

GREENHOUSE GAS REDUCTION STRATEGIES : *TRANSPORTATION*

**STAGE I ACTIONS – Short Term Implementation (2009-2012)**

Action Number	STAGE 1 ACTIONS	REDUCE VEHICLE MILES TRAVELLED (VMT) (Drive Fewer Miles)	IMPROVE TRANSPORTATION SYSTEM (Green the System)	COMMUNITY ROLE
<b>City role: Educate</b> citizens to take action themselves.				
1-T	City Council Establish a Transportation Advisory Commission (“TAC”) (alternative: Traffic and Transportation Advisory Commission (“TrafTac”))	TAC provides forum on modes and improved transportation planning	TAC coordinates with Unitrans to optimize routes and timing	TAC members Public input to TAC at forums and workshops
2-T	City to participate in the University car sharing program		Educate citizens to share a more fuel efficient car, rented by the hour, day, week, or month (New TAC public event)	Participation
3-T	City to determine and publish safe bicycle routes to schools. Hire “Safe Routes Coordinator”	Encourage parents and kids to cycle, reducing vehicle miles driven	Use “Safe Routes Coordinator to facilitate	Participation
<b>City role: Initiate</b> programs that leverage city powers or provide access to financing, with primary funding from others.				
4-T	City to develop a car pooling program	Develop local system to coordinate shared travel opportunities and encourage citizens to optimize use of existing “empty seats”	Coordinate UCD and City effort: Market and advertising; incentives	Participation in program Input to the TAC
5-T	City to implement traffic light synchronization		Optimize system to reduce GHG emissions.	Joint sponsored forums with TAC and Bicycle Advis. Commission (BAC) General support
6-Ta	City to participate in regional planning to reduce commuting and GHG emissions	Locate jobs near employee housing.	Improve transit opportunities	Participation of TAC and BAC with other city/county transportation advisory groups General support

Action Number	STAGE 1 ACTIONS	REDUCE VEHICLE MILES TRAVELLED (VMT) (Drive Fewer Miles)	IMPROVE TRANSPORTATION SYSTEM (Green the System)	COMMUNITY ROLE
6-Tb	Initiation “Safe Transportation Day”	Highlight ways to achieve lower VMT	Highlight alternative modes	Participation
7-T	City to provide increased parking for fuel efficient vehicles (e.g. permit system)		Create incentives for people to drive cars that produce fewer emissions	General support and adjustment of expectations for parking.
8-T	City to research changes in traffic rules to favor bicycles (resulting changes included in Stage II Actions below)		Make it easier/faster/safer to bicycle for in-town trips.	General support
<b>City role: Invest funds directly into transportation programs, products, or people.</b>				
9-T	Implement “Complete Streets” plan	Identify components that reduce VMT	Review Unitrans routes, modes and timing ; review street configurations	Input to TAC and topical forums
10-T	City to develop additional bicycle parking downtown and other commercial areas		Make it easier/faster/safer to bicycle for in-town trips.	General support
11-T	City to research opportunities to increase the number of traffic circles in place of traffic lights (resulting opportunities included in Stage II Actions below). Consider traffic circles in all new projects where intersections are required.		Fewer stops and starts reduces GHG emissions	Use TAC to educate/ overcome “Roundabout paranoia” General support
12-T	City to develop shuttle service from the campus and high school to the downtown.	Alternative for students and employees to go downtown for lunch	Buses use compressed natural gas, with fewer emissions than gas or diesel.	Input to Joint meetings of Unitrans/ TAC Participation
13-T	City to implement Complete Streets program for all modes of transportation for all new streets (retrofit of existing streets in Stage	Improve conditions for and encourage use of alternative modes of travel. City/County “Safe Routes Coordinator”	Make it easier/faster/safer to use alternative modes of travel.	Use TAC as forum on what “Complete Streets Program” is General support

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	II Actions below).			
14-T	City to research feasibility of developing an all electric public tram system (resulting opportunities included in Stage II Actions below).	Alternative low GHG transportation option. Incentivise increased use	Electric tram would use lower GHG emissions energy source than current compressed natural gas powered transit system.	Workshop/Forum via TAC General support

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## STAGE II ACTIONS – Additional Analysis Required before Prioritization

Action Number	STAGE II ACTIONS	CONSERVATION/EFFICIENCY (Use Less Energy)	ENERGY PRODUCTION (Green the Energy Source)	COMMUNITY ROLE
City role: <b>Educate</b> citizens to take action themselves.				
	No Actions in this category			
City role: <b>Initiate</b> programs that leverage city powers or provide access to financing, with primary funding from others.				
15-T	Based on research in Action 9-T, City to implement changes in traffic rules to favor bicycles.	Establish “Bike and Pedestrian Only” streets/ corridors	Make it easier/faster/safer to bicycle for in-town trips.	Input to TAC regarding locations and input from DDBA General support
City role: <b>Invest</b> funds directly into transportation programs, products, or people.				
16-T	Establish baseline traffic data: Use time lapse cameras at key intersections	Determine “wasted” idle times at traffic lights versus traffic circles	Evaluate and compare energy to maintain lights versus traffic circles	Use TAC as forum for input and to inform on baseline data and energy comparisons
17-T	City to develop downtown terminals for Unitrans and RT	More convenient access for general community use of system.		General support and use of system
18-T	City to designate streets for bicycles and pedestrians only	Improve conditions for and encourage use of alternative modes of travel.	Make it easier/faster/safer to bicycle for in-town trips.	General support and use of system
19-T	City to expand mass transit to nearby communities	Increase utility for use as an alternative commute mode.		General support and use of system
20-T	Based on research in Action 11-T, City to implement opportunities to increase the number of traffic circles in place of traffic lights.		Fewer stops and starts reduces GHG emissions	General support
21-T	Based on research in Action 13-T, City to implement Complete Streets retrofit program for existing streets.	Improve conditions for and encourage use of alternative modes of travel.	Make it easier/faster/safer to use alternative modes of travel.	General support
22-T	Based on research in Action 14-T,	Alternative low GHG transportation	Electric tram would use lower	

Action Number	STAGE II ACTIONS	CONSERVATION/EFFICIENCY (Use Less Energy)	ENERGY PRODUCTION (Green the Energy Source)	COMMUNITY ROLE
	City to implement an all electric public tram system.	option.	GHG emissions energy source than current compressed natural gas powered transit system.	General support

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GREENHOUSE GAS REDUCTION STRATEGIES: *LAND-USE*

**STAGE I ACTIONS – Short Term Implementation (2009-2012)**

Action Number	STAGE 1 ACTIONS	EFFICIENT LAND USE	GREEN DEVELOPMENT STRATEGIES	COMMUNITY ROLE
City role: <b>Educate</b> citizens to take action themselves.				
	No Actions in this category			
City role: <b>Initiate</b> programs that leverage city powers or provide access to financing, with primary funding from others.				
1-LU	Provide incentives for car and bike sharing programs.		Incorporate into development standards.	General support
2-LU	Locate new homes within walking/cycling distance of essential services, including schools, parks, and neighborhood commercial such as grocery stores and cafes.	Mixed land uses pattern reduces vehicle trips		General support
3-LU	Promote mixed use development (residential/commercial) in and outside the downtown to provide essential services to all residents, including providing incentives for commercial development.	Mixed land uses pattern reduces vehicle trips		General support
4-LU	Design street layout, building orientation, and landscaping to accommodate passive and active solar energy systems and to capture natural cooling and heating opportunities.		Community design optimizes energy efficiency and potential for distributed generation of renewable energy	General support
5-LU	Permit and encourage community forests for carbon sequestration.		Trees remove carbon from the air and stores it in the structure of the tree. (most effective in years 10	General support

Action Number	STAGE 1 ACTIONS	EFFICIENT LAND USE	GREEN DEVELOPMENT STRATEGIES	COMMUNITY ROLE
			through 40-80 as trees mature)	
6-LU	Policy Issue 1 --- Incorporate climate change goals, policies, and actions for greenhouse gas reduction and energy efficiency into the General Plan. Consider including a “Climate Change Element” in the General Plan.		Incorporates strategy into documents that guide future development.	General support
7-LU	Policy Issue 2 --- Require that environmental documents specifically address climate change, energy efficiency, and greenhouse gas reduction.		Incorporates strategy into documents that shape future development.	General support
8-LU	Policy Issue 4 --- Establish specific reduction goals for municipal and community “vehicle miles travelled.” Specify policies and programs to achieve these goals, including concentrating citywide uses in the downtown.			General support
<b>City role: Invest funds directly into Land Use programs, products, or people.</b>				
9-LU	Policy Issue 3 --- Create a “Greenhouse Gas Reduction Plan” for both municipal operations and community energy use.		Equipment replacement in City facilities, etc.,	General support
10-LU	Policy Goal 5 --- Determine an appropriate funding mechanism (or mechanisms) to support city programs to reduce greenhouse gas emissions, including a new city position to assist the current Sustainability Coordinator and increased funding for bicycle and			General support

Action Number	STAGE 1 ACTIONS	EFFICIENT LAND USE	GREEN DEVELOPMENT STRATEGIES	COMMUNITY ROLE
	pedestrian infrastructure.			
11-LU	Require the implementation and construction of lowest possible carbon impact public works and infrastructure projects. This includes all areas of city public works and construction as well as local developer built infrastructure projects.		Reduced energy use and GHG emissions with more efficient infrastructure.	General support

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## STAGE II ACTIONS – Additional Analysis Required before Prioritization

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City role: <b>Educate</b> citizens to take action themselves.				
	No Actions in this category			
City role: <b>Initiate</b> programs that leverage city powers or provide access to financing, with primary funding from others.				
11-LU	Allow for flexibility in zoning standards to facilitate green building construction.			General support
12-LU	Promote Transit Oriented Development (integrate mass transit, walking, bicycling) and locate commercial and entertainment uses near the downtown transit hub.			General support
13-LU	Designate transit corridors to facilitate development of regional transit opportunities such as light rail, bikes, neighborhood electric vehicles, and other non-fossil fuel based transit options between Davis and other communities so as to encourage energy efficient transit to jobs and other destinations in Davis by persons who live outside Davis and to other communities by people who live in Davis.			General support
14-LU	Designate transit corridors to facilitate development of regional transit opportunities such as light rail, bikes, neighborhood electric			General support

Action Number	STAGE II ACTIONS	EFFICIENT LAND USE	GREEN DEVELOPMENT STRATEGIES	COMMUNITY ROLE
	vehicles, and other non-fossil fuel based transit options between Davis and other communities so as to encourage energy efficient transit to jobs and other destinations in Davis by persons who live outside Davis and to other communities by people who live in Davis.			
15-LU	Permit construction of very dense projects on infill properties near downtown, including consideration of apartment/condominium towers.			General support
<b>City role: Invest funds directly into Land Use programs, products, or people.</b>				
	No Actions in this category			

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GREENHOUSE GAS REDUCTION STRATEGIES : *ENERGY*

**STAGE I ACTIONS – Short Term Implementation (2009-2012)**

Action Number	STAGE 1 ACTIONS	CONSERVATION/EFFICIENCY (Use Less Energy)	ENERGY PRODUCTION (Green the Energy Source)	COMMUNITY ROLE
City role: <b>Educate</b> citizens to take action themselves.				
1-E	<u>Utilize home energy devices to reduce energy use through changes in resident's behavior</u> (Pursue program with PG&E to install display monitors in homes and businesses)	Show people how much energy they are using to encourage conservation		Participation
2-E	<u>Carbon reduction education</u> (Work with CAT members and local organizations to sponsor community forums, programs and 'one-stop' climate action service center)	Inform community members of options for energy efficiency improvements	Educate community members about the importance of greening our power	Participation
City role: <b>Initiate</b> programs that leverage city powers or provide access to financing, with primary funding from others.				
3-E	<u>Renewable Energy/ Energy Efficiency Financing</u> (Adopt a Davis version of Berkeley-style 'opt-in' assessment district )	Eliminate cost barriers for home and business owners to finance energy efficiency measures	Eliminate cost barriers for home and business owners to install solar systems (electric and thermal)	Participation in program and long-term investment in property
4-E	<u>Strengthen Mandatory Green Building Ordinance</u>	Reduce greenhouse gas emissions in new construction and remodels, including mandatory energy efficiency requirements	Encourage development agreements to include on site renewable power generation	Developer, builder, and property owner support for program.
5-E	<u>Time of sale energy retrofit ordinance</u>	Improve energy efficiency of existing housing and commercial building stock (Berkeley-style program to enable owners to finance improvements should precede retrofit ordinance)		Property owner and real-estate industry support for program.

Action Number	STAGE 1 ACTIONS	CONSERVATION/EFFICIENCY (Use Less Energy)	ENERGY PRODUCTION (Green the Energy Source)	COMMUNITY ROLE
6-E	<u>Power Purchase Agreement (PPA) Energy Financing Strategy</u> (City could facilitate or invest directly)		Expand city's current efforts for renewable energy generation (eg., solar farm).	General support.
<b>City role: Invest funds directly into energy programs, products, or people.</b>				
7-E	<u>Street and Park Lighting Retrofit and Controls</u> (Continue working with PG&E to create 'shovel-ready' projects)	Install energy efficient lighting on city streets and city parks		Support for potential modification to lighting levels due to new technology
8-E	<u>Hire full time energy/climate specialist</u>	Energy specialist could pursue external funding for energy efficiency programs	Energy specialist could pursue project development, external funding, and project management for local renewable power	General support

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City role: <b>Educate</b> citizens to take action themselves.				
	No Actions in this category			
City role: <b>Initiate</b> programs that leverage city powers or provide access to financing, with primary funding from others.				
9-E	<u>Community Fund for Local Projects</u> through Non-Profit or Private (Attract Sources of Funding from Davis public through city utility bill or sale of carbon offsets)	Benefit schools or community projects through energy efficiency measures	Benefit schools or community projects through on-site renewable energy projects	Participation in program.
10-E	<u>All New Residential Development Be Carbon Neutral</u>	Continue and expand research into state of the art construction techniques and technology towards goal of 100% carbon neutrality		Developer support for program.
11-E	<u>Improve energy efficiency of existing rental housing</u>	Partner with PG&E and supplement its outreach efforts		Property owner support for program.
City role: <b>Invest</b> funds directly into energy programs, products, or people.				
12-E	<u>Generate electricity through biomass and agricultural waste</u>		Needs further research: investigate partnerships with UC Davis, county, state, and federal sources of funding and private investors.	Support for potential modification to lighting levels due to new technology
13-E	<u>City to produce renewable power for 100% of community's energy needs</u>		Continue and expand research into state of the art construction techniques and technology towards goal of 100% local renewable energy	General support

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GREENHOUSE GAS REDUCTION STRATEGIES : *CONSUMPTION AND WASTE*

**STAGE I ACTIONS – Short Term Implementation (2009-2012)**

Action Number	STAGE 1 ACTIONS	CONSUMPTION (Produce Less GHG/Waste)	WASTE PROCESSING (Recycling, Green Waste, etc.)	COMMUNITY ROLE
City role: <b>Educate</b> citizens to take action themselves.				
1-CW	Conduct a community education campaign on the carbon consequences of food choices, with special focus on protein sources such as meat, fish, and vegetables.	<p>Reduce GHG emissions based on consumer choices.</p> <ul style="list-style-type: none"> <li>• Provide examples of how specific choices such as one meat-free day a week will save xx pounds of carbon dioxide (or equivalent) per year.</li> <li>• Provide direct comparisons between food choices vs. transportation choices vs. energy source and conservation choice – i.e. how does the choice to eat beef or not compare with driving a hybrid vs. an SUV, or powering one’s home with solar panels.</li> <li>• Provide specific carbon calculations for common food choices to enable direct comparisons</li> </ul>		Participation
2- CW	City to determine and publish safe bicycle routes to schools	Encourage parents and kids to cycle, reducing vehicle miles driven		Participation
City role: <b>Initiate</b> programs that leverage city powers or provide access to financing, with primary funding from others.				
3- CW	Adopt Zero-waste goal for Davis and begin the planning process.	Develop a Solid Waste Integrated Resources Plan, also known as “SWIRP” as a 20 year master plan for the City’s solid waste and recycling programs.	Develop a Solid Waste Integrated Resources Plan, also known as “SWIRP” as a 20 year master plan for the City’s solid waste and recycling programs.	Participation in program
	Permit greywater use.		Save energy through reduced use	General support

<b>Action Number</b>	<b>STAGE 1 ACTIONS</b>	<b>CONSUMPTION (Produce Less GHG/Waste)</b>	<b>WASTE PROCESSING (Recycling, Green Waste, etc.)</b>	<b>COMMUNITY ROLE</b>
4- CW			of potable, processed water for non-potable applications	
5- CW	Implement City policies that favor contracting with companies which adopt energy efficient, low carbon practices, and use non-toxic chemicals. Encourage businesses to implement similar contracting policy via incentives and disincentives.	Reduce energy use and GHG emissions based on contractual services criteria.		General support
6- CW	Implement City policy that favors purchasing local, seasonal, sustainably grown and raised, organic, food products, and climate friendly, rapidly renewable, and recycled content products, create a purchasing system for business within the city to implement similar purchasing policies.	Reduce energy use and GHG emissions based on purchase policy criteria.		General support
7- CW	Create a City salvage yard for the City to promote reuse of goods and reduce consumption.	Reduce energy use through reuse of goods		General support
8- CW	Require subdivision level wastewater treatment and reuse for all new developments.	Reduce energy use through reduced generation of wastewater and potable water demand, while increasing the local aquifer recharge (LEED ND standard)		General support
9-CW	Promote water production and storage policies to reduce the energy requirements and GHG emissions associated with these activities: including options such as time-of-use water monitoring and construction of new water towers.	Reduce energy use through reduced need for potable water for non-potable applications.		

Action Number	STAGE 1 ACTIONS	CONSUMPTION (Produce Less GHG/Waste)	WASTE PROCESSING (Recycling, Green Waste, etc.)	COMMUNITY ROLE
City role: <b>Invest</b> funds directly into Consumption and Waste Reduction programs, products, or people.				
10- CW	Provide reusable utensils, dishes and water containers at City Facilities to enable zero waste events at those facilities.	Save energy by reducing unnecessary production of materials.		General support

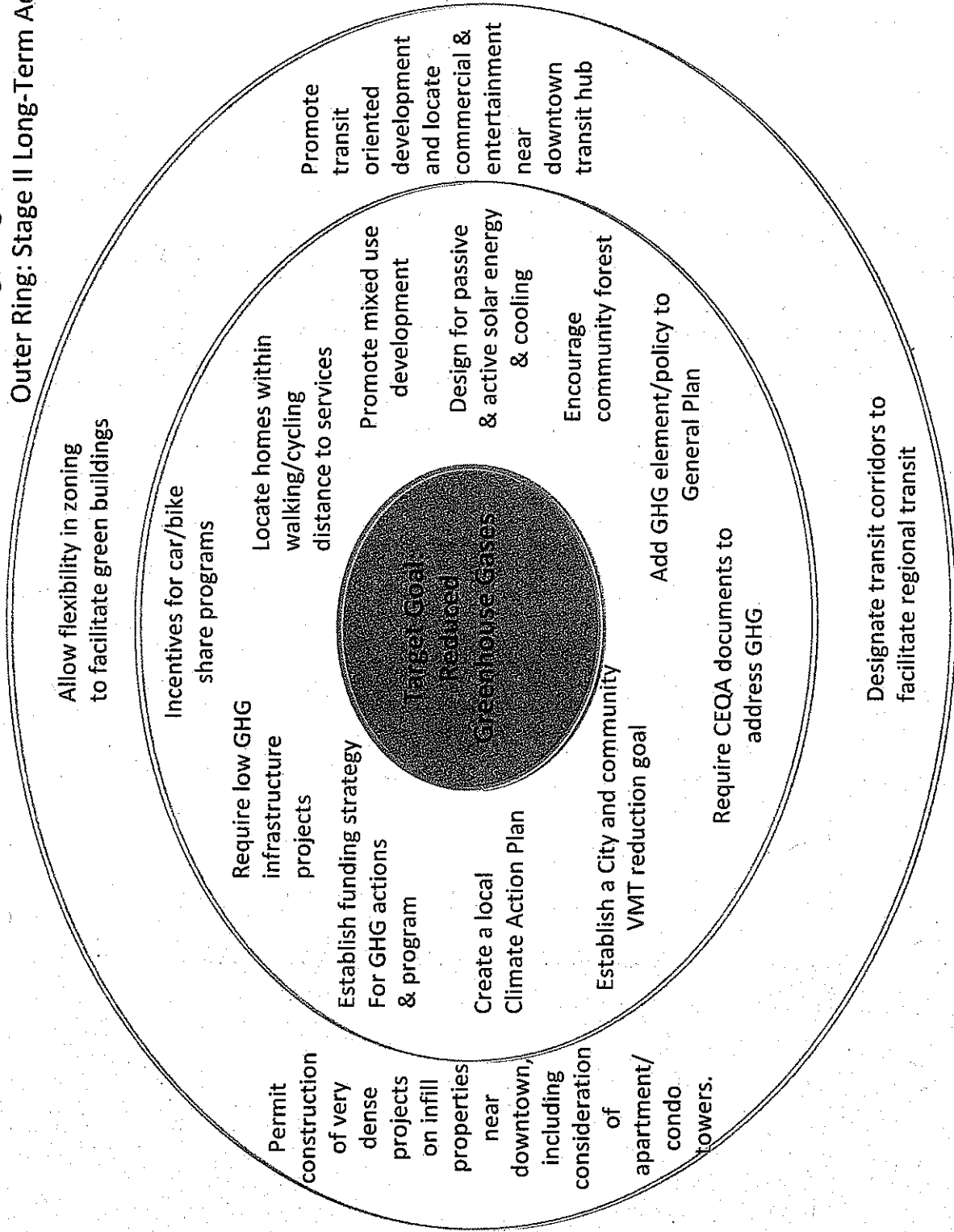
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## STAGE II ACTIONS – Additional Analysis Required before Prioritization

Action Number	STAGE II ACTIONS	CONSUMPTION (Produce Less GHG/Waste)	WASTE PROCESSING (Recycling, Green Waste, etc.)	COMMUNITY ROLE
City role: <b>Educate</b> citizens to take action themselves.				
	No Actions in this category			
City role: <b>Initiate</b> programs that leverage city powers or provide access to financing, with primary funding from others.				
11- CW	Develop a City-wide rainwater collection and usage program	Reduce energy use through reduced generation of wastewater and potable water demand, while increasing the local aquifer recharge (LEED ND standard)		General support
12-CW	Expand curbside waste pickup to include more recycling and wet composting		Reduce energy use through reduced production of new materials and capture of reusable materials (wet compost).	General support
13-CW	Recycle Styrofoam citywide		Reduce energy use through reduced production of new materials	General support
14-CW	Implement cradle to cradle (lifecycle) appliance recycling program		Reduce energy use through reduced production of new materials	General support
City role: <b>Invest</b> funds directly into Consumption and Waste Reduction programs, products, or people.				
	No Actions in this category			

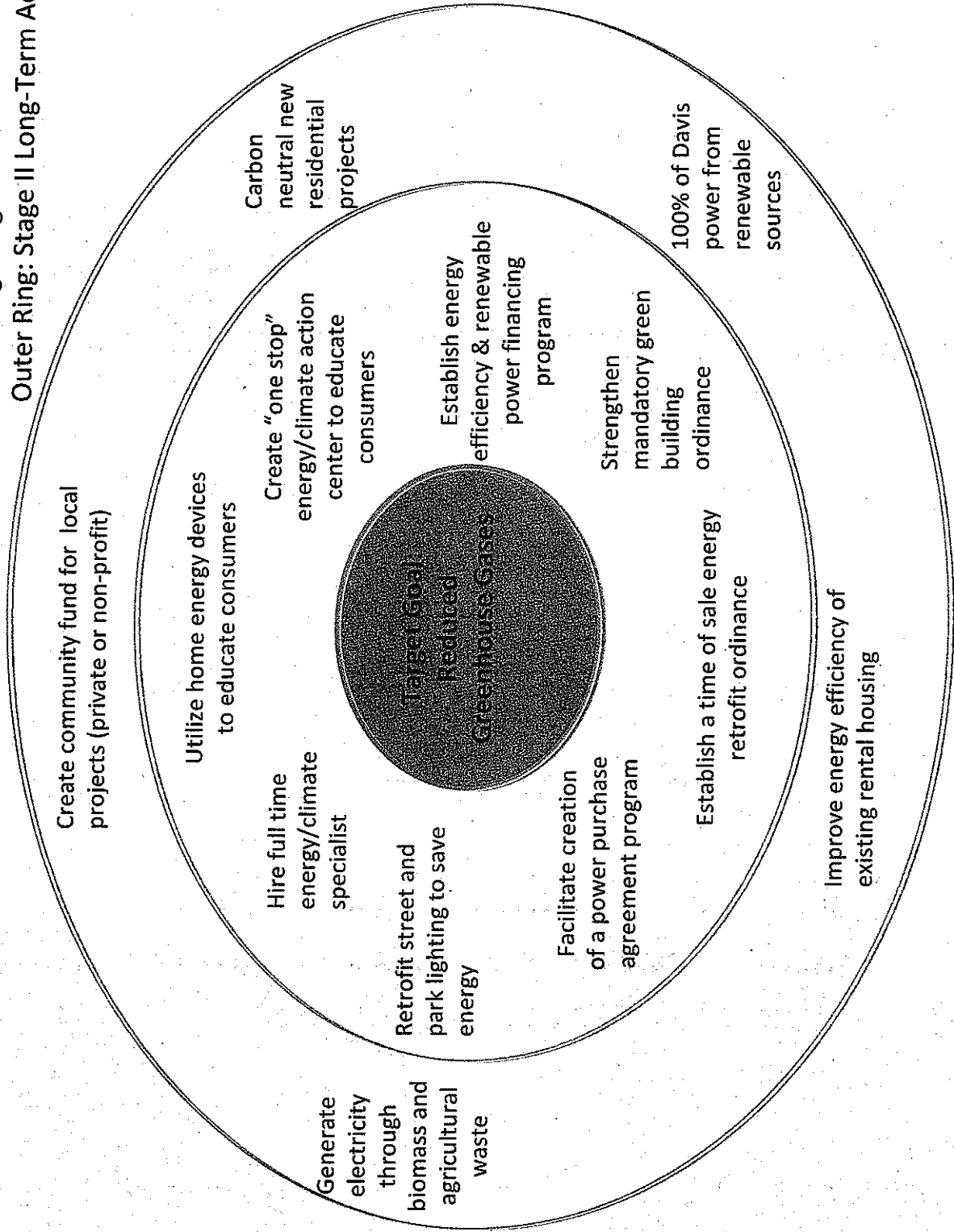
# CAT- Recommended Actions – Land Use

Inner Ring: Stage I Short Term Actions  
 Outer Ring: Stage II Long-Term Actions



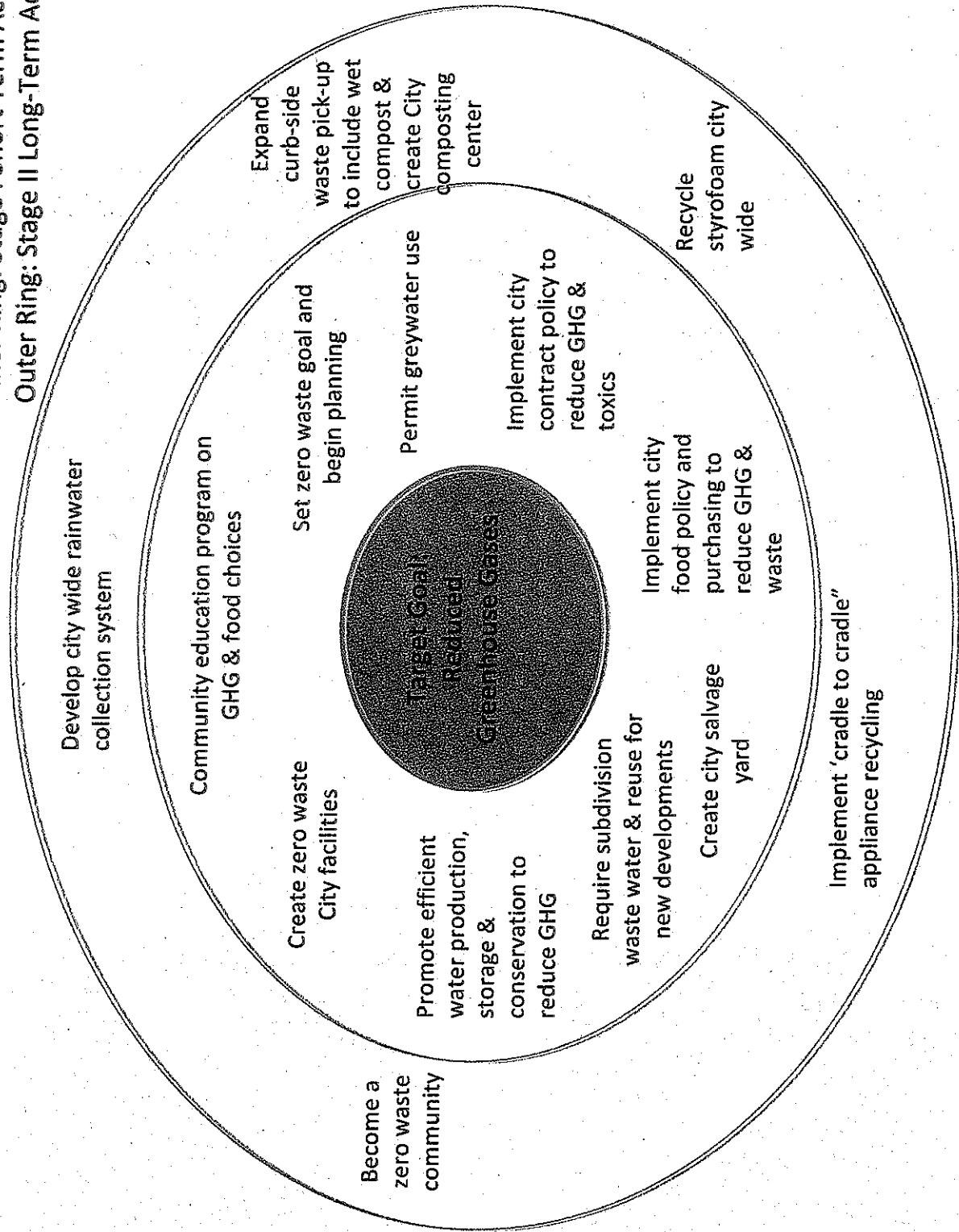
# CAT- Recommended Actions – Energy

Inner Ring: Stage I Short Term Actions  
Outer Ring: Stage II Long-Term Actions



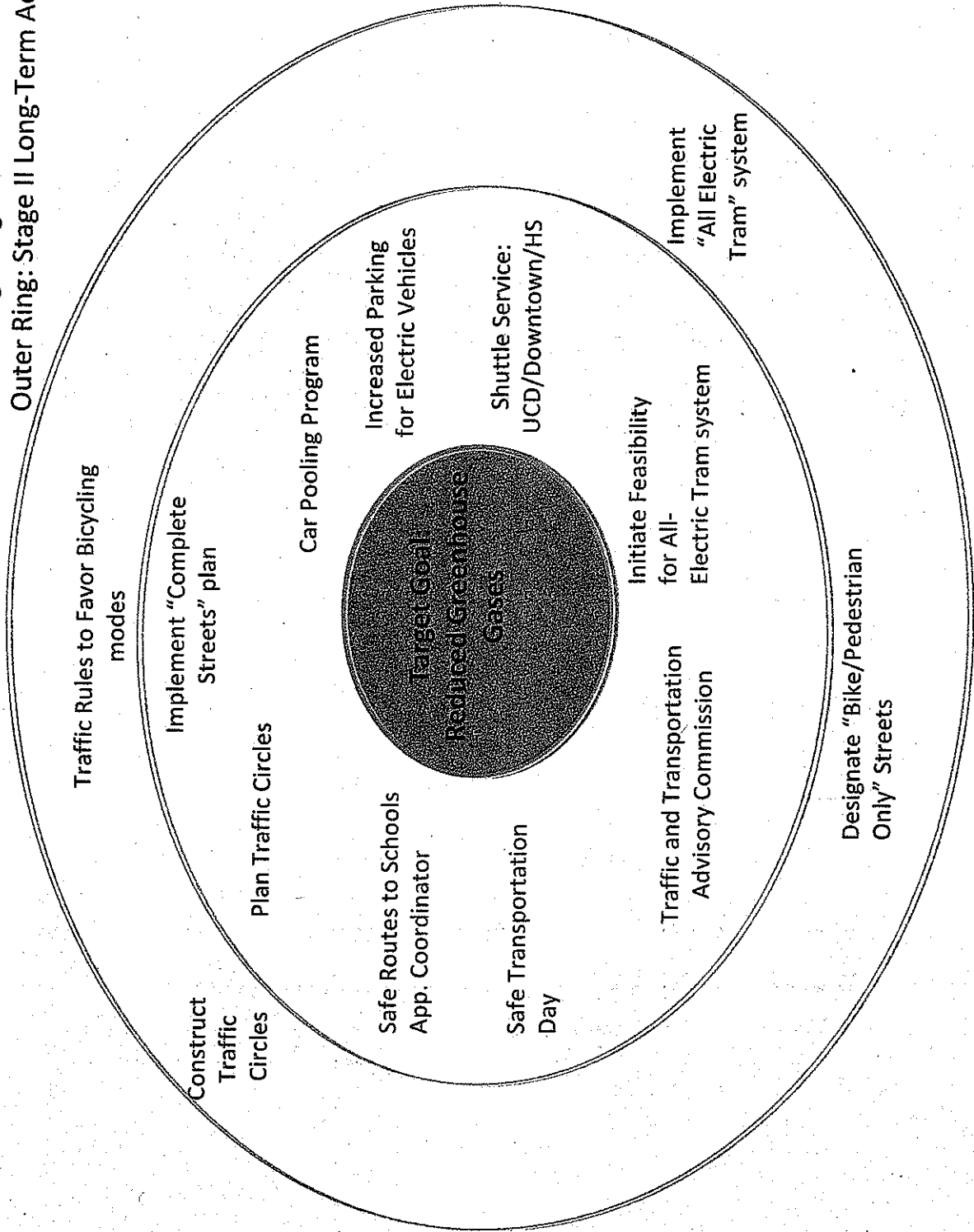
# CAT- Recommended Actions – Consumption & Waste

Inner Ring: Stage I Short Term Actions  
 Outer Ring: Stage II Long-Term Actions



# CAT- Recommended Actions – Transportation

Inner Ring: Stage I Short Term Actions  
Outer Ring: Stage II Long-Term Actions



# Emissions reduction success will depend on residents

Davis Enterprise  
May 1, 2009

By Claire St. John

ENTERPRISE STAFF WRITER

Making Davis a “carbon-neutral” city by 2050 is a daunting task, especially now, as the city looks to slash its budget and weather the current recession.

But the Davis City Council has made greening the city a priority, and on Thursday night, the Climate Action Team presented the culmination of its 18 months of work, investigating which greenhouse gas reduction measures have worked in other communities and which might work in Davis.

About 60 people came to hear the presentation at City Hall, and most stayed after to quiz individual CAT members about some of the recommendations they will be making to the City Council in late summer or early fall.

The CAT, which studied land use, consumption and waste, energy and transportation, presented two kinds of recommendations: those that are easy to implement and don't cost that much, and those that are long-term and

## EMISSIONS: Education seen as key

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require more study and investment.

Glen Holstein, who sat in the audience, noted that many of the most effective greenhouse gas reduction measures were also the most costly.

But one of the easiest and cheapest measures is educating the public, and the CAT has already made strides toward that goal, just by existing and holding community forums.

CAT member Stacie Frerichs, who served on the consumption and waste subcommittee, presented the audience with a quiz:

Which saves the most water? a) a rooftop rainwater collection system, b) installing low-flow toilets, c) skipping hamburgers once a week, d) installing low-flow shower heads, e) planting a

drought-resistant yard.

The answer? Skipping hamburgers for a week.

Frerichs said she was surprised by the answer when CAT member Jamie Gilardi posed the quiz to the subcommittee, but that's part of the work the city must do: educate the community about how individual choices affect the environment.

“We can only succeed if this is truly a community effort,” said CAT Chairman Kemble Pope.

The state of California has a goal of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050. The city of Davis is aiming lower with a stated goal of carbon neutrality by 2050.

But because households and transportation make up about 97 percent of Davis' emissions, it will have to be the residents of Davis —

aided by city policy and investment — who bring emissions down.

CAT member and Planning Commissioner Mark Braly said the CAT was recommending, among hundreds of other initiatives, forming a nonprofit group that would guide people through programs and funding sources that are available for emissions reduction programs.

The CAT's recommendations are online at <http://www.cityofdavis.org> (click on “Davis sustainability” under the “Quick Links” section). The CAT will present its report to the Natural Resources Commission in early summer, and to the City Council by early fall.

— Reach Claire St. John at [cstjohn@davisenterprise.net](mailto:cstjohn@davisenterprise.net) or (530) 747-8057. Comment at [www.davisenterprise.com](http://www.davisenterprise.com)

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