

# Albany Climate Action Plan - Preliminary Draft GHG Reduction Strategies 4/9/09

## Transportation and Land Use Strategy - *Create an interconnected transportation system and land use pattern that shifts travel from auto to walking, biking and public transit*

### Objective TL-1: Facilitate walking and biking in the community

Measure		Origin of Measure	GHG Reduction Capacity	Percent of Total CAP Reduction Capacity (Quantified Measures)	Simplified Cost Estimate*	City Staff Feasibility Ranking	Priority Ranking
TL-1.1	Create complete streets throughout the City	BMP (Sacramento, NYC)	921	7%	See below	M	Priority Ranking TBD
<b>A</b>	Improve/expand bike lanes and bicycle/pedestrian path network	ACGT, CAP SRV, ASR, AG, BMP	Combined total	Combined total	High	H	"
<b>B</b>	Incorporate bicycle-friendly intersections into street design	AG, BMP (Portland)	Combined total	Combined total	Low	M	"
TL-1.2	Strictly enforce pedestrian rights laws on City streets	ACGT	Indirect	Indirect	Not evaluated	H	"
TL-1.3	Require all new commercial and public buildings (and major renovations when feasible) to provide adequate bicycle parking near entrances and require buildings with more than 50 employees to provide end-of-trip facilities for bicycle commuters (e.g. showers, lockers, and secure covered bicycle parking)	AG, CAPCOA	190	1%	Low	H	"
TL-1.4	Install bicycle racks in commercial and civic areas of City where racks do not currently exist.	BMP	Combined total	Combined total	Low	TBD	"
TL-1.5	Encourage additional neighborhood serving commercial uses and mixed use development within City's existing commercial districts. Strive to provide access to daily goods and services within 1/4 mile of residences through land use/zoning changes.	AG, BMP	1151	8%	Med	L/M	"

### Objective TL-2: Make public transit more accessible and user-friendly

Measure		Origin of Measure	GHG Reduction Capacity	Percent of Total CAP Reduction Capacity (Quantified Measures)	Simplified Cost Estimate*	City Staff Feasibility Ranking	Priority Ranking
TL-2.1	Conduct public transit gap study that analyzes strategies for increasing transit usage within the City and identifies funding sources for transit improvements	AG	Indirect	Indirect	Low	M	Priority Ranking TBD
TL-2.2	Partner with BART and AC Transit to provide shuttles between BART stations, residential neighborhoods and commercial centers	CAP SRV, AG, BMP (Berkeley)	Not Quantified	Not Quantified	High	M	"
TL-2.3	Work with the school district to improve/expand school bus services and safe routes to school program	CAP SRV, AG	Not Quantified	Not Quantified	Low	H	"
TL-2.4	Provide passes and shuttles to transit to encourage use of alternative transportation by City employees	ACGT, AG	Not Quantified	Not Quantified	Low	M	"
TL-2.5	Work with Caltrans and AC Transit to develop BRT stations on San Pablo in City	ACGT(2.e)	Not Quantified	Not Quantified	Not evaluated	L	"
TL-2.6	Work with AC transit to provide transit stops with safe and convenient bicycle and pedestrian access and essential improvements such as shelters, route information, benches and lighting.	ACGT(2.f), AG, CAPCOA	115	1%	Low	H	"
TL-2.7	Work with AC transit to increase transit headways to every fifteen minutes at peak commute hours	CAP SRV, BMP	115	1%	Low	H	"

### Objective TL-3: Promote transit oriented development

Measure		Origin of Measure	GHG Reduction Capacity	Percent of Total CAP Reduction Capacity (Quantified Measures)	Simplified Cost Estimate*	City Staff Feasibility Ranking	Priority Ranking
TL-3.1	Establish design guidelines for transit and pedestrian oriented development within the City	BMP (Portland)	691	5%	Low	H	Priority Ranking TBD
TL-3.2	Allow greater residential and commercial density within 1/2 mile of transit corridors	AG, BMP	1151	8%	Med	H	"

TL-3.3	Provide incentives (e.g. reduced developer fees, fast-tracking, reducing processing fees, infrastructure loans, etc) for projects that promote mixed use, higher density development within 1/2 mile of transit corridors.	AG, CAPCOA	Combined total	Combined total	Low	H	"
A	Reduced developer fees or processing fees	BMP	Combined total	Combined total	Low	TBD	"
B	Fast-tracking	BMP	Combined total	Combined total	Low	TBD	"
C	Infrastructure loans	BMP	Combined total	Combined total	Med	TBD	"
TL-3.4	Evaluate GHG emissions associated with development proposals and work with applicants to reduce emissions during project review	BMP (Berkeley)	Indirect	Indirect	Low	M	"
A	Prescriptive Approach - strategy based on compliance with standard; GHG emissions are estimated based on typical building performance (GHG/sf) for specified design strategies	BMP	Indirect	Indirect	Med	TBD	"
B	Performance Based Approach	BMP	Indirect	Indirect	See notes	TBD	"
TL-3.5	Provide public education about benefits of well-designed, higher-density housing and relationship between land use and transportation.	AG	Educational	Educational	Low	H	"

**Objective TL-4: Reduce vehicle emissions and trips**

Measure	Origin of Measure	GHG Reduction Capacity	Percent of Total CAP Reduction Capacity (Quantified Measures)	Simplified Cost Estimate*	City Staff Feasibility Ranking	Priority Ranking	
TL-4.1	Work with ABAG and neighboring cities to create jobs-housing balance within existing transit corridors	BMP	691	5%	Low	H	Priority Ranking TBD
TL-4.2	Improve the fuel efficiency of City fleet by purchasing low or zero emission vehicles when vehicles are retired from service.	ACGT(C.1.a)	Not Quantified	Not Quantified	Low	H	"
TL-4.4	Develop electric plug-in auto charging station infrastructure	AG	Not Quantified	Not Quantified	Low	M/H	"
TL-4.5	Create and implement a transportation demand management program that reduces weekday peak period trips by at least 20% (applies to commute trips only)	AG, CAPCOA	1520	11%	Low	M	"
TL-4.6	Facilitate ride-share programs	ACGT(2.c), AG	Combined total	Combined total	Low	H	"
TL-4.7	Work with existing companies to expand car-share opportunities in the community	CAP SRV, AG	Combined total	Combined total	Low	H	"
TL-4.8	Provide public education regarding reducing motor vehicle-related greenhouse gas emissions.	AG, BMP (Berkeley)	Combined total	Combined total	Low	H	"
TL-4.9	Encourage a regional Bay Area cordon fee system for daily use of vehicles.	BMP (Santiago, London)	Combined total	Combined total	Low	L	"

**Objective TL-5: Create disincentives for use of single-occupancy private automobiles**

Measure	Origin of Measure	GHG Reduction Capacity	Percent of Total CAP Reduction Capacity (Quantified Measures)	Simplified Cost Estimate*	City Staff Feasibility Ranking	Priority Ranking	
TL-5.1	Consider a tiered residential parking fee that increases with vehicle size	AG, BMP (Berkeley)	Not Quantified	Not Quantified	Low	L	Priority Ranking TBD
TL-5.2	Provide preferential street parking spaces for electric and plug-in electric hybrid vehicles	BMP	Not Quantified	Not Quantified	Low	L/M	"
TL-5.3	Eliminate minimum parking standards and initiate a City-sponsored shared parking program.	BMP (Ventura)	Not Quantified	Not Quantified	Low	M	"

**Buildings and Energy Strategy - Minimize energy consumption, create high performance buildings, and transition to clean renewable energy sources**

**Objective BE-1: Lead by example with zero-emission City buildings by 2015**

Measure		Origin of Measure	GHG Reduction Capacity	Percent of Total CAP Reduction Capacity (Quantified Measures)	Simplified Cost Estimate*	City Staff Feasibility Ranking	Priority Ranking
BE-1.1	Install cost-effective renewable energy systems on all city buildings and purchase remaining electricity from renewable sources	CAP SRV, ACGT, BMP (Portland)	150	1%	Low	H	Priority Ranking TBD
BE-1.2	Require all public buildings to install building performance data (energy + water) displays	BMP	Not Quantified	Not Quantified	Low	M	"
<b>Objective BE-2: Retrofit existing residential buildings</b>							
Measure		Origin of Measure	GHG Reduction Capacity	Percent of Total CAP Reduction Capacity (Quantified Measures)	Simplified Cost Estimate*	City Staff Feasibility Ranking	Priority Ranking
BE-2.1	Educate residents about the availability of free home energy audit programs and encourage implementation of audit findings.	CAP SRV, ACGT, BMP	1979	14%	Low	H	Priority Ranking TBD
BE-2.2	Identify and develop financial incentives and low-cost financing products and programs to encourage investment in energy efficiency and renewable energy for existing residential buildings.	ACGT, BMP (Berkeley)	Combined total	Combined total	See below	H	"
A	On-bill Financing	BMP	Combined total	Combined total	Low	TBD	"
B	Low Interest Loans	BMP	Combined total	Combined total	Med	TBD	"
C	Energy Efficiency Mortgages	BMP	Combined total	Combined total	Low	TBD	"
D	Revolving Loan from Bond Sale	BMP	Combined total	Combined total	Low	TBD	"
E	Energy Efficient Local Improvement District	BMP	Combined total	Combined total	Med	TBD	"
BE-2.3	Enforce California Green Building Code energy efficiency standards for residential remodels and renovations	BMP	Combined total	Combined total	Low	H	"
BE-2.4	Develop, implement, and incentivize performance-based point-of-sale energy and water efficiency upgrade requirements	BMP (Berkeley)	Combined total	Combined total	Low	H	"
BE-2.5	Identify and implement opportunities to improve efficiency improvements in rental units	BMP (Berkeley)	Combined total	Combined total	Low	H	"
BE-2.6	Partner with PG&E to provide public education campaign that encourages residential energy efficiency improvements	ACGT, BMP (Burlington)	Educational	Educational	Low	H	"
<b>Objective BE-3: Retrofit existing commercial buildings</b>							
Measure		Origin of Measure	GHG Reduction Capacity	Percent of Total CAP Reduction Capacity (Quantified Measures)	Simplified Cost Estimate*	City Staff Feasibility Ranking	Priority Ranking
BE-3.1	Incentivize businesses to participate in free building energy audit programs and encourage implementation of audit findings.	BMP (Burlington)	1090	8%	Low	H	Priority Ranking TBD
BE-3.2	Identify and develop financial incentives and low-cost financing products and programs to encourage investment in energy efficiency and renewable energy for existing commercial buildings.	ACGT, BMP (Berkeley)	Combined total	Combined total	See below	H	"
A	On-bill financing	BMP	Combined total	Combined total	Low	TBD	"
B	Low Interest Loans	BMP	Combined total	Combined total	Med	TBD	"
C	Revolving Loan from Bond Sale	BMP	Combined total	Combined total	Low	TBD	"
BE-3.3	Require lighting system upgrades to employ high efficiency technology within commercial and industrial remodels, renovations or tenant improvements for commercial and industrial buildings	AG, BMP	Combined total	Combined total	Low	H	"
BE-3.4	Encourage existing non-residential buildings to install ENERGY STAR-rated cool roof materials	AG, BMP (Santa Monica)	536	3.8%	Low	H	"
BE-3.5	Partner with PG&E to provide a business education program that encourages commercial energy efficiency improvements	AG, BMP (Burlington)	Educational	Educational	Low	H	"
<b>Objective BE-4: Require Energy Performance in New Construction</b>							
Measure		Origin of Measure	GHG Reduction Capacity	Percent of Total CAP Reduction Capacity (Quantified Measures)	Simplified Cost Estimate*	City Staff Feasibility Ranking	Priority Ranking
BE-4.1	Ensure compliance with California Green Building Code Standards	BMP	791	6%	Low		Priority Ranking TBD
BE-4.2	Require roofing and street, parking lot, and sidewalk paving to use materials with an albedo of 0.3 (30 percent) or greater	AG	Combined total	Combined total	Low	M	"
BE-4.3	Provide incentives, such as priority permitting for buildings that exceed the City's minimum green building requirements	CAP SRV, BMP	Not Quantified	Not Quantified	Low	TBD	"
BE-4.4	Require solar orientation, daylighting and natural ventilation in new construction when feasible	AG, BMP (San Jose)	Not Quantified	Not Quantified	Low	M	"
BE-4.5	Require that all new multi-tenant buildings be sub-metered to allow each tenant the ability to monitor their own energy and water consumption	BMP (Berkeley)	Not Quantified	Not Quantified	Low	M	"

Objective BE-5: Maximize use of renewable energy							
Measure	Origin of Measure	GHG Reduction Capacity	Percent of Total CAP Reduction Capacity (Quantified Measures)	Simplified Cost Estimate*	City Staff Feasibility Ranking	Priority Ranking	
BE-5.1	Develop comprehensive renewable energy financing and informational program for residential and commercial uses	CAP SRV, ACGT, BMP (Berkeley)	2316	16%	Low	H	Priority Ranking TBD
BE-5.2	Identify and facilitate solar energy empowerment districts in commercial, industrial, mixed-use portions of City	BMP (NYC)	Combined total	Combined total	Low	H	"
BE-5.3	Join Bay Area efforts to ensure green public transit energy sourcing	ACGT	Not Quantified	Not Quantified	Low	H	

Objective BE-6: Community energy management							
Measure	Origin of Measure	GHG Reduction Capacity	Percent of Total CAP Reduction Capacity (Quantified Measures)	Simplified Cost Estimate*	City Staff Feasibility Ranking	Priority Ranking	
BE-6.1	Evaluate potential of district heating and cooling infrastructure within the City and create implementation plan for cost-effective systems	AG, BMP	Not Quantified	Not Quantified	Low	TBD	Priority Ranking TBD
BE-6.2	Partner with other neighboring Cities and PG&E to fast-track "Smart Grid" integration in City.	BMP (Boulder)	Not Quantified	Not Quantified	Low	L/M	"
A	Require use of smart meters and smart appliances in new commercial and residential construction and major renovations when technology becomes available	BMP	Not Quantified	Not Quantified	Low	TBD	"
BE-6.3	Work with County to convert all street lights to LED bulbs or LED-Solar systems	ACGT, AG, BMP	65	0.5%	Low	H	"
BE-6.4	Require all new development to install LED or LED solar systems.	BMP	Not Quantified	Not Quantified	Low	TBD	"
BE-6.5	Encourage utility providers (PG&E and EBMUD) to provide comparative energy and water conservation metrics on utility bills	BMP	Not Quantified	Not Quantified	Low	M	"
BE-6.6	Join the Community Choice Aggregation efforts of Berkeley, Oakland, and Emeryville	ACGT	Not Quantified	Not Quantified	Low	H	"

**Waste and Water Strategy - Minimize waste and celebrate water as a essential community resource**

Objective WW-1: Become a zero waste community							
Measure	Origin of Measure	GHG Reduction Capacity	Percent of Total CAP Reduction Capacity (Quantified Measures)	Simplified Cost Estimate*	City Staff Feasibility Ranking	Priority Ranking	
WW-1.1	Establish 90% waste reduction target for 2030 and work with Alameda County, neighboring cities, Ecology Center and other organizations to leverage zero waste effort and provide public education regarding zero waste strategies	ACGT (d.5.c), BMP (Mt.View)	Not Quantified	Not Quantified	Low	H	Priority Ranking TBD
WW-1.2	Implement paperless office policies in all feasible City operations	BMP	Not Quantified	Not Quantified	Low	H	"
WW-1.3	Partner with the City of Berkeley on the creation of a food industries grease- to-biodiesel recycling program	BMP (Berkeley)	Not Quantified	Not Quantified	Low	M	"

Objective WW-2: Conserve water resources							
Measure	Origin of Measure	GHG Reduction Capacity	Percent of Total CAP Reduction Capacity (Quantified Measures)	Simplified Cost Estimate*	City Staff Feasibility Ranking	Priority Ranking	
WW-2.1	Encourage residential and commercial users to participate in EBMUD free water audit program and provide incentives for implementation of appropriate water conservation improvements	CAP SRV, AG, BMP	Not Quantified	Not Quantified	Low	H	Priority Ranking TBD
WW-2.2	Enforce California Green Building Code water efficiency standards for residential and commercial remodels and renovations.	BMP	Not Quantified	Not Quantified	Not evaluated	TBD	"
WW-2.3	Require low-flow irrigation systems in all new or renovated residential and commercial landscaping.	AG, CAPCOA, BMP	Not Quantified	Not Quantified	Not evaluated	L	"
WW-2.4	Encourage use of greywater and rainwater collection in residential and commercial uses. Require rainwater collection in new construction.	AG, BMP	572	4%	Low	H	"
WW-2.5	Develop a climate station and web-based irrigation control service for both City and private use	BMP	Not Quantified	Not Quantified	Low	M	"
WW-2.6	Partner with EBMUD to provide water conservation outreach programs	AG	Educational	Educational	Low	H	"

**Green Infrastructure Strategy - Conserve, create, and enhance natural assets that improve community quality of life.**

Objective GI-1: Utilize natural stormwater management systems						
Measure	Origin of Measure	GHG Reduction Capacity	Percent of Total CAP Reduction Capacity (Quantified Measures)	Simplified Cost Estimate*	City Staff Feasibility Ranking	Priority Ranking

<b>GI-1.1</b>	Establish communitywide water sensitive urban design strategies that would include the following:		Not Quantified	Not Quantified	See below	TBD	Priority Ranking TBD
<b>A</b>	Require "low-impact development" practices in all new construction	ACGT(4.c), BMP	Not Quantified	Not Quantified	Low	M	"
<b>B</b>	Incentivize "low-impact development" retrofits in existing residential and commercial uses	ACGT(4.c)	Not Quantified	Not Quantified	Low	H	"
<b>C</b>	Develop green streets retrofit program for City streets	ACGT(4.c), BMP	Not Quantified	Not Quantified	Med	L/M	"
<b>D</b>	Facilitate and encourage the integration of green roofs into new construction or major remodels	BMP	Not Quantified	Not Quantified	Low	L/M	"

**Objective GI-2: Expand and enhance urban forestry**

Measure	Origin of Measure	GHG Reduction Capacity	Percent of Total CAP Reduction Capacity (Quantified Measures)	Simplified Cost Estimate*	City Staff Feasibility Ranking	Priority Ranking	
<b>GI-2.1</b>	Enhance street tree program to reduce urban heat island effect and provide carbon sequestration	ACGT, AG, BMP	Not Quantified	Not Quantified	Low	H	Priority Ranking TBD
<b>GI-2.2</b>	Evaluate the potential for carbon sequestration in urban forest and natural areas within City	ACGT, AG, BMP	Not Quantified	Not Quantified	Low	H	"

**Objective GI-3: Increase and enhance urban green space, including urban farm area**

Measure	Origin of Measure	GHG Reduction Capacity	Percent of Total CAP Reduction Capacity (Quantified Measures)	Simplified Cost Estimate*	City Staff Feasibility Ranking	Priority Ranking	
<b>GI-3.1</b>	Expand community garden program to increase local food security and provide local recreation amenity	ACGT, BMP	Not Quantified	Not Quantified	Low	H	Priority Ranking TBD
<b>GI-3.2</b>	Encourage UC Berkeley to create urban farm at Gill Tract	ACGT	Not Quantified	Not Quantified	Low	H	"
<b>GI-3.3</b>	Ensure that well-designed green space is provided within 1/4 mile of higher density transit-oriented development	BMP	Not Quantified	Not Quantified	Low	H	"

**Sea Level Rise Strategy - Adapt to the reality of sea level rise**

**Objective SLR-1: Protect community from sea level rise**

Measure	Origin of Measure	GHG Reduction Capacity	Percent of Total CAP Reduction Capacity (Quantified Measures)	Simplified Cost Estimate*	City Staff Feasibility Ranking	Priority Ranking	
<b>SLR-1.1</b>	Work with BCDC and other agencies to create Sea Level Rise Risk Assessment and Strategic Plan that would: a) identify areas at risk of sea level rise and significant structural, environmental, aesthetic, social, cultural and historic resources that must be protected from inundation; b) identify areas that are inappropriate for protection from inundation; c) identify areas that are most suitable for ecological restoration; d) identify strategies that will make future projects more resilient to sea level rise	CAP SRV, BCDC	Non-GHG	Non-GHG	Med	M	Priority Ranking TBD
<b>SLR-1.2</b>	Use areas at risk of sea level rise inundation as open space assets	BMP	Non-GHG	Non-GHG	Low	H	"
<b>SLR-1.3</b>	Develop community education and outreach program regarding sea level rise	BCDC	Non-GHG	Non-GHG	Low	M	"

**Objective SLR-2: Facilitate ecosystem adaptation to sea level rise**

Measure	Origin of Measure	GHG Reduction Capacity	Percent of Total CAP Reduction Capacity (Quantified Measures)	Simplified Cost Estimate*	City Staff Feasibility Ranking	Priority Ranking	
<b>SLR-2.1</b>	Develop shoreline open space management plan for areas subject to sea level rise inundation (including the Bulb and other shoreline areas) in order to facilitate ecosystem protection and recreational goals of the community, region, and state.	BMP	Non-GHG	Non-GHG	Med	M/H	Priority Ranking TBD

**Economic Development Strategy - Create community prosperity by embracing the opportunities within today's challenges**

**Objective ED-1: Develop awareness of climate change in within the business community**

Measure	Origin of Measure	GHG Reduction Capacity	Percent of Total CAP Reduction Capacity (Quantified Measures)	Simplified Cost Estimate*	City Staff Feasibility Ranking	Priority Ranking	
<b>ED-1.1</b>	Increase commercial development opportunities within City to improve jobs-housing balance	BMP	Non-GHG	Non-GHG	Med	TBD	Priority Ranking TBD
<b>ED-1.2</b>	Establish workshops to educate businesses about effects of climate change and climate change policies on their business	BMP	Non-GHG	Non-GHG	Low	H	"

**Legend for Origin of Policies:**  
**ACGT** Albany Clean and Green Task Force  
**CAP SRV** CAP Online Survey  
**ASR** Albany Strollers and Rollers  
**BMP** Best Management Practices  
**AG** Attorney General  
**CAPCOA** 2007 CAPCOA Report

**GHG Reduction Sum = 14,045.58**

**Metric Tons CO2E/Year**

**% Below 2005 Baseline 20%**

**\* Simplified Cost Estimate Classifications**

**Low** Less than 1% of CIP or Com Dev Operating Budget  
**Medium** 1 to 5% of CIP or Com Dev Operating Budget  
**High** than 5% of CIP or Com Dev Operating Budget  
See Worksheet 2 for detailed analysis





































































































