Carbon Footprint Calculation Detail

Avg Household of 2 people	Pounds of CO2 Emissions
Just from Gas	11,000
Just from Electricity	16,290
Other (auto use, airplane use, etc)	14,210
Total Emissions	41,500

Source: Environmental Protection Agency (EPA)

Electricity Breakdown	% of total household electricity	Gas Breadown	% of total household gas
Central A/C	14.1%	Heating	69.6%
Refrigerator	13.7%	Water Heater	22.9%
Lighting	8.8%	Cooking	4.2%
Dishwasher	2.5%	Other	3.3%
Clothes Washer	0.9%		
Other	60.0%		
Total Electricity	100.0%	Total Gas	100.0%

Source: Energy Information Administration

Feature	Carbon Footprint Savings Explanation	Carbon Footprint Calculation (low end detail)	lbs. Saved (low end)	lbs. Saved (high end)	Source #1	Source #2
Whenever possible, FSC certified wood is used for framing lumber and cabinet material	Use lumber that is approximately 80% certifed. Difficult to calculate carbon footprint savings on this component.	Unable to accurately calculate	-	-	http://www.fscus.org/faqs/fsc_products.php	
Optimal Value Engineering (OVE) - a logical framing design that reduces the lumber requirements without sacraficing structural integrity	5% decline in kWh and therms according to one source. 10-30% according to another. Difficult to calculate carbon savings due to Shea using only parts of OVE.	Unable to accurately calculate	-	-	http://www.buildernewsmag.com/viewnews.pl?id=20	http://www.buildingscienceconsulting.com/resources/misc/wood_efficiency.pdf
Construction Material Recycling Program	Difficult to calculate carbon footprint savings due to re-use of resources	Unable to accurately calculate	-	-	http://www.greenbuilder.com/sourcebook/ConstructionWaste.html	
Low flow faucets, shower heads, and toilets	50% reduction in Therms associated with heating water	11,000 lbs CO2 from Gas X 50% Reduction X 22.9% of Gas Used for Water Heating	1,261.7	1,261.7	http://www.toolbase.org/Technology-Inventory/Plumbing/low-flow-plumbing-fixtures	http://www.eartheasy.com/live_lowflow_aerators.htm
High performing Energy Star Clothes Washers	40% decline in kWh associated with running clothes washer	16,290 lbs CO2 from Elec. X 40% Reduction X 0.9% of Elec. Used for Clothes Washer	58.6	58.6	http://www.energystar.gov/index.cfm?c=clotheswash.pr_clothes_washers	
High performing Energy Star Dishwashers	41% decline in kWh associated with running dishwasher	16,290 lbs CO2 from Elec. X 41% Reduction X 2.5% of Elec. Used for Dishwasher	167.0	167.0	http://www.energystar.gov/index.cfm?c=dishwash.pr_dishwashers	
High performing Energy Star Refrigerators	15-40% decline in kWh associated with running refrigerator	16,290 lbs CO2 from Elec. X 15% Reduction X 13.7% of Elec. Used for Refrigerator	334.8	573.4	http://www.energystar.gov/index.cfm?c=refrig.pr_refrigerators	
WeatherTRAK water resource management system	Water is not part of the carbon footprint calc.	Unable to accurately calculate	-	-	http://www.weathertrak.com/	http://www.epa.gov/owm/water-efficiency/pubs/outdoor.htm
Blown in recycled cellulose cocoon wall and ceiling insulatior	26% reduction in kWh and Therms assocated with heating and cooling the house	16,290 lbs CO2 from Elec. X 26% Reduction X 14.1% of Elec. Used for A/C + 11,000 lbs CO2 from Gas X 26% Reduction X 69.6% of Gas Used for Heating	2,587.8	2,587.8	http://www.captainplanetfdn.org/zeroenergy/products/cocoon.html	http://www.greenhomeguide.com/index.php/main/product_detail/764/C237
Electric car and golf cart charging station in garage	Difficult to calculate without knowing what % of our homes ultimately go to EVs	Unable to accurately calculate	-	-	http://www.electroauto.com/info/pollmyth.shtml	http://www.nrel.gov/vehiclesandfuels/hev/plugins.html
Air filters Minimum Efficiency Reporting Value (MERV) of 9 or greater	Difficult to calculate. Likely minimal.	Unable to accurately calculate	-	-	http://www.pureairsystems.com/go/pure-air-university/103-filtration-fundamentals	
Thermal mastic sealed ductwork	5-25% reduction in kWh and Therms assocated with heating and cooling the house	16,290 lbs CO2 from Elec. X 5% Reduction X 14.1% of Elec. Used for A/C + 11,000 lbs CO2 from Gas X 5% Reduction X 69.6% of Gas Used for Heating	497.6	2,471.9	http://www.eere.energy.gov/buildings/info/documents/pdfs/27630.pdf	http://www.efficiencymaine.org/home_tips.htm
Digital programmable thermostats	10% reduction in kWh and Therms assocated with heating and cooling the house	16,290 lbs CO2 from Elec. X 10% Reduction X 14.1% of Elec. Used for A/C + 11,000 lbs CO2 from Gas X 10% Reduction X 69.6% of Gas Used for Heating	995.3	995.3	http://www.eere.energy.gov/consumer/your_home/space_heating_cooling/index.cfm/mytopic=12720	
Energy efficient air conditioning systems	8% reduction in kWh associated with cooling the house	16,290 lbs CO2 from Elec. X 8% Reduction X 14.1% of Elec. Used for A/C	183.8	183.8	http://www.eia.doe.gov/glossary/glossary_s.htm	
Foam insulation for framing joints and exterior wall penetrations	Difficult to calculate. Part of EFL. Likely a marginal savings.	Unable to accurately calculate	-	-	no source confirming exact energy savings was found	
Vinyl frame windows	Difficult to calculate. Likely a marginal savings. A better focus is on the window panes and not frames.	Unable to accurately calculate	-	-	http://www.askthebuilder.com/240_Vinyl_Windows_Certification.shtml	
Dual pane Low-E windows	13-15% reduction in kWh and Therms assocated with heating and cooling the house in the SW region of the US	16,290 lbs CO2 from Elec. X 13% Reduction X 14.1% of Elec. Used for A/C + 11,000 lbs CO2 from Gas X 13% Reduction X 69.6% of Gas Used for Heating	1,293.9	1,483.2	http://www.energystar.gov/ia/products/windows_doors/CitySavingsEstimates.pdf	http://www.milgard.com/getting-started/energy-efficiency-suncoat.asp
Dimmer switches on all incandescent lights	10-40% reduction in kWh on switches with dimmers	16,290 lbs CO2 from Elec. X 10% Reduction X 8.8% of Elec. Used for Lighting X 75% of Lighting (est.) is Hardwired X 50% of Hardwired Lighting is on a Dimmer due to non-CFL bulb use	53.8	215.0	http://www.lighting.com/content.cfm?id=2867&sid=32&page=/	http://www.haciendalighting.net/faq.asp
50% of hardwired lights are compact fluorescent light bulbs (CFLs)	75% reduction in kWh on lamps and light fixtures. Also gain savings on reduction in cooling cost due to less heat from bulbs (not in calc.).	16,290 lbs CO2 from Elec. X 75% Reduction X 8.8% of Elec. Used for Lighting X 75% of Lighting (est.) is Hardwired X 50% of Hardwired Lighting uses CFL bulbs	403.2	403.2	http://www.energystar.gov/index.cfm?c=cfls.pr_cfls	http://www.save-n-energy.com/energy_how_much_can_you_save.php
Occupancy sensor light switches in master bathroom	25-75% reduction in kWh associated with lights with motion sensors. Negligible savings with only 2 per house.	Unable to accurately calculate	-	-	http://www.efficiencymaine.org/pdfs/OccupancySensors.pdf	http://www.powerhousetv.com/stellent2/groups/public/documents/pub/phtv_yh_di_002941.hcsp
50 gallon water heater with high overall energy efficiency rating factor (EF)	Difficult to calculate due to diff. types of water heaters used. Marginal savings; hence no "Energy Star" water heaters.	Unable to accurately calculate	-	-	http://www.energyloans.org/EnergyReference/body_waterheater.html	
Natural Light Solar Fans	10-30% energy savings on kWh to run a/c unit (according to 3 separate studies). 25-45% according to NuLight.	16,290 lbs CO2 from Elec. X 10% Reduction X 14.1% of Elec. Used for A/C	229.7	1,033.6	http://www.fan-attic.com/html/about.htm	http://www.energy.ca.gov/title24/2008standards/documents/2006-07-12_workshop/comments/CONSTRUCTION_QUALITY_MOWRIS_ROBERT_MOWRIS_AND_ASSOCIATES.PDF
Frazee Scrubbable Low VOC Paint	Could not quantify carbon savings from painting 1 house with low VOC paint	Unable to accurately calculate	-	-	http://www.epa.gov/iaq/voc.html	
BP 3 kW Solar System	Generates approx. 4,200 kWh of electricity for the home in a year, saving this amount of electricity needed from traditional sources (29-67% reduction)	16,290 lbs CO2 from Elec. Less savings already realized from other sources X 29% reduction	3,949.5	8,803.6	http://www.americansolar.com/	

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			12,016.5	20,238.0		
			Total lbs of CO2 saved (low end)	Total lbs of CO2 saved (high end)		
			29.0%	48.8%		
			% reduction in carbon footprint (low end)	% reduction in carbon footprint (high end)		

Average Low Estimated Home Performance is equivalent to:	1 House	2,000 Houses	10 Years of 2,000 Houses
Passenger vehicles not driven for one year	1.00	2,000	20,000
Gallons of gasoline not consumed	619.00	1,238,000	12,380,000
Barrels of oil not consumed	12.70	25,400	254,000
Tanker trucks filled with gasoline	0.07	140	1,400
Household ***electricity*** use for one year (number of households)	0.72	1,440	14,400
Household ***energy*** use for one year (number of households)	0.48	960	9,600
Carbon sequestered by this number of tree seedlings grown for 10 years	140.00	280,000	2,800,000
Carbon sequestered by this number of acres of pine or fir forests	1.20	2,400	24,000
Acres of forest preserved from deforestation	0.04	80	800
Propane cylinder emissions not used for home barbeques	227.00	454,000	4,540,000
Railcars worth of coal not burned	0.03	60	600
Emissions avoided by recycling this many tons of waste instead of sending to landfill	1.90	3,800	38,000

Average High Estimated Home Performance is equivalent to:	1 House	2,000 Houses	10 Years of 2,000 Houses
Passenger vehicles not driven for one year	1.70	3,400	34,000
Gallons of gasoline not consumed	1,042.00	2,084,000	20,840,000
Barrels of oil not consumed	21.30	42,600	426,000
Tanker trucks filled with gasoline	0.12	244	2,440
Household ***electricity*** use for one year (number of households)	1.20	2,400	24,000
Household ***energy*** use for one year (number of households)	0.81	1,620	16,200
Carbon sequestered by this number of tree seedlings grown for 10 years	235.00	470,000	4,700,000
Carbon sequestered by this number of acres of pine or fir forests	2.10	4,200	42,000
Acres of forest preserved from deforestation	0.06	120	1,200
Propane cylinder emissions not used for home barbeques	382.00	764,000	7,640,000
Railcars worth of coal not burned	0.05	100	1,000
Emissions avoided by recycling this many tons of waste instead of sending to landfill	3.20	6,400	64,000

Source:
http://www.epa.gov/cleanenergy/energy-resources/calculator.html
Environmental Protection Agency (EPA)

Note: These calculations were made in good faith based on a two person household living in their home full-time. All data and subsequent claims will vary by home, floor plan, and location. If you have questions or constructive feedback about the methodology or the calculations themselves that are not answered by the the third party resources list, please e-mail us at customerrela