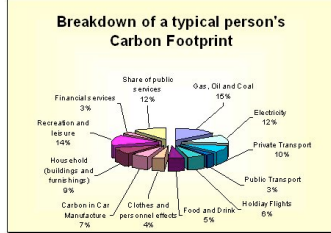


Reducing your carbon footprint



1. Calculating your carbon footprint
2. Hallmarks of a green home
 - Resource conservation and sustainability
 - Energy efficiency
 - Air quality
 - Water conservation
 - Waste reduction
3. Other carbon-reducing tips



http://www.carbonfootprint.com/carbon_footprint.html

I. Calculating your carbon footprint



also check out: http://www.epa.gov/climatechange/emissions/ind_calculator.html

www.carbonfootprint.com



carbon footprint calculator

Select Region / State: California

Household Fuel Usage: Annual electricity usage, Annual natural gas usage, Annual LPG usage, Annual household oil usage, Annual coal usage

Travel during the past year: Annual car#1 mileage, Annual car#2 mileage, Annual train journeys, Annual local bus / subway, Annual long distance bus / coach journeys, Annual air travel / flights

Does your electricity come from renewables? Yes / No

How many people live in your house? 2

Calculate / Reset

<http://www.carbonfootprint.com/USA/calculator.html>

www.carbonfootprint.com



carbon footprint calculator results

The table below shows your results.

	Your household CO ₂ (kg)	Your personal share of CO ₂ (kg)
Gas, coal and oil	875	437
Electricity	660	330
Private Car		1,215
Public Transport		17
Holiday Flights		0
Total Primary Footprint		1,999
Food and Drink		585*
Clothes and Shoes		466*
Car Manufacture		715*
Buildings, Furniture and Appliances		962*
Recreation and Services		1,546*
Finance and other services		361*
Share of Public Services		1,278*
Total Secondary Footprint		6,960*
TOTAL FOOTPRINT		7,949

x 2.205 lbs/kg = 4,407 lbs

- * Your secondary Carbon Footprint from indirect emissions has not been calculated here. We have used UK average figures only.
- The average persons total carbon footprint in the USA is about 19,000 kg per year.
- The average for all industrial nations is about 11,000 kg per year.
- The world-wide average is 4,000kg per year.
- To stop combat climate change the world-wide average needs to be reduced to about 2,000kg per year.

carbon footprint calculator results

The table below shows your results.

	Your household CO ₂ (kg)	Your personal share of CO ₂ (kg)
Gas, coal and oil	875	437
Electricity	660	330
Private Car		1,215
Public Transport		17
Holiday Flights		3,800
Total Primary Footprint		5,799
Food and Drink		585*
Clothes and Shoes		466*
Car Manufacture		715*
Buildings, Furniture and Appliances		962*
Recreation and Services		1,546*
Finance and other services		361*
Share of Public Services		1,278*
Total Secondary Footprint		5,699*
TOTAL FOOTPRINT		11,498

x 2.205 lbs/kg = 12,787 lbs

- * Your secondary Carbon Footprint from indirect emissions has not been calculated here. We have used UK average figures only.
- The average persons total carbon footprint in the USA is about 19,000 kg per year.
- The average for all industrial nations is about 11,000 kg per year.
- The world-wide average is 4,000kg per year.
- To stop combat climate change the world-wide average needs to be reduced to about 2,000kg per year.

Pacific Gas & Electric: www.pge.com



http://www.pge.com/about_us/environment/calculator/

Electricity in kilowatt-hours (kWh): Emits 0.524 lbs CO₂ per kWh

Typical PG&E customer: 540 kWh per month

(100 kWh = 32.4 gallons of gasoline = 628.8 lbs of CO₂)

Natural gas in therms: Emits 13.446 lbs CO₂ per therm

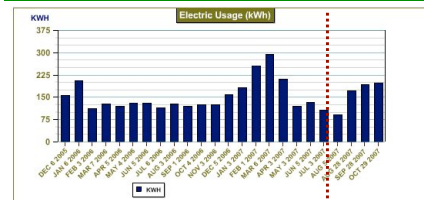
Typical PG&E customer: 45 therms per month (winter 60/ summer 24)

(10 therms ~83.17 gallons of gasoline = 1613.52 lbs)

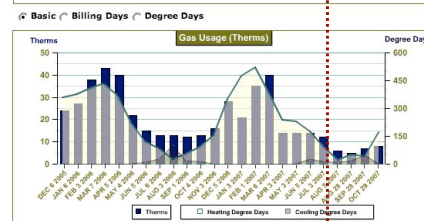
Gasoline: 1 gallon emits 19.4 lbs CO₂

Average: 12,000 miles @ 21 mpg

Before and after moving into eco-home



Ave Californian: 540 kWh/month



Ave Californian: 60 winter 24 summer

Eco-home: better home, less footprint



50% larger space
Larger refrigerator and freezer
Dishwasher
Washer and dryer

	monthly lbs CO ₂	annual
1920s rental:	365	4380
2007 Eco-condo*:	290	3480

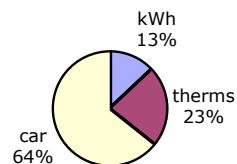
divide by 2 for per capita results
20% decrease in greenhouse gas emissions

Before: 172.75 kWh and 20.42 therms per month
After: 200 kWh and 13.75 therms per month, inc. projected winter gas at 20 therms/month
http://www.pge.com/about_us/environment/calculator/

Automobile use: the next step



Average: 12,000 miles/yr @ 21 mpg per person
Us: 8,625 miles/yr @ 27 mpg for 2 people



	lbs CO ₂ per capita
Average Californian:	22,941
Average American:	32,607
Average Global person:	8,750
Average before:	5,289
Average eco-condo:	4,836 (4,407 using calculator)

Eco-condos and green building (2007)



New urban in-fill community
7 units on former site of a
single home
4 homes, 3 rentals

Designer/Builder:
Richard Schwarzmann
NARI-certified green builder

Project manager:
Lee Goodwin
Ideal Design Investment
Group, LLC

Hallmarks of a green home



In design

1. Resource conservation and sustainability
2. Energy efficiency
3. Air quality

In practice

4. Water conservation
5. Waste reduction

Eco-home design



1. Resource conservation and sustainability
2. Energy efficiency
3. Air quality

SITE EXCAVATED USING BOBCAT POWERED WITH BIO-DIESEL
REUSED AND RECYCLED 75% OF JOB-SITE WASTE
RECYCLED AGGREGATE USED FOR DRAINAGE AND DRIVEWAY BASE
FSC-CERTIFIED WOOD USED FOR FRAMING AND FINISH MATERIALS
RESOURCE-EFFICIENT LUMBER, SUCH AS OSB & I-JOISTS
EXTERIOR FIBER-CEMENT BOARD SIDING
FSC-CERTIFIED SOLID CORE INTERIOR DOORS
FORMALDEHYDE-FREE BLOWN-IN CELLULOSE INSULATION

Eco-home design



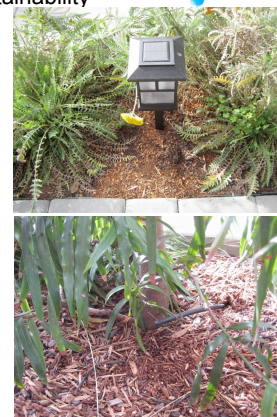
1. Resource conservation and sustainability
2. Energy efficiency
3. Air quality

SOLAR LIGHTING FOR WALKWAYS

PERMEABLE COBBLESTONE PAVING OF DRIVEWAYS AND WALKWAYS TO MINIMIZE RUNOFF.

SITE APPROPRIATE LANDSCAPING

DRIP LINES FOR LANDSCAPING



Eco-home design



1. Resource conservation and sustainability
2. Energy efficiency
3. Air quality

SALVAGED WOOD FOR NEWEL POSTS AND HANDRAILS

ENGINEERED BAMBOO FLOORS



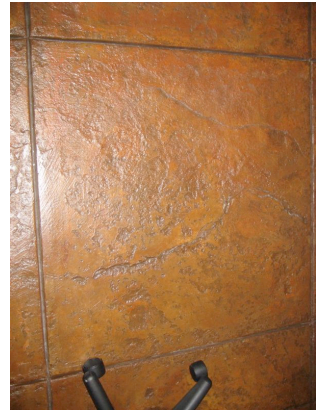
Eco-home design



1. Resource conservation and sustainability
2. Energy efficiency
3. Air quality

CONCRETE FOUNDATION AND SLAB CONTAIN RECYCLED FLY ASH

CONCRETE SLAB FLOORS WITH RADIANT HEAT



Eco-home design



1. Resource conservation and sustainability
2. Energy efficiency
3. Air quality

CREATIVE RE-USE OF VINTAGE FURNITURE (FROM URBAN ORE):

WRITING DESK FOR BATHROOM SINK

SEWING MACHINE FOR BATHROOM SINK



Eco-home design



1. Resource conservation and sustainability
2. Energy efficiency
3. Air quality

PASSIVE SOLAR HEATING



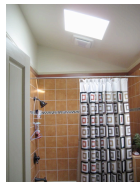
Eco-home design



1. Resource conservation and sustainability
2. Energy efficiency
3. Air quality

DOUBLE-PANE LOW-E SIERRA PACIFIC WINDOWS

SKYLIGHTS MAXIMIZE USE OF NATURAL SUNLIGHT



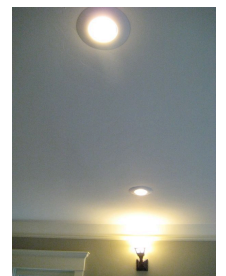
Eco-home design



1. Resource conservation and sustainability
2. Energy efficiency
3. Air quality

ENERGY STAR LG APPLIANCES

CFLS



Eco-home design



1. Resource conservation and sustainability
2. Energy efficiency
3. Air quality

HIGH-EFFICIENCY COMBO BOILER SUPPLIES ON-DEMAND (TANKLESS) HOT WATER, AND SUPPLIES HYDRONIC RADIANT FLOORS

ITALIAN BAXI BOILER



Eco-home design

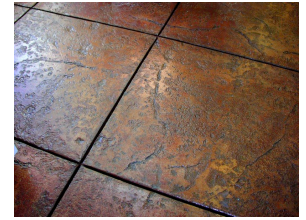


1. Resource conservation and sustainability
2. Energy efficiency
3. Air quality

LOW OR NO VOC INTERIOR PAINT SOY-BASED STAIN ON CONCRETE FLOORS

FORMALDEHYDE FREE PLYWOOD FOR ALL CABINETRY AND TRIM

NO CARPETS, NO OFF-GASSING



Eco-home design



4. Water conservation
5. Waste reduction

LOW-FLUSH TOILETS (0.9 AND 1.6 GALLON OPTIONS)



Eco-home in practice



4. Water conservation
5. Waste reduction

FRONT-LOAD HIGH EFFICIENCY WASHER AND GAS DRYER



Eco-home in practice



4. Water conservation
5. Waste reduction

RECYCLING CENTER, WORM COMPOST BIN, AND NO NEED FOR FERTILIZER



Other carbon-reducing tips

Kill the vampires: electronics with "standby power": unplug chargers or turn off surge protectors

Buy compact fluorescent light bulbs

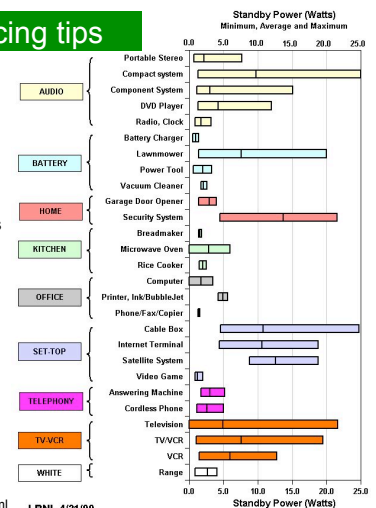
Once a year, use a brush to clean off refrigerator coils

Weatherstrip doors and windows

Use only full loads

Defrost fridge/freezer

Hang dry



<http://standby.lbl.gov/Data/SummaryChart.html>

LBNL 4/21/99

Rising sun energy center
2033 Center Street, Berkeley



Programs

Energy Partners Program for low-income households

California Youth Energy Services

Solar Education Workshops

Renewable Energy Internship Program

Solar Installation and Whole House Performance

Subsidized Attic Insulation

<http://www.risingsunenergy.org/>

Other ways to reduce your footprint



Air: less flights

Car: more public transportation, better mpg

Food: less meat, more local, in season

Drink: no bottled water, esp. from far away

Purchasing: less packaging, more recycling

Recreation, celebrations, work: same mindset, less waste

Food and Drink		585 *
Clothes and Shoes		486 *
Car Manufacture		715 *
Buildings, Furniture and Appliances		982 *
Recreation and Services		1,546 *
Finance and other services		361 *
Share of Public Services		1,276 *
Total Secondary Footprint		5,950 *
TOTAL FOOTPRINT		7,949

Share your ideas!