

# CHAPTER 11: SUSTAINABILITY



# SUSTAINABILITY

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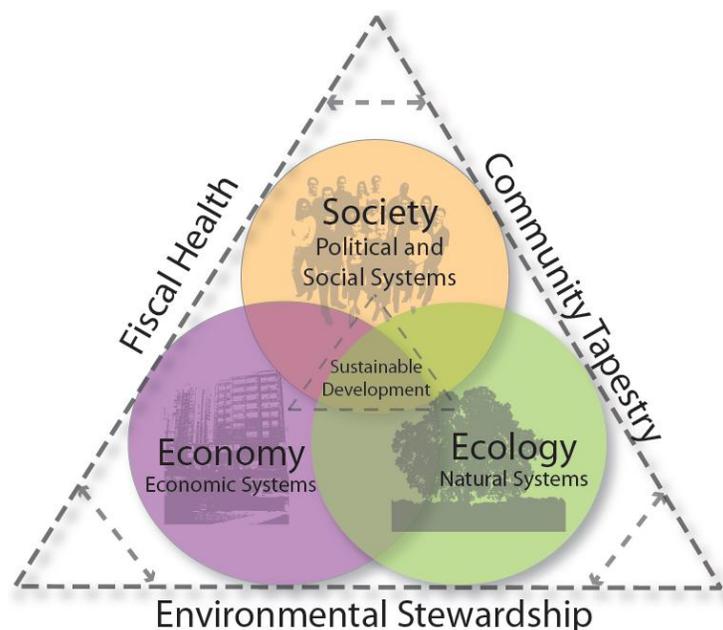
## INTRODUCTION

The role of local governments is becoming increasingly important in combating climate change through setting policies for future community actions. The Pinole General Plan incorporates sustainable policies and programs throughout all elements of the plan. The Sustainability Element creates a framework within which the City will link these elements and identify programs to implement sustainable policies and practices to improve the quality of life and public health, increase energy efficiency and reduce waste by utilizing more sustainable and compact development patterns, encourage alternative forms of transportation, and establish programs to minimize the waste stream and improve water quality.

Pinole places high value on civic and economic self-sufficiency and maintaining a mix of housing options to allow Pinole seniors to “age in place” without leaving their community and support system, and to allow Pinole’s youth to remain in the community as they start families.

The Sustainability Element supports land use patterns and programs that will enhance opportunities to improve ecological conditions, enhance the local economy, and provide equal job, housing, education, recreation, and transportation opportunities. The Sustainability Element is also the General Plan chapter that most allows Pinole to address local climate change issues by setting goals and policies to guide Pinole’s efforts to reduce greenhouse gas emissions (GHGs), encourage renewable energy sources, expand local use of green technology, and educate Pinole’s residents on how they can live fully while preserving Pinole for future generations.

Below is a visual representation of the concept of sustainability in Pinole. The overarching themes of fiscal health, community tapestry, and environmental stewardship shape the goals, policies, and actions in this element, as well as the General Plan.



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## SUSTAINABILITY FOR PINOLE

- A sustainable Pinole is a community where members meet their needs and express their greatest potential in the present and plan and act for the ability to maintain these ideals indefinitely.
- It is a place where people live, work and thrive in a healthy and vibrant community. In a sustainable Pinole,
  - the natural environment is protected and enhanced,
  - the community’s small-town character and history is celebrated and preserved,
  - there is economic opportunity and security for businesses and economic variety for residents,
  - each member of the community’s needs are provided for,
  - the community is visually and physically connected,
  - opportunities to play and relax are abundant,
  - arts are encouraged and promoted, and
  - decision making takes a whole-systems approach and includes the entire community.
- Having a sustainable Pinole is a journey rather than a destination. The immediate and long-term well-being of the city and its citizens is protected and enhanced while providing the highest quality of life possible.



*Since sustainability is at the core of the General Plan, sustainable policies are described within each element. To make sustainable policies easier to recognize, they are identified with a recognizable icon. The Sustainability Element describes existing City programs and policies that support sustainable land use and describe new goals, policies, objectives and programs that will keep Pinole sustainable in the future.*

### SUSTAINABILITY IN PINOLE

Given its small size and the built out nature of the community, Pinole is already practicing sustainable development in a variety of ways in order to optimize use of limited resources. Notable among the City’s recent programs are:

- Partnership with the County and other sustainability partners
- Acceptance of the Pinole Creek Vision, Master Plan and Restoration Project.
- Consideration of alternative sewage disposal and treatment.
- Waste management through an e-waste program and City-sponsored community garage sales and/or other recycling events.

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- Examination of opportunities to extend solar power to public buildings.
- Completion of a Greenhouse Gas Inventory to establish a baseline level of greenhouse gas (GHG) emissions within Pinole.
- PDAs. All three of Pinole's main corridors (San Pablo Avenue, Pinole Valley Road and Appian Way) have been designated as Potential Priority Development Areas (PDAs) by ABAG. As part of a region-wide planning effort, Pinole seeks to focus housing development along with amenities and services to meet the day-to-day needs of residents in a pedestrian-friendly environment served by transit.
- Three Corridor Specific Plan – The City has prepared a draft plan for the three main commercial corridors in Pinole (as discussed further in the Land Use and Economic Development Element and Circulation Element) and will adopt a Specific Plan to promote more compact development along these corridors, mixed housing types, alternative design guidelines, enhancement of the cultural resource of Old Town Pinole, alternative modes of transportation and an improved jobs/housing balance.
- Stormwater Management – Pinole has joined the State of California and Contra Costa County in implementing programs that reduce impervious surfaces and clean stormwater runoff before it enters San Pablo Bay.



*Moderate Density Housing on a Multi-Modal Transportation Corridor*

## RELATIONSHIP TO OTHER GENERAL PLAN ELEMENTS

A Sustainability Element is not a State-mandated general plan element. The City of Pinole is the first community in Contra Costa County to prepare a sustainability element to help guide future land use within the City. The Sustainability Element of the Pinole General Plan is adopted pursuant to the authority granted to local jurisdictions by Section 65303 of the Government Code of the State of California, which states:

*The general plan may include any other elements or address other subjects which, in the judgment of legislative body, relate to the physical development of the county or city.*

Individual General Plan Elements must be consistent with each other. The General Plan Elements that must be coordinated with the Sustainability Element to ensure consistency include Land Use and Economic Development (density and location of land uses), Community Services and Facilities (energy, conservation, green building, etc.), Natural Resources and Open Space Element (man-made hazards, development constraints, and open space policies),

Health and Safety, Housing, and Circulation (movement through the community, including bicycle and pedestrian circulation).

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The City of Pinole has previously established many sustainable policies and programs which are detailed in the Background Report.

## ISSUES AND OBJECTIVES

The following issues reflect the values important to the residents of Pinole, as well as address the areas of concern. Each issue area defines an objective that Pinole will use to set goals that will lead the City to become more sustainable.



*Pinole Senior Center*

- **Social Sustainability:** Fostering community participation (in the planning process and in the community itself), access to public resources/open space, physical access to the community (transportation), equal access to a variety of housing opportunities that are compatible with the City's workforce, fostering a vibrant community that draws a mix of people from different age groups, cultural backgrounds, and interests.
- **Economic Sustainability:** Access to a variety of local jobs, fostering local green businesses and products (reduces need for transportation of goods that consumes fossil fuels), reliance on local businesses to serve local needs, promotion of home-based businesses, and community-supported agriculture.
- **Environmental Sustainability:** Protecting and conserving natural resources and habitats, promoting renewable energy, climate change mitigation and adaptation, reducing waste, promoting alternative energy sources, and ensuring a healthy ecosystem.

## SOCIAL SYSTEMS

The City will support convenient and equal access to community services, diverse housing opportunities, and expanded awareness of and support for sustainable programs and practices that serve residents of all ages.

- Maintain a safe city for all residents of the community.
- Maintain excellent community services that meet the local government, recreation, and community facility needs of all residents.
- Provide workforce affordable housing that meets Pinole's share of regional needs, conserve existing housing and residential neighborhoods, provide housing opportunities for diverse population. Ensure that housing opportunities exist in Pinole for those working in the city limits.
- Public outreach to inform and develop community support for sustainability programs.
- Promote programs that assist seniors to "age in place."

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## ECONOMIC SYSTEMS

The City will support creation and maintenance of a thriving business environment comprising a diverse mix of commercial, retail and professional services that is compatible with Pinole's residential character and natural environment.

- Encourage jobs/housing balance.
- Provide adequate housing for all income levels.
- Encourage the expansion of telecommunications infrastructure.
- Provide a fair and predictable land use planning process.
- Encourage green jobs and opportunities for green industry.
- Foster initiatives that positively affect the city's business climate and strengthen business operations in Pinole.
- Promote home-based businesses and live/work opportunities consistent with the zoning ordinance.
- Work to maintain diversity in economic sectors to withstand economic fluctuations and provide needed goods and services required to meet community needs.
- Identify sources of sustainable funding for ongoing community programs.



*San Pablo Bay*

## ENVIRONMENTAL SYSTEMS

The City will maintain a sense of environmental responsibility which entails living in balance with the natural coastal, riparian and hillside environmental subsystems within Pinole. The city's rich and varied natural features, scenic vistas, ecosystems, and biodiversity should be protected from further intrusion, disruption, consumption and fragmentation.

Pinole's environmental responsibility covers several different areas: greenhouse gas emissions, water resources, solid waste, transportation, compact development, open space, environmentally sensitive lands.

- Promote sustainable energy, water, and resource use.
- Encourage energy-efficient "green buildings" as certified by the U.S. Green Building Council's LEED Program or equivalent certification.

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- Expand the use of green practices in both the public and private sectors.
- Address the City's contribution to climate change while preparing for the potential impacts from climate change on the community.
- Establish a green building and environmentally preferable purchasing program for City operations and facilities.
- Support ongoing and expanded recycling efforts within the community.
- Reduce hillside erosion and threats to coastal ecosystem health, as discussed further in the Health and Safety Element (Chapter 9).

**Greenhouse Gas Emissions.** The City will manage its own operations to be as pollution-free as possible. The City will work with other agencies and organizations to help educate citizens in ways to reduce greenhouse gas emissions and employ best available practices in City operations. "Best available practices" means behavior and technologies that produce the least air pollutants for a desired outcome, considering available equipment, life-cycle costs, recycled material content, social and environmental side effects and the regulations of other agencies.

**Sustainable Water Resources.** The City will prudently manage water resources to sustain plant and animal life, support urban activities, and protect public health and safety. The City will manage water use and disposal to:

- Pursue long-term reductions in the volume of discharge to the San Pablo Bay (Bay) through reuse of wastewater and the increase of Low Impact Development.
- Pursue long-term reductions of the mass discharge of each pollutant to the creeks and Bay through a combination of effluent reuse, pollutant decreases and stormwater pollutant decreases.
- Pursue long-term reductions of pollutant concentrations in the ecosystem (air, water and land) from the residuals generated by the water pollution control and treatment plants.
- Ensure a sustainable water supply to support the expected future growth of Pinole.
- Use natural systems to maintain and enhance environmental quality by having them perform such functions as cleaning air and water, and controlling storm water runoff.



*Water Efficient Gardening*

**Solid Waste.** The City will promote efforts designed to reduce the amount of solid waste generated and ensure that generated waste is recycled or efficiently disposed of in an environmentally safe manner.

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**Transportation.** The City will promote accessible, attractive, economically viable and environmentally sound transportation options that meet the needs of residents, employers, employees and visitors for safe, convenient and efficient travel by a variety of methods. This element will encourage concentration of future development along Pinole's three primary transportation corridors and will set a policy to replace the City's vehicle fleet with hybrid fuel and other viable alternative fuel vehicles.

**Compact Development.** The physical form of the city will support energy efficiency and the use of sustainable energy sources through more compact development and diverse housing opportunities to achieve more efficient use of public facilities and services, and land resources, and to improve the jobs/housing balance.

**Open Space.** The City will seek to conserve lands of scenic and recreational value and to use open space and parks to serve as community buffers between Pinole and its neighbors. Preserving open space and reforestation can also help Pinole offset greenhouse gas emissions.

**Environmentally Sensitive Lands.** The City will endeavor to conserve natural habitat, preserve connections between habitats, minimize impact to watershed functions including water quality and flood protection, and avoid natural hazards.

## CLIMATE CHANGE

Though greenhouse gas emissions were discussed above in Environmental Systems, climate change has become such a priority for local governments that it is a separate issue area for Pinole to address. The City has set goals, policies, and implementation actions that guide Pinole's efforts to address climate change while also preparing the city for the adverse effects of climate change.

A large part of the City's response to climate change will be reducing the City's greenhouse gas (GHG) emissions from energy, waste, and transportation sources while embracing the expansion of the city's green infrastructure and green technology and industry. By addressing climate change and reducing GHG emissions, Pinole will become a more sustainable city. Reducing GHG emissions improves a city's air quality, improves public health, boosts the local economy, and reduces damage to the city's environmental systems.

AB 32, the Global Warming Solutions Act of 2006, codified the State's goal of reducing GHG emissions to 1990 levels by 2020. This act defined a number of milestones to be met by the State and vested principle authority in the California Air Resources Board (CARB). In addition, there are a number of other important statutes and regulations affecting GHG emissions and providing incentive funding to support climate change action efforts. The Background Report addresses the regulatory framework in more detail.

## Potential Impacts

There have been many studies in the past few years that have found that human activities are a major influence on climate change by changing the composition of the atmosphere and modifying the land surface. Increases of GHGs in the atmosphere result in an increase in

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average global temperatures.<sup>1</sup> In 2006, climate modeling was performed by the California Energy Commission that determined possible future impacts of climate change in California. The results showed increasing smog and unhealthy air, hotter and more dangerous temperatures in the summer, less snowfall which means reduced water supplies, increasing numbers of wildfires, and a rise in sea level by as much as 3 meters by the end of the century. See the Health and Safety Element (Chapter 9) for more discussion on these impacts and their effects on Pinole.

## Local Government Actions

In June, 2009, the California Air Pollution Control Officers Association (CAPCOA) prepared a report on ways for local governments to address climate change. They determined that there are five core areas of local government operations responsible for climate change. Those areas are energy use, waste and recycling, water delivery and wastewater treatment, transportation, and the built environment. Pinole has addressed those five core areas in the goals, policies, and implementation actions set in this Element and in the Community Character Element, Growth Management Element, Land Use and Economic Development Element, Circulation Element, Community Services and Facilities Element, and Natural Resources and Open Space Element.

## GOALS, POLICIES AND IMPLEMENTATION ACTIONS IN OTHER ELEMENTS

All of the other General Plan Elements help enhance the sustainability of Pinole. As mentioned above, the specific policies that are considered sustainable are identified by the leaf symbol. In this General Plan, some of the major areas of sustainable development and policies that will affect and improve sustainable growth for Pinole for now and into the future are:

1. Create opportunities for more compact development along transportation corridors.
2. Promote alternative modes of transportation.
3. Preserve Industry and promote Green Industry.
4. Create opportunities for diverse housing types affordable to all income levels.
5. Protect open space, resources and sensitive habitats.
6. Protect and promote a healthy community.

These policies will support a sustainable community by reducing Pinole's dependence on non-renewable natural resources and its production of wastes, while improving livability and

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<sup>1</sup> Model Policies for Greenhouse Gases in General Plans: A Resource for Local Government to Incorporate General Plan Policies to Reduce Greenhouse Gas Emissions. California Air Pollution Control Officers Association. June 2009.

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promoting sustainable socio-economic and environmental well-being of Pinole and all its inhabitants.

## GOALS, POLICIES AND IMPLEMENTATION ACTIONS

The goals of this element are as follows and are listed subsequently with corresponding policies and implementation actions.

- Goal SE.1: Become a “Model City” that demonstrates how sustainable practices can be incorporated in the municipal, commercial and residential functions of a city.
- Goal SE.2: Create a nurturing and enriching environment where learning about sustainable practices begins from the earliest ages and is available to all community members, businesses and decision makers.
- Goal SE.3: The City will reduce its contribution to climate change and mitigate and adapt to the effects of climate change as appropriate.
- Goal SE.4: Optimize energy efficiency and renewable energy.
- Goal SE.5: Achieve a solid waste diversion of 75% of the waste stream by 2020.
- Goal SE.6: Integrate green building standards into all new and rehabilitated development.
- Goal SE.7: Air Quality will be maintained and improved for the City of Pinole and the Bay Area as a region and not decline below levels measured in the early 1990’s.
- Goal SE.8: Utilize transit options and reduce vehicle miles traveled and single-occupancy vehicle use.
- Goal SE.9: Protect, preserve and enhance the natural resources of Pinole.

**GOAL SE.1** Become a “Model City” that demonstrates how sustainable practices can be incorporated in the municipal, commercial and residential functions of a city.

**POLICY SE.1.1** Coordinate sustainability efforts among all City Departments and all segments of society to form an active partnership in making a sustainable community a citywide responsibility.

**Action SE.1.1.1** Align City mission statements, budgeting and operations with sustainability goals. Consider sustainability criteria in City policy, City purchasing, municipal operations and program decisions.

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- Action SE.1.1.2** Designate the Planning Commission to coordinate and accelerate organizational and community implementation of sustainable practices and to ensure integration of environmental, economic and social policies and programs.
- Action SE.1.1.3** Report progress on sustainability goals regularly as part of the General Plan Annual Review.
- Action SE.1.1.4** Regularly disseminate information about the City's sustainability efforts and plans on the City's website, in the newsletter and through other methods.
- Action SE.1.1.5** Establish baselines of City operations such as the City's energy use, trash export, recycling, local food production, etc. in order to evaluate the City's progress toward reducing energy consumption and waste and set goals for future waste reduction targets.
- Action SE.1.1.6** Promote a Green Rating System to be used for programs such as rating local businesses as "green businesses".
- POLICY SE.1.2** Conduct public outreach to Pinole businesses to inform them about rebates and other financial incentives for using ENERGY STAR® or equivalent energy-efficient appliances, lighting, and heating equipment.
- POLICY SE.1.3** Enhance the energy efficiency of all City facilities.
- Action SE.1.3.1** Conduct energy audits for all public facilities, as feasible.
- Action SE.1.3.2** Retrofit facilities for energy efficiency where feasible. Include items such as increased insulation, green or reflective roofs, and low-emissive window glass.
- Action SE.1.3.3** Implement an energy tracking and management system for City departments and public facilities.
- Action SE.1.3.4** Work with Public Works to install energy-efficient lighting retrofits and occupancy sensors on public facilities.
- POLICY SE.1.4** Require all newly constructed, purchased, or leased municipal buildings or facilities meet minimum standards for green building as appropriate.
- Action SE.1.4.1** Consider setting standards for green building for public facilities that include a minimum LEED certification and integrate solar design, heat-minimizing features such as cool paving, landscaping, pervious surfaces, and other appropriate techniques.

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- POLICY SE.1.5** Provide adequate resources to all City staff, including appropriate training, education, and support, to implement objectives and policies to reduce GHG emissions from City operations.
- Action SE.1.5.1** Provide energy efficiency training, including opportunities to obtain LEED certification for relevant staff.
- Action SE.1.5.2** Provide information on energy use and management to managers and others making decisions that influence energy use.
- Action SE.1.5.3** Provide energy design review services to departments undertaking new construction or renovation projects to facilitate compliance with LEED standards.
- GOAL SE.2** Create a nurturing and enriching environment where learning about sustainable practices begins from the earliest ages and is available to all community members, businesses and decision makers.
- POLICY SE.2.1** Support the efforts of community groups, including the Pinole Valley High School Environmental Academy, to educate the public about sustainability and climate change.
- Action SE.2.1.1** Assist in the creation of effective educational materials and outreach efforts relating to climate change.
- Action SE.2.1.2** Support the Development and implementation of a program to present educational information to schoolchildren about climate change and behaviors that reduce GHG emissions and mitigate the effects of climate change.
- Action SE.2.1.3** Acknowledge outstanding local efforts (private and public) that support the City's sustainability goals, including the reduction of GHG emissions.
- Action SE.2.1.4** Consider establishing and/or sponsor competitions, or contests that promote climate protection, reducing GHG emissions, or fund-raising to support community climate protection programs.
- Action SE.2.1.5** Support student participation in local efforts to combat or raise awareness about climate change and GHG emissions.
- POLICY SE.2.2** Pinole should continue to encourage a vital economy that supports green businesses and green industry.
- Action SE. 2.2.1** Through the Redevelopment Agency and education programs, create a "Green Jobs Incubator" to help create more green jobs and offer green job training opportunities.

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- Action SE.2.2.2** Join the Bay Area Green Business Program, a partnership of environmental agencies, professional associations, waste management agencies, utilities and a concerned public.
- Action SE.2.2.3** Support and encourage conveniently located child care services with flexible hours.
- GOAL SE.3** The City will reduce its contribution to climate change and mitigate and adapt to the effects of climate change as appropriate.
- POLICY SE.3.1** Reduce greenhouse gas emissions from City operations and community sources by a minimum of 15 percent below current or baseline levels by the year 2020.
- Action SE.3.1.1** Complete the in-progress Greenhouse Gas Emissions Inventory for Government Operations and the community (or Planning Area) consistent with State or other accepted protocol. The Inventory shall provide a business-as-usual forecast for GHG emissions for 2020 and 2030.
- Action SE.3.1.2** Within 12 months of completion of a baseline GHG Inventory, initiate development of a Climate Action Plan that identifies how the City will achieve its 15% reduction target by 2020, at a minimum.
- POLICY SE.3.2** Pinole will establish a coordinated, creative public outreach campaign, including publicizing the importance of reducing GHG emissions and steps community members can take to reduce their individual impacts.
- Action SE.3.2.1** Encourage civic, educational, religious and neighborhood institutions to specifically address climate change.
- Action SE.3.2.2** Implement neighborhood-based outreach efforts to combine and promote energy and water conservation, solid waste reduction, safety and livability.
- Action SE.3.2.3** Use a variety of media and methods to promote climate awareness and GHG reduction, including TV, radio, using local celebrities as spokespeople, advertising in the local paper, collaborating with companies and agencies who have an impact on the local environment, and designing a climate change-themed webpage.
- Action SE.3.2.4** Organize events and workshops to promote actions that reduce GHGs generated from energy, waste, and transportation. Topics could include backyard composting, office waste recycling, selecting and planting drought-tolerant plants, installing advanced irrigation systems, weatherizing, smart lighting, and conducting self-audits for energy use and efficiency.

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- Action SE.3.2.5** Pinole should either organize, or look to participate in, an annual Climate Protection Summit or Fair to educate the public on current climate science, projected local impacts, and local efforts and opportunities to reduce GHG emissions.
- Action SE.3.2.6** Provide a “carbon footprint calculator” on the City’s website for individuals and small businesses, and provide individually tailored assessments for complex organizations and entities.
- Action SE.3.2.7** Work with City and County agencies to publicize greenhouse gas-reducing projects and actions through public education efforts.
- POLICY SE.3.3** Pinole will mitigate climate change by decreasing heat gain from pavement and other hard surfaces associated with infrastructure (i.e. heat island effect).
- Action SE.3.3.1** Reduce heating and cooling loads by promoting light-colored roofs and paving materials, planting trees, and increasing vegetative cover.
- Action SE.3.3.2** Where possible, use parkway strips to allow shading of streets by trees.
- Action SE.3.3.3** Require the use of shade trees on south- and west-facing sides of structures, where possible.
- Action SE.3.3.4** Include low-water landscaping in place of hardscaping around transportation infrastructure and in parking areas.
- Action SE.3.3.5** Where feasible, require the use of pervious pavement options.
- Action SE.3.3.6** Where feasible, require the use of edible landscaping and low-water landscaping.
- POLICY SE.3.4** Reduce GHG emissions by reducing vehicle miles traveled and by increasing or encouraging the use of alternative fuels and transportation technologies.
- Action SE.3.4.1** Over time, replace the City’s vehicle fleet with alternative fuel vehicles.
- Action SE.3.4.2** Encourage carpools and transit use by City employees.
- Action SE.3.4.3** Work with WCCTAC to develop and update the Action Plan for Routes of Regional Significance, establish Multimodal Transportation Service Objectives (MTSOs), and to coordinate planning for projects and programs of regional importance.
- Action SE.3.4.4** Encourage businesses to provide employees with information on alternatives to single-occupancy driving (e.g., offer literature on the Transit 511 program to support carpooling).

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- Action SE.3.4.5** The City will ensure that new developments incorporate both local and regional transit measures into the project design.
- Action SE.3.4.6** The City will give priority to projects that will result in reduction of vehicle miles traveled per capita while maintaining sustainability and economic vitality.
- Action SE.3.4.7** The City will encourage the growth and enhancement of an interconnected transportation system that allows a shift in travel from private passenger vehicles to alternative modes, including public transit, ride sharing, bicycling, and walking.
- Action SE. 3.4.8** Promote technological innovations to help reduce automobile, truck and other motorized equipment emissions.
- GOAL SE.4** Optimize energy efficiency and renewable energy.
- POLICY SE.34.1** Explore and promote opportunities for the City's use of sustainable energy sources (e.g. solar, wind, biomass, tidal energy generation, methane, geothermal, and hydropower).
- Action SE.4.1.1** Utilize, where feasible, renewable energy and clean generation technologies such as solar, wind, biogas, tidal, cogeneration, and fuel cells to power City facilities using tax-free low-interest loans and other available financial options.
- Action SE.4.1.2** Evaluate the feasibility of purchasing renewable energy certificates to reduce the City's contribution to greenhouse gas emissions.
- Action SE.4.1.3** Designate suitable sites to prioritize their development for renewable energy generation.
- Action SE.4.1.4** Adopt measures to protect the renewable energy use of the sites and their resources, such as utility easements, rights-of-way, and land set-asides.
- POLICY SE.4.2** Explore opportunities for City-wide expansion of Programs and Facilities related to energy efficiency and conservation.
- Action SE.4.2.1** Continue to identify and remove regulatory or procedural barriers to producing renewable energy in building and development codes, design guidelines, and zoning ordinances. Work with related agencies in areas such as fire, water, and health that may impact the use of alternative technologies. Actively participate in the development protocols for alternative energy storage such as biodiesel, hydrogen, and/or compressed air.

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- Action SE.4.2.2** Provide energy conservation information to the public.
- Action SE.4.2.3** Provide information to planning and building staff and citizen review bodies regarding energy conservation and efficiency issues, including Pinole’s energy conservation policies, and work with applicants to achieve energy conservation goals.
- Action SE.4.2.4** Provide technical assistance to builders and developers to encourage sustainable and energy efficient building design.
- POLICY SE.4.3** Pinole will promote and require renewable energy generation and co-generation where feasible and appropriate.
- Action SE. 4.3.1** Require that new office/retail/commercial or industrial development, or major rehabilitation (e.g. additions of 25,000 square feet commercial, or 100,000 square feet industrial) incorporate renewable energy generation either on- or off-site to provide 15% or more of the project’s energy needs.
- POLICY SE.4.4** Identify opportunities for creating energy conservation and efficiency programs for application in Pinole facilities, residences, schools and local businesses.
- Action SE.4.4.1** Utilize energy-efficient products for City equipment purchases where feasible.
- Action SE.4.4.2** Continue to conduct energy audits of Pinole facilities and implement energy efficiency and retrofitting recommendations from those audits. Seek funding from available state sources and grant opportunities, as well as the CIP.
- Action SE.4.4.3** Where feasible and appropriate, transition to LED/energy efficient lights in all City facilities and equipment.
- Action SE.4.4.4** Set a target to meet a majority of the City’s energy needs via renewable energy.
- Action SE.4.4.5** Explore funding sources and mechanisms for energy efficiency improvements for residences. (ex: AB 811, which provides cities ways to fund energy efficiency improvements via assessments).
- POLICY SE.4.5** Pinole will continue to promote and support and require, where appropriate, the development of solar energy.
- Action SE.4.5.1** Require that, where feasible, all new buildings be constructed for easy, cost-effective installation of solar energy systems. This should include

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requiring such features as optimal roof orientation, clear access without obstructions, and appropriate roof framing and wiring.

**Action SE.4.5.3** Require that any building constructed in whole or in part with City funds incorporate passive solar design features such as daylighting and passive solar heating, where feasible.

**Action SE.4.5.4** Pinole will protect active and passive solar design elements and systems from shading by neighboring structures and trees, as consistent with existing tree shading requirements.

**POLICY SE.4.6** Pursue and provide economic incentives and creative financing for renewable energy projects, as well as other support for community members or developers seeking funding for such projects.

**Action SE.4.6.1** Provide, where possible, grants, rebates, and incentives for renewable energy projects, including reduced fees and expedited permit processing.

**Action SE.4.6.2** Pinole will provide, where feasible, creative financing for renewable energy projects, including subsidized or other low-interest loans, and the option to pay for system installation through long-term assessments on individual property tax bills.

**Action SE.4.6.3** Pinole will pursue partnerships with other governmental entities and with private companies and utilities to establish incentive programs for renewable energy.

**POLICY SE.4.7** Pinole will implement measures to support the purchase and use of renewable and alternative energy.

**Action SE.4.7.1** Evaluate the feasibility and effectiveness of using Community Choice Aggregation as a model for providing renewable energy to meet Pinole's electricity needs, including potential partnerships with other jurisdictions.

**GOAL SE.5** Achieve a solid waste diversion of 75% of the waste stream by 2020.

**POLICY SE.5.1** Continue and expand programs to reduce solid waste generated from all sectors of the city. Programs may include recycling, reuse, source reduction and composting.

**Action SE.5.1.1** Continue the City's e-waste recycling program.

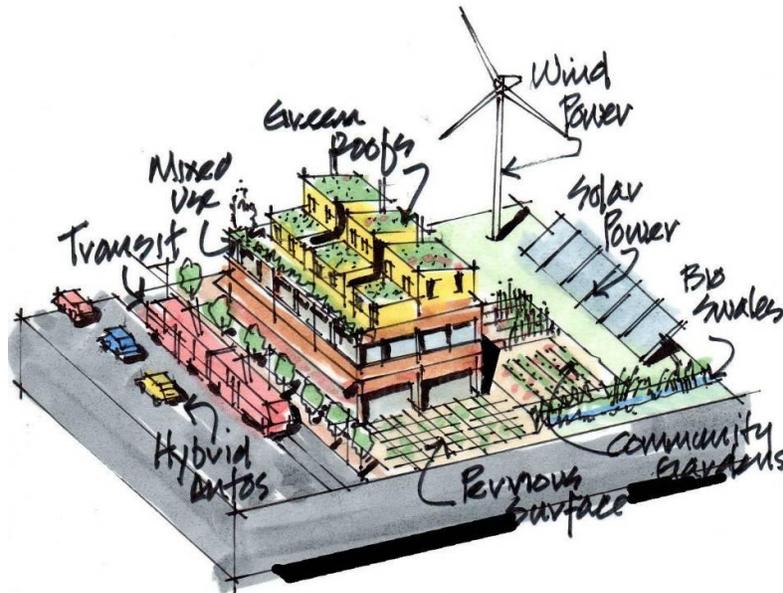
**Action SE.5.1.2** Improve and expand curbside recycling and other residential recycling services.

**Action SE.5.1.3** Continue to improve internal City and County waste prevention practices.

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- Action SE.5.1.4** Expand City recycling of asphalt and other street material.
- Action SE.5.1.5** Encourage continued commercial food-waste collection program.
- Action SE.5.1.6** Develop an ordinance reducing construction-generated waste.
- Action SE.5.1.7** Develop and implement a plan for City communications and facilities to eventually become primarily paperless.
- POLICY SE.5.2** Support public awareness and participation in household waste management, control and recycling.
- Action SE.5.2.1** Promote and expand recycling programs, purchasing policies, and employee education to reduce the amount of waste produced.
- POLICY SE.5.3** Prior to reuse, former commercial and industrial sites will be cleaned up, according to relevant state and federal regulations.
- POLICY SE.5.4** Reduce waste from construction activities.
- Action SE.5.4.1** Pinole will adopt a Construction and Demolition Waste Recovery Ordinance, requiring building projects to recycle or reuse a minimum percentage of unused or leftover building materials.
- Action SE.5.4.2** Require all new development and major rehabilitation projects to recycle or salvage a majority of the non-hazardous construction and demolition debris.
- Action SE.5.4.3** Establish clear and consistent guidelines for how and when used construction materials can be used in new or remodel construction.
- POLICY SE.5.5** Enforce regulation of local and state laws regarding the production, use, storage and transportation of hazardous materials and waste.
- POLICY SE.5.6** Development on sites with known contamination of soil and groundwater shall be regulated to ensure that construction workers, future occupants, and the environment as a whole are adequately protected from hazards associated with contamination.

# SUSTAINABILITY



**GOAL SE.6** Integrate green building standards into all new and rehabilitated development.

**POLICY SE.6.1** Develop local green building and energy efficiency standards.

**Action SE.6.1.1** Explore a Green Building Ordinance to require green building standards be utilized such as the use of renewable energy, efforts to improve air and water quality, and to conserve natural resources. Other areas to consider addressing in the Ordinance include building orientation and shading, landscaping, solar orientation, and sustainable building materials.

**Action SE.6.1.2** Investigate sliding-scale building permit fees with rebates and/or expedited permit review for high-performance green buildings and higher fees for conventional buildings.

**Action SE.6.1.3** Develop a Green Streets program to encourage designs that enhance the City's ecological function, reduce stormwater discharge through the use of pervious surfaces where appropriate, add infiltration enhancements (e.g. planters, swales, and channels), and increase sidewalk planting areas to reduce the heat island effect in developed areas and provide room for additional trees and shrubs within public right-of-way areas.

**POLICY SE.6.2** Explore the establishment of an energy plans examiner and a required field inspection of energy systems to ensure maximization of energy efficiency.

**Action SE.6.2.1** Reduce energy consumption in buildings by balancing energy-efficient design with land use compatibility during the design review process.

# SUSTAINABILITY

**POLICY SE.6.3** Promote opportunities to improve resource conservation practices in the local building and construction industry.

**Action SE.6.3.1** The City of Pinole will ensure that contracts for roadway construction and repair shall utilize recycled and resource-efficient materials where feasible.

**POLICY SE.6.4** Support markets for sustainable products through City procurement policies and procedures targeting the areas of construction, facilities maintenance and general office activities.

**Action SE.6.4.1** Research and establish Environmental Preferable Purchasing policies that provide for resource conservation while ensuring cost effective purchases.

**POLICY SE.6.5** Include environmentally sensitive design approaches that incorporate resource-conserving construction practices within Pinole's Design Guidelines.

**POLICY SE.6.6** Collaborate with other local jurisdictions to share resources, and develop sustainable and resource efficient building policies and programs that are optimized for the region. This approach may include the following:

- Optional or incentive-based sustainable building provisions to encourage compliance.
- Conservation of natural resources when planning site development.
- Use of resource efficient building materials, including recycled-content materials.
- Promotion of water efficiency and conservation measures, including low-impact development strategies.
- Increased energy efficiency in building and site designs.
- Promotion of the use of renewable energy in new development proposals.
- Improved indoor air quality that includes the use of formaldehyde-free, non-toxic construction materials.

**POLICY SE.6.7** Where feasible, install energy efficient and/or reflective roofing materials on existing or new City facilities.

# SUSTAINABILITY

**GOAL SE.7** Air Quality will be maintained and improved for the City of Pinole and the Bay Area as a region and not decline below levels measured in the early 1990's.

**POLICY SE.7.1** Continue working with the Bay Area Air Quality Management District and other regional agencies to:

1. Improve air quality through pollution prevention methods.
2. Ensure enforcement of air emission standards.
3. Reduce local and regional traffic (the single largest source of air pollution in the city) and support public transit improvements.
4. Promote regional air pollution prevention plans for business and industry.
5. Promote strategies to reduce particulate pollution from residential fireplaces and wood-burning stoves.
6. Locate parking appropriately and provide adequate signage to reduce unnecessary "circling" and searching for parking.
7. Promote anti-idling policies and programs.

**Action SE.7.1.1** Apply BAAQMD-approved criteria air pollutant reducing *Basic Construction Mitigation Measures* to all future construction projects within the GPU Planning Area where feasible whether or not construction-related emissions exceed applicable *Thresholds of Significance*. These best management practices include the following:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 mph.
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as

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required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations (BAAQMD, 2010).

**POLICY SE.7.2** Support the expansion of tree planting and landscaping practices that encourage the use of trees, plants, and vegetation to improve air quality to enhance the scenic quality of the City.

**Action SE.7.2.1** Establish tree planting targets in order to reduce or sequester greenhouse gas emissions, provide for energy efficiency, and to enhance the City's quality of life.

**Action SE.7.2.2** Pursue funding for private and public park and street tree planting.

**Action SE.7.2.3** Establish and maintain a Pinole tree planting guide to encourage tree planting, reduce long-term maintenance costs, reduce fire hazards, improve energy efficiency, and enhance the quality of the community over time.

**Action SE.7.2.4** Develop landscape standards that require minimum planting and maintenance requirements for new and retrofit development and the use of native or drought-tolerant vegetation.

**POLICY SE.7.3** Support efforts to comprehensively address air quality issues through education, regulation, and innovation.

**ACTION SE.7.3.1** Increase public awareness of air quality problems, rules and solutions through use of City publications and networks.

**ACTION SE.7.3.2** Reduce methane emissions released from waste disposal. Encourage recycling, decrease waste sent to landfills, require landfill methane recovery and promote methane recovery for energy production from other sources.

**ACTION SE.7.3.3** Research and consider a set of standards that provide a set of voluntary measures to incorporate clean vehicles in private fleets and promote the use of clean alternative fuels.

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- ACTION SE.7.3.4** Continue to encourage innovative technologies and programs such as clean-fuel, electric and low-emission cars that reduce the air quality impacts of the automobile.
- ACTION SE.7.3.5** Support alternate work schedules where feasible. Encourage employers to allow alternate work schedules for employees, telecommuting and other practices that reduce auto trips.
- POLICY SE.7.4** In order to reduce vehicle miles traveled and traffic congestion, new development within 1,000 feet of an existing or planned transit stops should be designed to encourage the usage of public transit and minimize the dependence on the automobile through the application of site design guidelines.
- Action SE.7.4.1** Develop a TDM program for Pinole that includes such improvements as bike parking, showers for employees, etc.
- POLICY SE.7.5** Air quality will be maintained and improved by requiring project mitigation, such as Transportation Demand Management (TDM) techniques, where significant air quality impacts are identified.
- POLICY SE.7.6** Air quality should not decline from levels experienced during the early 1990s, when the community's growth capacity was last re-examined.
- GOAL SE.8** Utilize transit options and reduce vehicle miles traveled and single-occupancy vehicle use.
- POLICY SE.8.1** Encourage alternatives to single-occupancy vehicle use, including using public transit, carpooling, teleworking, bicycling and walking.
- Action SE.8.1.1** Publicize and participate in campaigns to promote options to single-occupancy vehicle travel.
- Action SE.8.1.2** Pursue funding opportunities for projects that increase pedestrian accessibility to transit stops, neighborhood shopping areas, schools, religious facilities, and parks.
- Action SE.8.1.3** Provide maps highlighting alternative modes of transportation and preferred routes for those modes.
- Action SE.8.1.4** Explore parking pricing to all appropriate commercial areas to reduce single-occupancy vehicle use.
- Action SE.8.1.5** Educate all employees on fuel-efficient driving practices, such as avoiding unnecessary idling.

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- Action SE.8.1.6** Explore providing City employees with transit subsidies for travel on business to improve air quality and reduce greenhouse gas emissions.
- Action SE.8.1.7** Include sidewalks, separated sidewalks whenever possible, on both sides of all new street improvement projects, except where there are severe topographic or natural resource constraints.
- Action SE.8.1.8** Whenever feasible, ensure transit stops are safe and sheltered, with clean benches and adequate lighting.
- POLICY SE.8.2** Encourage development of a planning and zoning strategy to absorb all new growth in the city in areas that achieve transit-supportive densities through strategic development controls.
- Action SE.8.2.1** Adopt a specific plan for Pinole's transit corridors.
- Action SE.8.2.2** Ensure transportation centers are multi-modal to allow transportation modes to intersect.
- POLICY SE.8.3** Encourage housing opportunities for all income levels to ensure that workers in Pinole can live in the City and reduce the need for outbound commuting for employment.
- POLICY SE.8.4** Consider the creation of a citywide transportation business improvement district in which commercial property owners would fund a private transportation service, which would be operated by a nonprofit Transportation Management Association. The transportation service could operate a shuttle to provide essential connectivity to points within and outside Pinole while also helping to alleviate congestion.
- POLICY SE.8.5** Work with WestCAT, AC Transit and other transit providers to support expanded transit lines and increased frequency of service on major transit arterials.
- POLICY SE.8.6** Establish parking policies and requirements that capture the true costs of private vehicle use and support alternative modes of transportation.
- Action SE.8.6.1** Encourage shared parking opportunities, such as movie theaters with primary parking needs in evenings and churches or other facilities with weekend-only parking needs.
- Action SE.8.6.2** Consider reducing minimum parking requirements for new development.
- Action SE.8.6.3** Continue to encourage shared parking programs in mixed-use and transit-oriented development.

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- Action SE.8.6.4** Consider using time limited/metered parking to discourage private vehicle use, especially at peak times.
- Action SE.8.6.5** Require that new and fully renovated commercial and retail development provide preferential parking for electric vehicles and vehicles using alternative fuels.
- POLICY SE.8.7** Work to improve Pinole’s pedestrian and bicycle infrastructure and to meet the needs of all pedestrians bicyclists.
- Action SE.8.7.1** Implement public transit-, bicycle- and pedestrian-oriented land use and design strategies in new development, as described in the Land Use and Circulation Elements of the General Plan to reduce the number of single-occupant trips in fossil-fueled vehicles.
- Action SE.8.7.2** Consider establishing a “free bicycle” program with bicycles that the public may borrow for trips around Pinole.
- Action SE.8.7.3** Require new commercial, multi-family residential, and mixed-use development to provide secure bicycle parking.
- Action SE.8.7.4** The City will set a deadline by which it will be assured that all city parks, schools, commercial districts, and other high-volume trip destinations within Pinole provide secure bicycle parking.
- Action SE.8.7.5** Establish and implement standards that meet or exceed state law for “complete streets” that foster equal access by all users in the roadway system. Include standards that address connection of bicycle and pedestrian access to other areas, safe road crossings, adequate and secure bike parking at public and private facilities, and street standards as is feasible for bicycle infrastructure.
- Action SE.8.7.6** Apply for regional, state, and federal grants for bicycle and pedestrian infrastructure projects.
- POLICY SE.8.8** Invite public involvement whenever possible to share information and invite input about transportation issues, projects, and processes.
- POLICY SE.8.9** Implement traffic and roadway management strategies to improve mobility and efficiency and reduce associated emissions. (See Circulation Element).
- POLICY SE.8.10** Support and promote the use of low- and zero-emission vehicles, alternative fuels, and other measures to directly reduce emissions from motor vehicles.
- Action SE.8.10.1** Develop the necessary infrastructure to encourage the use of zero-emission vehicles and clean alternative fuels, such as development of electric vehicles charging facilities and alternative fueling stations.

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**Action SE.8.10.2** Encourage new construction to include vehicle access to properly wired outdoor receptacles to accommodate plug-in vehicles.

**Action SE.8.10.3** Establish incentives for use of alternative fuel, electric, or gas-electric hybrid vehicles.

**GOAL SE.9** Protect, preserve and enhance the natural resources of Pinole.

**POLICY SE.9.1** Encourage policies to prudently manage water resources to sustain plant and animal life, support urban activities and protect public health and safety.

**Action SE.9.1.1** Where feasible, institute a water conservation program for City of Pinole facilities; for example, installation of waterless urinals and low-flow sinks and showers.

**Action SE.9.1.2** Encourage the use of recycled water and drought-resistant landscaping in Pinole facilities, public roadway landscape, and new development.

**Action SE.9.1.3** Establish incentives for development projects that achieve a 20% reduction in water use over baseline of 1995.

**Action SE.9.1.4** Continue to comply with state and county C.3 requirements of limiting impervious surface area and reducing stormwater runoff and work to increase Low Impact Development throughout the City.

**Action SE.9.1.5** Continue to plan and implement upgrades or other options to improve solids processing, comply with permit requirements, and help prevent overflow and runoff into the Bay.

**Action SE.9.1.7** Continue to require new development applicants to incorporate post-construction stormwater treatment systems and best management practices on the site.

**Action SE.9.1.8** Require that stormwater treatment measures use Low Impact Development systems such as vegetation to treat pollutants in stormwater runoff (e.g., through rain gardens, bioretention areas and living roof systems).

**POLICY SE.9.2** Protect open space and working landscapes.

**Action SE.9.2.1** Conserve lands of scenic and recreational value.

**Action SE.9.2.2** Use open space to define urban areas.

**Action SE.9.2.3** Establish opportunities for urban agriculture uses and promote the public health and environmental benefits of consuming locally grown organic foods.

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- Action SE.9.2.4** Limit development on steep ridgelines and slopes. Establish required setback distances.
- POLICY SE.9.3** Protect environmentally sensitive habitats, conserve natural habitat lands and preserve habitat connectivity.
- Action SE.9.3.1** Designate environmentally sensitive natural resource areas as Open Space, Parks and Recreation, Rural, or San Pablo Bay Conservation Areas appropriate in the City's Land Use Element Map to help ensure long-term protection of natural resources within the City.
- Action SE.9.3.2** Require biological studies in conjunction with development proposals within or near natural habitat lands, including land designated as Rural in the General Plan Land use Map (**Figure 5.5**).
- Action SE.9.3.3** Avoid disturbance of sensitive biological resources in conjunction with new development, redevelopment, or other construction activities.
- Action SE.9.3.4** Establish policies, programs, and funding mechanisms to create, develop, and preserve conservation areas and to discourage development in those areas. Impose mitigation fees for development on lands that would otherwise be in a conservation area and use funds generated to protect other areas from development.
- POLICY SE.9.4** Establish programs and policies to increase water conservation and the use of recycled water.
- Action SE.9.4.1** Conduct a water reclamation study for using reclaimed waste water for irrigation.
- Action SE.9.4.2** Establish criteria and standards to permit the safe and effective use of gray water (on-site water recycling). Review, and appropriately revise, without compromising health or safety, other building code requirements that might prevent the use of such systems.
- Action SE.9.4.3** Create an inventory of non-potable water uses within the jurisdiction that could be served with recycled water.
- Action SE.9.4.4** Establish a water conservation plan that may include such policies and actions as reducing per capita water consumption, restricting landscape watering, performance standards for irrigation equipment and water fixtures, and requirements that increased demand from new construction be offset with reductions so that there is no net increase in water use.
- Action SE.9.4.5** Implement a public outreach campaign to promote water conservation.
- POLICY SE.9.5** Establish new policies that continue to encourage the maintenance and growth of Pinole's urban forest.

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- Action SE.9.5.1** Minimize removal of mature, healthy trees in conjunction with new development, as required by the tree protection ordinance.
- Action SE.9.5.2** Establish programs and policies to ensure landscaping and forests are installed and managed to optimize their climate benefits.
- Action SE.9.5.3** Pinole will install water-efficient landscapes and irrigation, including planting drought-tolerant plants and native species, covering exposed dirt with moisture-retaining mulch, using advanced technology such as moisture-sensing irrigation controls, and promoting urban agriculture by installing edible landscapes that provide local food.
- Action SE.9.5.4** Promote the planting of shade trees and establish shade tree guidelines and specifications that include recommendations for tree planting based on land use, recommendations for tree types based on size, branching patterns, whether deciduous or evergreen, whether roots are invasive, etc. Include recommendations for placement including distance from structures, density of planting, and orientation relative to structures and the sun.

