitigate those significant effects whenever feasible. Public agencies such as local governments are therefore now obligated to determine whether a given project's climate change-related impacts are significant and to mitigate any significant effects. CARB is tasked with recommending where the threshold of "significance" lies.

There are several other important state laws and executive orders that interface directly with efforts in Berkeley and other cities throughout California to reduce greenhouse gas emissions and to prepare for the impacts of global warming. These include, but are certainly not limited to:

- **AB 1493 (Pavley, 2002)**: Known as the "Pavley Bill," AB 1493 directed CARB to adopt vehicle standards that lower GHG emissions to the maximum extent technologically feasible, beginning with the 2009 model year. The standards would reduce GHG emissions from California passenger vehicles by about 22 percent by 2012 and about 30 percent by 2016,<sup>8</sup> thereby having a significant impact on local GHG reduction efforts.
- **SB 107 (Simitian, 2006)**: SB 107 obligates the investor-owned utilities (IOUs) to increase the share of renewable energy sources (e.g., wind, solar, geothermal) in their electricity mix to 20 percent by 2010. Known as the Renewables Portfolio Standards (RPS), the law is intended to decrease California's reliance on fossil fuels and reduce GHG emissions from the electricity sector. Governor Schwarzenegger has since called for 33 percent of California's electricity to be provided by renewable resources by 2020. As of 2008, about 12 percent of California's electricity demand is met with renewable resources. A cleaner, greener electricity grid is a key component of achieving state and local GHG reduction targets. The City of Berkeley supports the Governor's call to increase the RPS to 33 percent and urges PG&E to achieve that standard.
- **Executive Order (EO) S-13-08**: Given the serious threat of sea level rise to California's water supply and coastal resources and the impact it would have on our state's economy, population and natural resources, in 2008 Governor Arnold Schwarzenegger issued EO S-13-08 directing state agencies to enhance the state's management of climate impacts from sea level rise, increased temperatures, shifting precipitation and extreme weather events. As part of implementation of EO S-13-08, the California Resources Agency, along with the Cal/EPA, the Business Transportation and Housing Agency, the Department of Health and Human Services, and others, is developing the state's first comprehensive Climate Adaptation Strategy (CAS). Berkeley and other local governments should participate in the planning and implementation of the CAS.

## CLIMATE ACTION & GREEN COLLAR JOBS

Addressing climate change is not only a cause for environmentalists. Climate action intersects with efforts to create employment opportunities in the emerging green economy. Implementing the Berkeley Climate Action Plan will result in increased demand for skilled labor that can do the work we need done, such as energy efficiency retrofits, solar installations, processing of recyclables, growing and processing local food, and designing, building and maintaining infrastructure related to alternative transportation.

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<sup>8</sup> See more on AB 1493 at <http://www.arb.ca.gov/cc/ccms/ccms.htm> (2009).

Importantly, this demand for labor is *local*, because it requires improving our *local* environment. It cannot be outsourced. The City must work with neighboring cities and community agencies to connect local residents to emerging job opportunities. In doing so we will protect the environment and provide pathways to sustainable employment at the same time.

The City of Berkeley and several partners have already begun the task of preparing local residents for jobs in the emerging green economy. Together, through a cooperative effort called the *East Bay Green Corridor Partnership*, the Cities of Berkeley, Oakland, Richmond and Emeryville are joining with leaders from UC Berkeley and Lawrence Berkeley National Laboratory (LBNL) to design a regional program that supports green workforce development. The goal of the effort is to provide the training necessary to meet future workforce demand in the green economy and to continue to attract green energy investment in the region. The partnership works collaboratively to identify regional employer demand and develop new technical and soft skills training and education programs to help meet that demand. The overarching vision is to have in place Green Energy Education Pathways that provide multiple entry points into the training and education system and that lead to jobs with career ladders and benefits. See additional specific strategies for developing a green collar workforce in Chapter 4.