

Green Living in Housing Cooperatives:

Reducing your environmental impact through cooperative living

The East Bay has a rich variety of Limited Equity Housing Cooperatives, Cohousing Communities, and cooperatively-owned collective houses. Cooperative ownership allows low and moderate income families to enjoy the benefits of home ownership, and at the same time, implement many sustainable practices. This pamphlet shows what many have done to reduce their carbon footprint, and provides specific ways in which your co-op can do its part.

Written by
Kathy Labriola &
Elizabeth Lam

**for Bay Area Community Land Trust
& East Bay Cooperative Housing Coalition**

How does living in cooperatively-owned housing encourage sustainability?

There are some aspects of cooperative living that naturally encourage environmentally sound practices. Here are some things about cooperative ownership that lend themselves towards sustainable living.

- Smaller-sized units require fewer resources to build, provide more units to house more people in less space, and use fewer natural resources such as gas, electricity, and water than traditional single-family homes or condominiums.
- Shared outdoor space such as common yards and gardens allows for more open space for everyone while using much less land per household.
- Residents often do most of the maintenance tasks and yard work on the property, so they have a strong incentive to avoid using toxic chemicals, building materials, pesticides, or fertilizers.
- Resident control and self-management of the property allows the whole group to explore and implement eco-friendly options in all areas of their housing.
- Because cooperative living communities put money in reserves every month, they have adequate funds available to do “green” upgrades such as solar panels, energy-efficient heating systems, and thermal windows. While these improvements save a lot of money in the long run, they often require more money upfront than most single home owners can afford.
- The level of organization and larger number of households make car-sharing, food gardens, and other environmental projects more feasible.

Limited Equity Housing Cooperatives and Sustainability

Gardens and Sustainable Landscaping: Vegetables, Fruits, Chickens, and even Bees!

Brigid Collective

Fort Awesome and Fort Radical

Mariposa Grove Cohousing Community

Berkeley Cohousing

Water Conservation

Transportation

Building Improvements / Weatherization

Waste Reduction

Berkeley Student Cooperatives

Start small with these cheap, quick, easy ideas!

Limited Equity Housing Cooperatives and Sustainability

One sustainable model for ecological living is the limited equity housing cooperative (LEHC). LEHCs remove profit from the equation, so the primary goal of owning a home is having a safe, secure, comfortable place to live, rather than seeing home ownership as a lucrative investment that will create wealth. And this model of collective home ownership encourages sharing of resources and significantly reduces the ecological footprint of each household.

An LEHC is a non-profit corporation whose members own shares. That share gives each member the right to occupy a unit, and they get a small return on the value of the share when they move. LEHCs provide all the benefits of home ownership. And with good self-management of the property, there is no risk of foreclosure, adding to long-term security.

This basic co-op model is often taken to a higher level of sustainability by adding elements of co-housing. In cohousing communities, shared amenities produce significant savings of resources, space, gas, electricity, and water. These include a large common kitchen and dining area where residents enjoy shared dinners several times a week, and many common areas, such as a library, laundry facilities, guest rooms for visiting family or friends, rec room or playroom for kids, and meeting rooms available to all residents. As a result, the individual units can be much smaller than traditional homes or condos.

Cooperatively-owned collective houses can sometimes be even more ecological. Instead of separate units, each person has his/her own bedroom, with all residents sharing kitchen, bathrooms and the rest of the house. This model can house more people in less space than separate apartments or houses, and saves energy, water, and other resources. Buying food together is much cheaper than each person living in his/her own unit and buying all their own food. Cooking meals together saves time and money, and less food is wasted. The whole household only needs one refrigerator, stove, washer, etc., and the group can share furniture, dishes, electronics, and other items, rather than each person having to buy everything themselves.

The co-op model is flexible, providing many options for resident ownership and control of our housing. Co-ops have implemented many sustainable practices. These range from building smaller units which use less energy, sharing resources such as washing machines, tools, computers, and even cars, creating common outdoor space instead of individual yards, retrofitting and weatherizing buildings, water conservation, conversion to solar energy, and growing our own food. Urban land use is a key element in reducing the impact of climate change. Housing co-ops represent a denser home ownership model to counter suburban sprawl.

This pamphlet focuses on examples of cooperative living communities which are making green living easier for our residents. It also provides additional ways for co-ops to increase sustainability, and includes many tips and websites.

Food Gardens and Sustainable Landscaping: Vegetables, Fruits, Chickens, and even Bees!

At least ten cooperative living communities in the East Bay have planted fruit trees and vegetable gardens which produce a significant amount of produce for the residents. Not every co-op has enough outdoor space for a large garden, so some have been creative in using planter boxes to grow tomatoes, strawberries, and other food crops on porches or balconies.

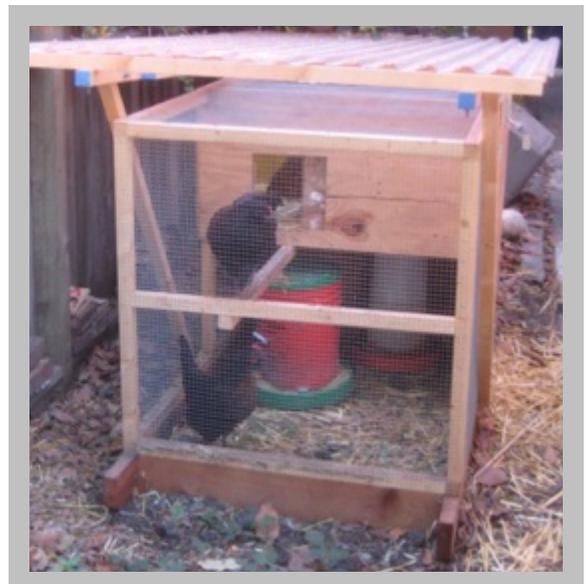


Community Garden at Mariposa Grove

Some residents are primarily motivated to plant a garden to save money on buying food. And some just point to the healthy physical exercise involved in gardening, while others call it a meditative practice, or even a therapeutic or spiritual experience. Other residents point to the environmental benefits of growing food. For instance, stepping outside your home and harvesting food has a much smaller carbon footprint than buying food that is produced, packaged and transported from hundreds or even thousands of miles away. And food gardens improve the ecosystem by filtering rainwater runoff, reducing soil erosion, and restoring oxygen to the atmosphere through plants. Importantly, growing your own food in your garden ensures that your food is organic, free of pesticides and genetically-modified organisms (GMO's). And the food tastes better fresh out of the garden!

Brigid Collective

Brigid House, a collective house of seven women in West Berkeley, has a very vibrant community garden on site. They raise a wide variety of fruit trees, vegetables, and herbs. They also have chickens that produce an ample supply of eggs for the household. Val, a resident of Brigid House, highlighted the satisfaction and joy that came from a successful harvest, as well as spending time with her neighbors in the garden. Val suggested that before starting a community garden, there needs to be a consensus on how many people would like to be involved and how much time they could contribute. Their large garden requires a total of 3-6 hours a week.



Fort Awesome and Fort Radical

Fort Awesome and Fort Radical are two very large collective houses adjacent to each other on King Street in South Berkeley. They are owned by the non-profit Cooperative Roots. Many of the residents have previously lived in the Berkeley Students Cooperatives. Many want to continue living cooperatively after graduating from college and leaving the BSC co-ops. Housing in Berkeley is notoriously expensive, and these two houses provide affordable cooperative living as well as resident control and self-management. Fort Awesome and Fort Radical have one large shared vegetable garden, as well as chickens which provide food for residents.

Mariposa Grove Cohousing Community

Mariposa Grove is a seven-unit limited-equity cohousing community in North Oakland founded by artists and activists, with a total of fourteen residents. Mariposa has a large vegetable garden, fruit trees, a dozen chickens producing fresh eggs, and beehives producing honey. Residents work together in the gardens and have also done a lot of work projects to improve the property.



Harvesting Honey at Mariposa Grove

Berkeley Cohousing

Berkeley Cohousing is a cohousing community in West Berkeley with 14 families, and they have a vegetable garden and fruit trees. In other outdoor spaces, they have used a landscaping technique known as xeriscaping, which reduces irrigation by planting native, drought-resistant plants, which require minimal care and watering. Xeriscaping saves huge amounts of water, which would normally be used to water a lawn. It also improves soil quality, eliminates weeds, and prevents soil erosion.



Xeriscape at Berkeley Cohousing

Water Conservation

One of the most effective ways to reduce our impact on the planet, is to reduce our water usage. As our population grows and extreme weather occurs more often, it is important that we use our limited water resources wisely.

Berkeley Cohousing can serve as a model for other cooperative living communities through their water conservation program. This include installing water saving devices indoors, such as low-flow toilets, energy-efficient refrigerators, as well as sharing two Energy Star (very energy-efficient) washing machines, and using drip irrigation for their outside watering. They have also installed an innovative drainage system to prevent flooding in the winter. Some flooding had occurred during the rainy winters. To mitigate this problem, drainage swales were constructed to divert runoff water to a rain garden. This was created by digging a deep hole, filling it with rock to create a planted depression that collects rainwater runoff and allows it to drain into the ground. Alice Green, of Berkeley Cohousing, said the initial goal of the rain garden was just to mitigate the flooding. However, she found that plants in the rain garden could take up about 75% of the runoff water. Using rainwater runoff for planting in the rain garden not only saved water, it beautified the common area, and solved the drainage problem.



Rain garden at Berkeley Cohousing

Alice also mentioned that her cohousing community has a common water bill. So water conservation does not directly benefit the individual resident but can result in significant savings on the common utility bill. Saving money could be an additional incentive for some co-ops to implement more water saving measures.

Ninth Street Co-op

Ninth Street Co-op is a 5-unit Limited Equity Housing Cooperative with 7 members, located in West Berkeley. They replaced all the old toilets with low-flow High Efficiency Toilets (HET) several years ago, with each flush using less than 1.2 gallons of water. Ninth Street found that it was much cheaper buying the toilets for all the bathrooms at once and having them all installed at the same time. And the East Bay Municipal Utilities District (EBMUD) provided a rebate of \$125 per toilet for replacing old toilets with a high-efficiency model.

Ninth Street also installed low-flow shower heads, as well aerators in each sink faucet. Aerators are a screw-on tip to the faucet which reduce water flow. Total cost for low-flow shower heads and aerators for all five units was less than \$100, and every month each household saves money on their water bill.

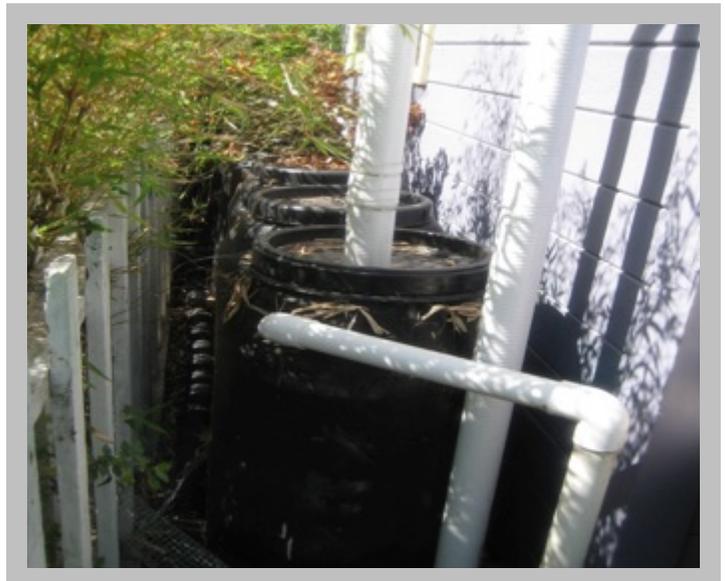
Mariposa Grove has done even more to reduce their water use. First they installed low-flow HET toilets, low-flow shower heads and faucets. Then they installed a greywater system, to recycle household water for use in watering the yard and gardens. Greywater systems take water that has been used in the home, such as in the shower, to wash dishes, or in the washing machine, and instead of letting it go down the drain, channels it outdoors through plastic pipes to water outdoor spaces. Mariposa residents built their own greywater system together on a workday. It takes all the water used in their washing machine, as well as water from one shower, and routes that water to 6 different zones in the garden. There is a bank of valves in the laundry room - each time a load of laundry is put in, you turn on a different valve, to route the water to the gardens. This saves a lot of money on water bills as well as helping conserve precious water.



Installing Greywater system at Mariposa

Outdoor Water Use

Many co-ops reduce their water use through drip irrigation and rain barrels. Drip irrigation, which applies water slowly and directly to the soil surface, or onto the root zone, is proven to be more efficient than sprinkler system. Brigid House reduced their water use by installing a rain barrel next to their house. The rain barrel collects rainwater from the rooftop through a downspout system, and stores it in the barrel. The water is then used to water their garden and yard, greatly reducing their water use.



Rain barrels at Brigid House

Transportation

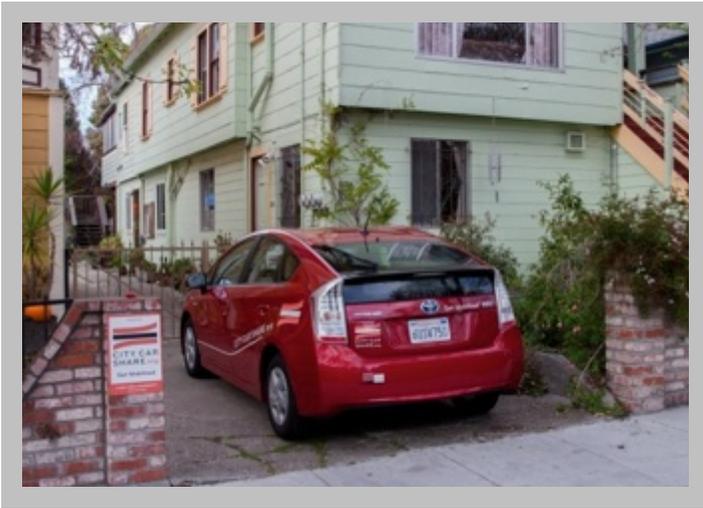
Many residents of East Bay co-ops ride bikes, walk or share vehicles. Driving an automobile is the single most environmentally harmful activity of most Americans, causing air pollution and emissions of gases which worsen global warming. In addition, gas-powered automobiles require oil, and extracting oil from the earth is very damaging to the environment in a myriad of ways. Most people find it quite challenging to live completely car-free due to work, child-care responsibilities, and other activities that are extremely difficult without a vehicle. However, some co-op residents have discovered that sharing a car or vehicle among several people can give them access when needed but dramatically reduce their overall use of cars and reduce the environmental impact of driving. Living together in a co-op allows for easier and more convenient sharing of vehicles. Others have bought electric cars or converted cars to bio-diesel to reduce greenhouse gas emissions. Because most cohousing communities, including Berkeley Cohousing and Mariposa Grove Cohousing share several meals each week, they buy food in bulk for the whole group, and this requires far fewer trips to the store.



Covered bike parking at Brigid House

In order to encourage alternative modes of transportation, some cooperative living communities, such as Brigid House, have installed secure, covered bicycle parking. This solves three key problems which have discouraged many people from riding bikes: lack of space to store their bikes, concern about bike theft, and not wanting to leave their bike out in the rain all winter.

Berkeley Cohousing and Berkeley Town House both have car-sharing. Mariposa Grove even contracts with City Car Share to have a “POD” in their driveway where a shared car is parked. This Car Share car can be used by any member of City Car Share, not just Mariposa residents. It gets used quite a lot, and is much more convenient for Mariposa residents and their neighbors than walking 15 minutes to Ashby BART, which is where the next closest POD is. And City Car Share pays Mariposa \$75/month to park the car there!



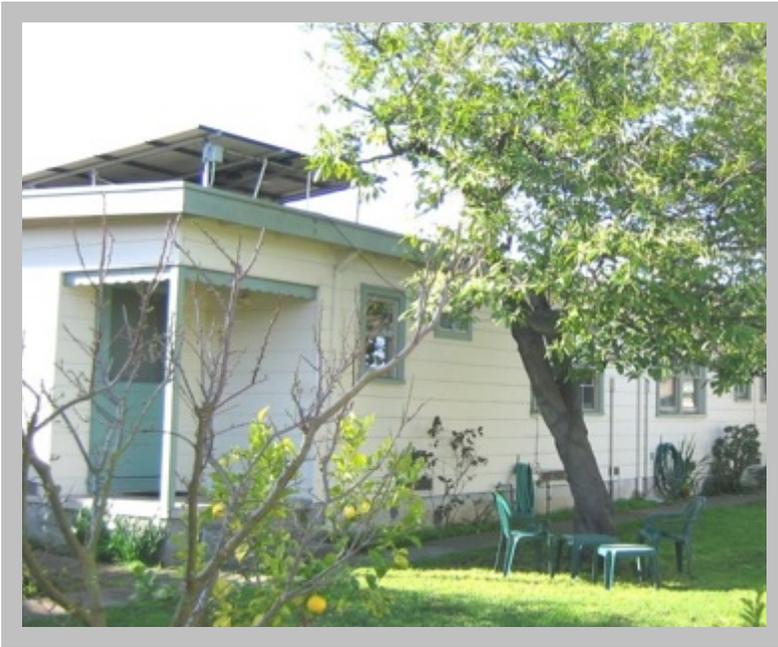
City Car Share POD at Mariposa Grove

Many people are shocked to read that the lawn mower is a major cause of air pollution and greenhouse gas emissions. Some co-ops have replaced their old gas lawn mowers with electric mowers. Even the newer models of gas mowers are much more energy-efficient and have much stricter emission controls. This is an easy and inexpensive way for co-ops to reduce our environmental impact. Another benefit of an electric mower is you don't have to mess around with gas and oil, and they're much quieter!

Building Improvements / Weatherization

Many housing co-ops have chosen to invest in building improvements that make them more energy efficient. At Ninth Street Co-op, the buildings were built in the 1940s, with no insulation, and were always cold and drafty despite high heating bills. So Ninth Street insulated the walls with blown-in cellulose (an alternative to more toxic insulation materials), as well as insulating the ceilings and floors. They replaced all 54 windows with double-paned windows, and installed solar panels for their electricity. They have been replacing the furnaces with high efficiency units, as they wear out. These furnaces are more expensive, but will save money in the long run. And some residents have chosen tank-less "on-demand" water heaters over the old model. Even though these on-demand models are much more expensive than the traditional tank water heaters, many appreciate the savings on their gas bills as well as having more space by trading in the big water heater tank in their kitchen for the tank-less model.

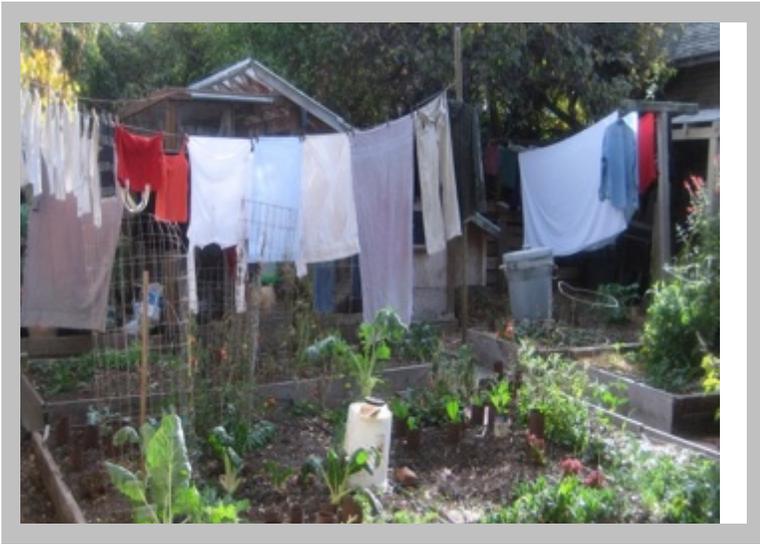
Ninth Street was able to finance some of these sustainable features by refinancing the property in 2003. While the refinancing required a slight increase of about \$10 per unit in monthly assessments for each household, it was more than offset by cost savings each household received in lower energy bills every month. For instance, the solar panels provide all the electricity for all five units, so the cost of electricity is essentially free. And the savings in heating costs due to the thermal windows, insulation, and new furnaces far outweighs the increase in rents.



Solar panels on the roof at 9th St. Co-op

Ninth Street suggests that whenever you are doing any remodeling, look for ways of integrating “green” features into the project. When they had to replace the old linoleum in the bathroom and kitchen of one of the units., a resident did research and found that the Vinyl Composition Tile (VCT) flooring was very toxic both in its manufacture and after disposal in landfills. So they decided to replace the old VCT flooring with Marmoleum, which is more environ-mentally-friendly. They have now replaced the kitchen and bathroom floors in all the units with Marmoleum . In another example, when they had exterior of all the buildings painted, they hired a painting contractor to do a full “lead paint abatement” procedure to safely capture and dispose of any old lead paint from previous paint jobs so no lead would end up in the soil, water, or air.

Ninth Street has made many expensive upgrades, co-op member Rick Lewis says the single most cost effective installation was a clothes line! For around \$5, you can get sturdy line and clothes pins that will last for years. Clothes dryers are one of the biggest energy users in your home – estimated as 6% to 10% of total use. According to Simple Ecology, (simpleecology.com/eco/clothesline.html) the average household does 400 loads of laundry a year, at a cost \$120 per year. Multiply that for a co-op that is sharing laundry facilities, and it adds up to real money. Not only that, for an electric dryer, that equals 2300 pounds of CO2 emissions. So you can do your part to reduce your carbon footprint, save money and get fresh smelling, line dried clothes at the same time.



Clothes line sharing the garden at 9th St. Co-op

Waste Reduction

Many cooperative living communities have reduced the amount of garbage they send to the landfill through a variety of measures. Most have recycling bins for bottles, cans, newspapers, and mixed paper and either put the recycling out at the curb weekly for pick-up. A few encourage residents to recycle by collecting recyclables and selling them to a Recycling Center, raising a little money for co-op parties and other uses. Some co-ops organize periodic collection of other harder-to-recycle items like batteries, electronics, plastics, styrofoam, and scrap metal, and haul them to El Cerrito Recycling Center which takes a lot of things that other recycling centers refuse.

Some co-ops have deliberately reduced the number of garbage cans they have, in order to challenge themselves to create less garbage. For instance, the City of Berkeley automatically gave Ninth Street Co-op five large garbage cans because they have five apartments. One by one, Ninth Street gradually gave three of the cans back to the City, and now they only fill two cans each week (one 32-gallon and one 20-gallon can). They educated residents to do more recycling of more of their garbage, and to “pre-cycle,” trying not to buy over-packaged food and other consumer goods, avoiding plastic, styrofoam, and other disposables that are difficult to recycle and usually end up in the landfill. By only having two garbage cans picked up by the City each week, they have also cut their refuse bills to less than half of the previous cost. With landfills running out of room and garbage fees going up, co-ops can help both the planet and their own bottom line by reducing garbage.

Many co-ops have yard debris cans where residents are encouraged to recycle “green waste,” including weeds, grass, branches, kitchen scraps, pizza boxes, and other food waste. This can be put out with the other recycling for curb-side pick-up. Other co-ops have bought inexpensive plastic compost bins or built their own wooden composting bins in order to compost yard debris such as weeds and grass as well as food waste. Ninth Street Co-op has a three-bin wooden composting system which allow residents to recycle all green waste and food, as well as straw and chicken manure from the chicken coop, which all decomposes over time and is used as rich, home-made compost in their vegetable garden and around fruit trees in the yard. Ninth Street also has a “worm hotel,” a three-tiered worm box where worms eat food waste and coffee grounds and turn it into “black gold” worm castings, which is a dense compost to put on the garden as plant food. Alameda County and other groups offer free trainings for anyone who would like to learn how to compost. The County even supplied very low-cost compost bins and worm bins, but their program was so successful that they gave away 73,000 compost bins and ran out of funding.

Some co-ops have used reclaimed wood for building projects. For instance, at Ninth Street Co-op, when a large fence had to be replaced, much of the old redwood was re-used in building the new fence, instead of buying new redwood boards. When another fence had to be replaced, some of the used boards that were too dilapidated to use in the new fence were cut into pieces and used to build new

garden beds. Other wood salvaged from construction projects other construction projects was used to build tool sheds and other out buildings. And many large windows salvaged from a large construction site were used to build a large greenhouse for growing tomatoes year-round.

Ratzlesnatch Co-op is a six-unit Berkeley LEHC. The “grandmother of co-ops,” it was the first limited equity co-op in Berkeley, founded in 1977. They are famous for the large wooden free box they built in front of their co-op, complete with a roof, where for decades people have left clothing and other items to be given away free. This allows for stuff to be recycled rather than thrown away and adding to overcrowded landfills, and reduces the consumption of the earth's resources as other people don't have to buy new things. And it is a focal point in the neighborhood, with people stopping by to look through the free box and to drop off bags of stuff to donate.



Free Box at Ratzlesnatch Co-op

Berkeley Students Cooperatives (BSC) sets the gold standard for sustainability!

Berkeley Students Cooperatives was started in 1933, and owns and manages 20 student cooperatives for UC Berkeley students. These buildings provide extremely low-cost housing to over 1200 students, and each house is self-managed by the residents, with training and technical assistance from BSC's Central Office. BSC as an organization and many of the individual houses have done even more than any of the other East Bay co-ops in implementing sustainability measures. For instance, eight of the houses have dramatically reduced their energy use through installing solar hot water heating, with substantial savings on their energy bills. One house put solar panels on the roof to supply all their electricity needs. A pro-active recycling program in all BSC houses recycles everything from cans and paper to batteries and used cooking oil. Compost bins at all houses compost all food waste, kitchen scraps, and yard waste. Many houses have vegetable gardens supplying produce to residents, and one even has chickens which supply all the eggs needed for the house. Each house encourages residents to ride bikes, by providing safe indoor bicycle storage, an important feature due to very high incidence of bicycle theft on and around the campus. And each house maintains a “Free Pile,” where residents leave their old clothes, books, electronics, and other items for anyone else to take. BSC even runs a competition each November to encourage each house to reduce their water use, awarding a cash prize to the house that has the lowest water use! And BSC just won a \$41,000 grant from the City of Berkeley to install high-efficiency heating systems called ME-2 systems in two of the houses. They plan to install

these new heating systems as a pilot project to save energy and money on heating bills.

Want to try implementing more sustainable practices? Start small with these cheap, quick, easy ideas!

While you may not be sure you have the time or money to take on a big project like installing solar panels or building a grey water system, there are many easy and inexpensive ways to reduce your co-op's negative impact on the environment. Start with a few small steps, talking with your residents about what they are willing and able to do. The following are quick and don't require any special skills. And not only are these actions low in cost, they will actually save you money through reduced **at** use of resources such as gas, electricity, and water.



Young chicken wrangler at Mariposa

1) Replace old light bulbs with compact florescent bulbs

Replacing incandescent light bulbs with compact florescent bulbs is a very cost-efficient way of reducing your electricity use. You may already have done this, and if so, give yourselves some credit for helping the environment by conserving energy! Some co-ops start by replacing bulbs in outdoor light fixtures with florescent bulbs. Seeing the savings in the electric bill may help encourage each household to replace the bulbs inside their units. Some buy florescent bulbs in bulk and give them to the residents as an incentive to try them. Some cities give out free florescent bulbs as a promotion to help people make the switch to florescent bulbs, usually in April for Earth Day, so your co-op may be able to get free bulbs at that time.

2) Reduce your garbage through recycling and by educating your residents

Most co-ops have multiple garbage cans or a dumpster for trash, and are paying high garbage bills . You can reduce your bill, and the amount of garbage you send to the landfill, by asking your co-op members to reduce the amount of garbage they produce every week. Encourage residents to recycle more of their

garbage. This can be done by giving them more information, such as the brochure and small poster provided by the City of Berkeley explaining what can be recycled and how to sort recyclables for weekly pick-up. Berkeley now picks up many forms of plastic for recycling, such as beverage containers, yogurt containers, and even take-out containers. Go to www.stopwaste.org and click on "Recycling Wizard" for lots of great information on recycling everything imaginable, or to order your free Recycling Guide! Another way to increase the amount of recyclables being collected is to assign one person (or a committee) to create a recycling area at your co-op and to be responsible for maintaining the area regularly. Many co-ops mentioned that it took a lot of reminders and a designated "recycling czar" to get current residents up to speed on what and how to recycle, and to train new residents as well. A key to successfully increasing your co-op's recycling is a well-organized, user-friendly recycling area, kept as clean and uncluttered as possible, with bins clearly labeled.

If your cooperative living community does not have a green yard debris can, you can request one free from the City. This is the single most effective way for most groups to reduce their garbage, by diverting food waste, weeds, grass cuttings, and tree branches from the garbage can into the green bin to be picked up by the City and recycled into compost. If you have the outdoor space and want to go one step further, you can build your own simple compost bin out of wood or chicken wire, or buy a plastic compost bin at stores such as Orchard Hardware Supply or the Urban Farmer Store. Having your own compost system requires a small amount of time to set up and maintain, but it can save you money because you don't have to buy expensive compost or potting soil to put on your garden or plants. And it's no harder to put yard debris and food waste into the compost bin then to put them into the green can. Some systems require someone to turn the compost, and shovel it out of the compost bin, and this can be strenuous. If you are concerned about the physical labor or just prefer something easier, you can buy a round compost bin that does not require shoveling, it has a handle that is light and easy enough even for a small child to use to mix the compost.

3) Install low-flow shower heads and aerators on faucets

The average American family uses more than 300 gallons of water per day at home. Low-flow shower heads (using about 2 gallons of water per minute of each shower) only cost about \$10 and can reduce water use in the shower from between 25% and 60%. Aerators are a screw-on tip that attach to the faucets in your kitchen and bathroom to reduce water flow, and they only cost a few dollars. You may already have low-flow shower heads as some cities, including Berkeley, require them when a unit is sold. If so, give yourself a hand for helping conserve water! If not, changing the shower heads and adding aerators is inexpensive and is quick and painless way to save water every time you turn on the tap. East Bay Municipal Utility District gives away free low-flow shower heads and faucet aerators to people of low to moderate income. Check their website at: www.ebmud.com, then click on the WaterSmart Center for free water-saving equipment and the many rebates for saving water.

Consider low-flow toilets!

If you want to go the extra mile for the environment, consider replacing the toilets in your units with high efficiency toilets (HET) that use less than 1.2 gallons per flush. East Bay Municipal Water District provides rebates if you replace older, water-guzzling toilets, so you will recoup your investment quickly with the rebate and savings on your water bill. EBMUD also offers rebates for buying water-efficient clothes washers. Check out www.wateruseitwisely.com for other water-saving measures.

4) Plant native and low-water plants, or ground cover to reduce watering (and save time on yard maintenance).

Outdoor water use accounts for about 30% of household water use. Since plants that are native to the area need much less water, planting a few native plants is an easy way to save on your water bill and save time by watering less often. Many native plants require no watering at all, and there are many non-native plants that require little watering. Some co-ops have started by taking a small corner of their property and planting that area in native plants, succulents, native grasses, sage, and other plants which do not require watering. (www.mynativeplants.com has great information and lists of drought-tolerant plants.)

Others have chosen to remove part or all of their lawn, and instead plant hardy ground cover, such as

lipia, woolly thyme, dymondia, gazania, or campanula. These ground covers don't need to be watered or mowed, saving time and money. And some ground covers, such as lipia and woolly thyme, are so hardy that they can survive being walked on, just like a lawn. Some cooperative living communities, such as Berkeley Cohousing and Ninth Street Co-op have planted lots of fruit trees to make more productive use of their lawns. And EBMUD offers up to \$20,000 (no kidding!) in rebates for multi-family buildings that replace some lawn areas with low-water landscaping or ground cover and install drip irrigation and other water-saving measures. Check out these rebates and great advice at www.ebmud.com. And to learn even more about gardening and landscaping that saves water and conserves the soil, you will be amazed at the comprehensive guide at www.bayfriendly.org.

5) Want to do even more to save water? Consider installing a rain barrel!

Some co-ops have gone the very low-tech route of placing a big garbage can under each of the down spouts to catch rain water, then pouring it on the garden. Others, such as Brigid, Toad Hall, and Mariposa Grove bought a covered rain barrel with a hose or pipe attached to the downspout and a spigot and a hose at the bottom to channel water to gardens and lawns. If you live in Oakland, the City of Oakland has a pilot program to give away rain barrels, to encourage people to reduce their outdoor water use (www.oaklandpw.com/creeks). Or check out the Urban Farmer Store in Richmond (www.urbanfarmerstore.com) for all sizes and types of rain barrels. For a wealth of information on rain barrels, rain gardens, pervious pavement, and saving water by using rainwater, go to: www.lowimpactdevelopment.org.

6) Plant a vegetables or fruits in pots or planter boxes.

Many cooperative living communities don't have room for a large garden, but have managed to grow food in very small spaces. If your apartments have sunny porches or balconies, a few simple wooden planter boxes filled with compost are ideal for tomato plants, green beans, zucchini, potatoes, or strawberries plants. Many porches can support dwarf fruit trees in large pots, such as lemon, orange, apricot, or pear trees. A shady porch or walkway area is ideal for planting small pots or planter boxes of lettuce, radishes, carrots, spinach, garlic, onions, broccoli, or other greens. Container gardens take only