



10% Energy Challenge myplan

The Green Needham Collaborative is challenging Needham residents to cut their energy use by at least 10% as a way of reducing our dependence on fossil fuels and curbing emissions of CO2, the most common greenhouse gas which leads to harmful global warming.

Don't know where to start? This easy-to-use checklist will give you plenty of ideas on how cut your energy use. Simply read through the list, then check off actions on the "My Plan" section and calculate your energy savings. Your energy savings will be automatically calculated.

Take the 10% Challenge and be eligible for a prize drawing for energy-saving products!

Step one: Estimate your current energy use and set your 10% goal!

When we use energy from fossil fuels—such as gasoline, heating oil and electricity generated by burning coal or natural gas—our personal energy use leads to CO2 being emitted into the atmosphere. Calculating your yearly CO2 emissions is a good way to estimate energy use, and to see how certain actions can reduce these emissions.

Option 1: Estimate your yearly carbon footprint as **54000 pounds of CO2**, which is the emission rate of the average American household (this is set as the default value).

OR

Option 2: Estimate your carbon footprint based on your actual energy use with the Household CO2 Calculator from the Empowerment Institute. [Click Here](#) or visit www.empowermentinstitute.net (click on *Low Carbon Diet Climate Change Program*, then *Household CO2 Calculator*)

Enter your carbon footprint (in lbs) here: (Please do not use comma separators.)

Step two: Use the Green Needham MyPlan Calculator to reduce your energy use now!

Please fill out the following energy plan for your household by ticking all the relevant checkboxes and filling in appropriate text boxes. If you have trouble with this website, or if you would rather have a paper copy to work with, please e-mail us at 10percent@greenneedham.org.

Please include only things you are not already doing!

No Cost/Low Cost Energy Saving Steps	My Plan of New Actions	Yearly pounds of CO2 avoided
1. If you are an NStar customer, either electric and/or gas, call (800) 632-8300 to schedule a free energy audit. The auditor will advise you on weatherization, equipment replacement, insulation, and tell you about rebates, plus zero and low-interest loans.	<input type="checkbox"/> I will call Nstar to schedule a free energy audit.	

CO2 avoided: 200 pounds

[More Info](#)

2. Turn down the thermostat in winter and turn it up in summer.

NStar recommends a winter setting of no more than 68 degrees, health permitting. A 7-10 degree turn back at night and while you are at work can save as much as 10% off your heating bill. For summer, NStar recommends 78 degrees for central air. To make it easy, buy a programmable thermostat (\$25 NStar rebate).

CO2 avoided: 1200 pounds for thermostat turn-backs.

CO2 avoided: 300 pounds for each thermostat degree turned down from your usual temperature setting.

[More Info](#)



I will start to set the thermostat back 7-10 degrees at night & when gone for at least 8 hrs.

I will turn down my thermostat degrees lower than its usual setting when I am home.

3. Drive smart

Drive the speed limit, avoid rapid acceleration and hard braking, and don't idle. According to the U.S. Dept. of Energy, aggressive driving can lower your gas mileage by 33 percent at highway speeds and 5 percent around town. They recommend idling no more than 30 seconds to warm the engine on winter days. See www.fueleconomy.gov

CO2 avoided: 1000 pounds a year per vehicle driven "smart".

[More Info](#)

I will change my driving habits to avoid idling, fast starts and stops, and I will drive the speed limit.

Number of vehicles to be driven smart:

4. Drive less

Take public transportation to work or school, car pool, consolidate errands, take fewer car trips and vacation closer to home. How many miles do you typically drive each year? Try to set a weekly or monthly mileage reduction goal!

CO2 avoided: approximately 1 pound a year for every mile reduced (based on 20 mpg car).

[More Info](#)

I will reduce my annual mileage by miles.

5. Reduce air travel and try to fly non-stop when you do fly.

Air travel is estimated to add about 1/2 to 1 pound of CO2 per mile flown. Reducing your flights can make huge cuts in your carbon footprint. Since most energy is used on take-off and landing, flying non-stop is more energy-wise

CO2 avoided: Roughly 1 lb of CO2 for every flight mile you cut from your typical annual air travel.

I will reduce my annual flight miles by miles.

CO2 avoided: Roughly 1 lb of CO2 for every flight mile you cut from your typical annual air travel. I will purchase carbon credits

Current Carbon Footprint (lbs):

54000

Current CO2 Savings (lbs):

% Reduction you have achieved:

[More Info](#)

6. Replace your most-used incandescent light bulbs with compact fluorescents, which use 75% less energy and last much longer. (When you do have to dispose of compact fluorescents, remember to take them to the Universal Waste Shed at the Needham Transfer Station since they contain a small amount of mercury.)

I will replace lightbulbs.

CO2 avoided: 150 pounds a year for each light bulb changed.

[More Info](#)

7. Unplug or dispose of a little-used second refrigerator or freezer

Pre-1993 refrigerators can use twice the energy as new ones and may be costing over \$150 a year to run. Call the Town at (781) 455-7568 for disposal information. (If a second fridge is a must, simply turn it off when it isn't needed or consider downsizing to a small Energy Star compact fridge.)

I will no longer use a second refrigerator.

-or-

I will unplug a second refrigerator when not in use.

-or-

None of the above.

CO2 avoided: 1700 if no longer used (based on 1990 model); 1000 if used less or downsized.

[More Info](#)

8. Turn off lights and electronics when no one is in the room, plug electronics into power strips with a switch that can be turned off when devices are not in use. Electronics such as TV's, stereos, computers, printers, and DVD players use power even when off. According to the U.S. Dept. of Energy, over half of the electricity used to power home electronics is consumed while the products are turned off. Turning off the power strip switch cuts off this wasted power.

I will turn off lights and electronics when I am not using them. I will also install and use power strips.

CO2 avoided: 600 pounds a year

[More Info](#)

9. Don't leave computers on. Use standby (sleep) mode on your computer if you won't use it for at least 20 minutes (or program the computer to do this automatically), and turn it off if you won't use it for at least 2 hours. Left on, a single desktop computer could cost more than \$125 a year to run. The U.S. Dept. of Energy points out that screen savers may actually use more energy and that it is a [myth](#) that you shouldn't turn off computers.

I will use the standby feature on my computer and turn it off when not in use for several hours.

CO2 avoided: 500 pounds yearly for each computer not left on.

[More Info](#)

10. Reduce Hot Water. Heating water takes more energy

using the clothes washer, do some loads using cold water for wash and rinse cycles.

CO2 avoided: 300 lbs a year for each person taking shorter showers.

people will take shorter showers.

CO2 avoided: 125 lbs for not leaving water running.

[More Info](#)



When I wash dishes by hand, I won't let the water run.

CO2 avoided: 125 lbs for washing some loads using cold water.

[More Info](#)



I will wash some laundry loads using cold water.

11. Install a low flow shower head. This can reduce shower hot water use by 30%. Early low-flow shower heads simply restricted flow and performed poorly. According to NStar, "A top-quality, low-flow showerhead will cost \$10 to \$20 and pay for itself in energy saved within 4 months."

I will install low flow shower heads.

CO2 avoided: 300 pounds for each shower head installed.

[More Info](#)

12. Add at least one vegetarian meal each week. The United Nations Food and Agriculture Organization estimates that raising livestock causes 18% of the greenhouse gas emissions. This is due to the energy intense production of livestock feed and the methane (a powerful greenhouse gas) that is emitted from manure and animal digestion, especially cows.

I will increase my vegetarian meals by per week.

CO2 avoided: 700 pounds a year for each vegetarian meal consistently added to the weekly menu.

[More Info](#)

13. Wash full loads and use your dishwasher on the no-heat/air dry or energy saving setting. (If you don't have an automatic air-dry switch, turn off the control knob after the final rinse and prop the door open a little so the dishes will dry faster.) Much of the electricity used by the dishwasher is for heated drying.



I will wash full loads and start to use the air dry or energy saver setting on my dishwasher.

CO2 avoided: 200 pounds a year.

[More Info](#)

14. Plug air leaks. Air infiltration substantially raises the cost of heating and cooling. Use caulking, door sweeps, outlet insulators, foam, and weather stripping to seal drafty windows and doors. (It may help to use an incense stick to find leaks.)



I will plug air leaks around windows, doors, and foundation.

Current Carbon Footprint (lbs):

54000

Current CO2 Savings (lbs):

% Reduction you have achieved:

[More Info](#)

Energy Investment for Big Savings	My Plan of New Actions	Yearly pounds of CO2 avoided
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15. Replace an old refrigerator with an Energy Star appliance. EnergyStar refrigerators are twice as efficient as ones made before 1993. (And units with top freezers use less energy than a side-by-side.) Use the NStar energy calculator to see how much you can save each year - it could be about \$150. www.nstaronline.com under energy efficiency. Check NStar rebates.

In the next 6 months, I will replace my old refrigerator with an Energy Star Model.

CO2 avoided: 800 pounds a year.

[More Info](#)

16. Replace an old furnace with a high efficiency unit. Replacing an old, inefficient furnace can reduce your heating bill by hundreds of dollars a year. Ask your NStar energy auditor about rebates.

In the next 6 months, I will replace my old furnace with a high efficiency unit.

CO2 avoided: 2400 pounds a year.

[More Info](#)

17. Add insulation. A priority for reducing heating bills and not as expensive as other measures. Ask your NStar auditor what is needed and about rebates that pay half the cost up to \$1500.

In the next 6 months, I will add insulation to my home. Give yourself 1000-2000 pounds, depending on extent of project:

CO2 avoided: up to 2000 pounds of CO2 a year, depending on extent of project.

[More Info](#)

18. Buy a car with better gas mileage. Hybrids are great, but any mile-per-gallon improvement is significant. Check on tax rebates.

In the next 6 months, I will buy a car with an improvement of miles per gallon.

CO2 avoided: for each mile per gallon improvement: roughly 400 pounds a year at 12,000 miles per year.

[More Info](#)

19. Need more ideas? You may be an advanced energy saver who feels you've already done it all, or perhaps you just need more actions to make your goal. [Click here](#) for more ideas.

I have committed myself to actions from the *More Ideas* page and will further reduce my CO2 by pounds.

Sources: www.nstaronline.com, U.S. Department of Energy - Energy Efficiency and Renewable Energy, www.eere.energy.gov, *Low Carbon Diet* (David Gershon), www.stopglobalwarming.org
Carbon reductions are rough estimates and vary depending on your particular equipment and usage patterns, as well as which carbon calculator is used.

Your current estimated carbon footprint (lbs):	54000	Your total annual CO2 emissions (lbs):		% Reduction you have achieved:	
Current Carbon Footprint (lbs):	54000	Current CO2 Savings (lbs):	% Reduction you have achieved:		

Congratulations!

You have completed the Needham 10% Energy Challenge! Please fill out the following information and submit the form.

First Name*

Last Name*

Email Address*

Zip Code*

If you are entering as part of a group,
please enter your group name:

Other Comments

(* = required)

To keep a copy of this energy plan, please print this page. We recommend that you use Print Preview to make sure it will print correctly. A few computers may need to change the page orientation in the printer settings to "landscape."

Thank you for taking part in the Needham 10% Energy Challenge!

Print MyPlan

Submit MyPlan

Application designed by Oliver Haas | oliverckhaas@gmail.com | www.oliverckhaas.com

Current Carbon Footprint (lbs):

54000

Current CO2 Savings (lbs):

% Reduction you have achieved: