

Tree species is another important factor that determines the GHG reduction capacity of Albany’s urban forest. Large species achieve significantly more sequestration capacity than smaller species. Additionally, trees with larger canopies and dense foliage provide more shade than other species. Large, deciduous species are ideal for reducing building energy as they provide shade in summer, but allow winter sunlight into buildings for passive solar gain in cooler weather.

Objective GI-1:

Expand and Enhance the City’s Green Infrastructure



Expanding green infrastructure in Albany will provide a wide range of benefits. The urban forest and other landscapes will sequester carbon and contribute to the achievement of the City’s emissions reduction goals. The improvements will also benefit other community sustainability objectives, including stormwater management, and streetscape enhancement.

Measure GI 1.1: Enhance the community’s urban forest and other landscapes to maximize carbon sequestration, reduce stormwater runoff, and augment neighborhood aesthetics.

The City will facilitate the expansion of the community’s urban forest and other green infrastructure in the community. The City will Prepare a Green Albany Plan to evaluate all potential “growing areas”, including parks, streets, rights-of-way, parking lots, and rooftops, for carbon sequestration. The City will seek additional funding for the Urban Forestry Program to increase both tree planting and maintenance capacity, and will seek volunteer assistance to implement the program. In order to achieve the estimated GHG reductions, 5,000 new trees should be planted between 2010 and 2020. The City will set a goal to plant 500 new trees per year during this 10-year timeframe. Additional outreach to property owners and neighborhood organizations will be an important component in achieving this target. The City will encourage planting species known to provide high levels of sequestration.

The City will also establish a Green Streets program that works to reduce and/or eliminate concrete, asphalt, and other impermeable surfaces. The program will improve tree health, reduce stormwater pollution, and enhance the aesthetics of the community’s neighborhoods. The City will establish guidelines for retrofitting existing streets into green streets and will identify priority streets for pilot projects. Green street retrofits must be coordinated with sewer system repairs to avoid further infiltration and inflow into Albany’s wastewater treatment system.

GHG Reduction Potential (MT CO ₂ e)	Cost to City	Cost Per Metric Ton	Private Cost
130	\$21,000	\$160	No

Action	Timetables	Responsibility
A Prepare a Green Albany Plan to evaluate all potential areas (e.g. parks, streets, rights-of-way, parking lots, and rooftops) for carbon sequestration.	Before December 31, 2012	Urban Forestry Environmental Resources
B Seek Urban Forestry Program funding to support increased tree planting and maintenance capacity.	Before July 31, 2010	City Council Urban Forestry

Food and Agriculture Strategy

Create a sustainable and climate-friendly food system.

Food and agricultural systems are responsible for a large amount of global GHG emissions. In the United States, agriculture, food processing, transportation, and distribution rely heavily on fossil fuels. Food that is grown out-of-season and transported by air results in high levels of emissions. Energy inputs increase for foods higher up the food chain and for highly processed products. Additionally, the livestock and dairy industries generate large quantities of methane gas as a natural byproduct, and other agricultural fertilizers release nitrous oxide into the atmosphere. Unconsumed, wasted food sent to the landfill also creates methane emissions.

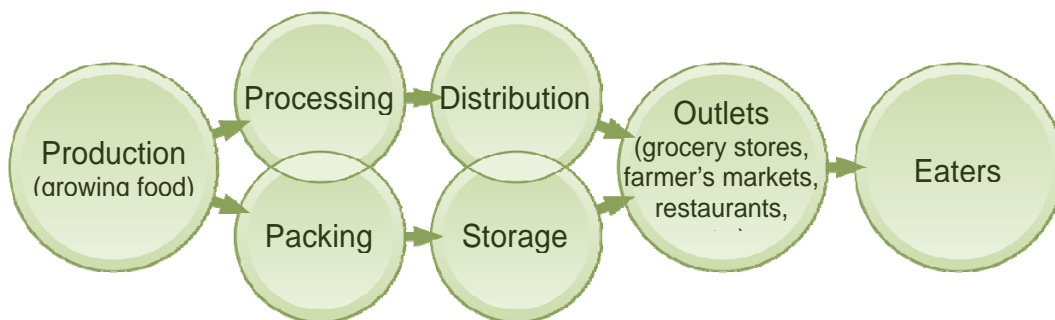
By making more informed choices about the types of food we eat, how it is produced, and where it is grown, we can reduce our GHG emissions and contribute to regional agricultural viability. While improving the ways in which we produce and consume food will reduce GHG emissions, these reductions cannot be applied to the community's reduction target as most food-related emissions occur outside of the community and were not included in the 2005 emissions inventory. While the Food and Agriculture strategy does not directly help the City achieve its reduction target, it does help residents protect the climate and improve the regional food system.

Background

Low Carbon Food Choices

The discussion regarding low carbon diets is often framed in terms of local versus non-local food sources. While the transportation of non-local foods does contribute to higher GHG emissions, it is not the most important factor when addressing our food carbon footprints. The amount and types of foods we eat has a more significant effect on the GHG emissions associated with our diets. Small lifestyle adjustments such as eating according to the seasons, choosing foods that are lower on the food chain, and choosing foods that are minimally processed can make a big difference.

Eating according to the seasons reduces the amount of food-related transportation emissions. Transporting out-of-season perishable foods, such as blueberries and tomatoes, can generate more GHGs than seasonal locally sourced foods. Air transportation is the highest-emission method of transporting food. Growing hothouse tomatoes and other produce in the winter is also extremely emissions-intensive because of the energy required to support plant development.



Eating from lower on the food chain is more efficient, in terms of energy input required per calories produced, compared to foods higher on the chain. Fruits, vegetables, and grains grown in North America are low carbon options for Albany residents. Poultry is relatively low in carbon compared to beef, which produces large quantities of methane during its lifespan and requires high energy inputs to grow its feed. Similarly, dairy products are also high in carbon because cows, sheep, and goats all naturally emit methane. To reduce food-related GHG emissions, meat eaters can eat smaller portions of meat, vegetarians can eat fewer dairy products, and everyone can limit the amount of food that they send to landfills.

Eating minimally processed or unprocessed foods also limits the energy input per meal. Processing and packaging foods is energy-intensive, and most processed foods contain ingredients that are highly processed themselves, such as high fructose corn syrup, sugar, or salt. Other processed foods require additional energy inputs during transportation, such as is the case with the refrigeration required to transport orange juice.

Community Food Production

The City recognizes the importance of community food security and providing residents with the ability to grow or purchase fresh produce. Urban agriculture is increasingly popular in communities throughout the nation. Home gardens, community gardens, urban orchards and farms, and edible landscaping offer city dwellers opportunities to participate in local food production. Farmer's markets provide urban consumers with locally-grown produce and a means to support the region's farmers and ranchers.

Albany currently has three community gardens located at Ocean View Park, Albany High School, and adjacent to University Village. Ocean View Park has 14 raised-bed garden plots, which are available to the public on a lottery system. The High School garden is a small facility reserved for student use. The University Village garden is a two-acre facility with numerous garden plots; however garden plots are only available to Village residents.

Strong demand exists for additional community garden space in Albany. Currently, there is no regularly scheduled farmers' market in Albany. The closest farmers' market is located at Shattuck Avenue and Rose Street in Berkeley on Thursday evenings year-round.

Food and Agriculture Objectives and Measures

Objective FA-1:

Strengthen the Regional Food System



Albany is located near the productive farmlands of the Central Valley, Solano County, and other important agricultural areas. This proximity provides residents with direct access to seasonal harvests and regionally-produced dairy products, meats, and eggs. The following measures help the City to reduce GHG emissions and support the regional agricultural economy by strengthening ties between farmers and consumers and celebrating the region's agricultural diversity.

Measure FA 1.1: Establish a permanent farmer’s market site within the City and work to expand the market as a community resource.

The City will explore potential sites for a farmer’s market. Ideal sites would be centrally located and adjacent to pedestrian and bicycle infrastructure. The benefits of an open air versus covered market structure will be evaluated as part of the site analysis.

GHG Reduction Potential (MT CO ₂ e)	Cost to City	Cost Per Metric Ton	Private Cost
Not included in inventory	\$20,000	-	No

Measure FA 1.2 Facilitate and promote Community-Supported Agriculture organizations and services.

Participating in Community Supported Agriculture organizations (CSAs) allows residents to support agriculture in the regional economy and contributes to a low carbon diet by providing seasonal foods with minimal processing and packaging. The City will maintain a list of regional CSAs on its webpage with links and contact information to help interested residents to get involved.

GHG Reduction Potential (MT CO ₂ e)	Cost to City	Cost Per Metric Ton	Private Cost
Not included in inventory	\$2,700	-	No

Measure FA 1.3 Procure regionally produced food for City events and encourage vendors at City sponsored events to procure food regionally.

The City will attempt to serve food produced within 150 miles at all City-sponsored events and will encourage vendors at public events to do the same. The City will amend relevant procurement policies to ensure implementation of this measure.

GHG Reduction Potential (MT CO ₂ e)	Cost to City	Cost Per Metric Ton	Private Cost
Not included in inventory	\$2,700	-	No

Objective FA-2:

Promote Awareness of Sustainable Food Choices



The types of food we eat are an important factor when considering one’s personal GHG emissions. Diets that use seasonal produce and consume less meat and dairy products and fewer processed foods have a lower carbon footprint. The City will facilitate outreach events that educate residents and create informed food purchasing decisions.

Measure FA 2.1 Encourage low-carbon meals through public education.

The City will partner with community organizations and businesses to provide outreach regarding low-carbon diets. The City will facilitate outreach events that focus on low-carbon strategies such as eating seasonal and minimally processed foods.

GHG Reduction Potential (MT CO ₂ e)	Cost to City	Cost Per Metric Ton	Private Cost
Not included in inventory	\$2,700	-	No

Objective FA-3:

Increase and Enhance Urban Agriculture



Many Albany residents support urban agriculture as a means of both food production and recreation. To provide adequate opportunities, the City needs to expand current urban agricultural facilities. The following measures describe steps to create additional community gardens and orchards in Albany, and opportunities to establish a community orchard.

Measure FA 3.1			
Establish a local community garden program to increase local food security and provide local recreation amenities.			
During the preparation of the Green Albany Plan, the City will identify potential sites for additional community gardens and community orchards within Albany. Site evaluation will focus on lands owned by the City, School District, and State and federal agencies and institutions. The City will work with willing agencies, community groups, and individuals to develop and maintain community gardens.			
The Ohlone Greenway is a prime location to establish a community orchard. The City will work with BART to establish compatible fruit trees along the Greenway and will create outreach programs and events to facilitate the public use of this resource. The Green Albany Plan will evaluate other locations for potential community orchards.			
GHG Reduction Potential (MT CO₂e)	Cost to City	Cost Per Metric Ton	Private Cost
Not included in inventory	\$1,400	-	No

Community Challenge

The State’s *Climate Change Scoping Plan* recommends that local governments reduce their community-wide GHG emissions to 15% below current levels by 2020. In 2007, Albany adopted a resolution to reduce GHG emissions by 25% below 2004 levels by 2020. To achieve this target the community would have to reduce its emissions by 19,600 MT CO₂e. The measures described above are likely to achieve approximately 15,660 MT CO₂e of reductions or a reduction of 19% below 2005 levels by 2020. While the strategies achieve the State’s recommended target they do not fully achieve the City’s more aggressive target. A gap of 3,940 MT CO₂e remains and will need to be addressed if Albany is going to achieve its climate protection objectives. The Community Challenge is a call to action that seeks to inspire Albany residents, businesses, employees, and City staff.

Community Participation

Specific participation levels were used to calculate the GHG reduction capacity of the CAP measures. High levels of voluntary participation will be key to achieving the City’s 2020 target. If additional households and businesses voluntarily participate, then the community’s reductions could be larger than estimated in the CAP.

While increased participation in all measures is needed, certain actions will have larger influence than others. Increasing the number of homes and businesses that conduct building energy efficiency improvements and or install renewable energy systems could alone close the remaining reduction gap. Similarly, increasing resident and employee participation in Transportation Demand Management (TDM) programs could reduce a considerable amount of transportation-related emissions.

