

Memorandum

To: Mayor Kevin Foy
From: Senior Capstone Team (UNC-CH Carolina Environmental Program)
RE: What it means to become a CRed Site
Date: November 14, 2004

This memorandum contains a brief description of the Carbon Reduction Project (CRed) and what actions the Town of Chapel Hill might undertake to become an official CRed demonstration site. It is the hope of the UNC Senior Capstone Team that the town will become the first U.S. CRed site, modeled after the plan in England. The students and faculty of the Carolina Environmental Program stand ready to work with the town in whatever way is needed to support the decisions of the Town Council, including providing research required to analyze potential paths to carbon dioxide reduction (through the CEP's Public Outreach program), and providing an additional voice for such issues in the planning for Carolina North.

What is CRed?

The Carbon Reduction Project, known as CRed, was founded by the School of Environmental Sciences at the University of East Anglia located in the town of Norwich, England. Funded by the East of England Development Agency, the project was started as a way to encourage communities to view carbon reduction as a top priority in continued growth and development. It does this by working with individuals, institutions, businesses and entire communities to identify practices and technologies that will lead eventually to a 60% reduction in the emissions of carbon dioxide.

Scientists on the Intergovernmental Panel on Climate Change have estimated that the planet can sustain a 4 to 5°F increase in global average temperature before experiencing significant consequences. Beyond this increase, the adverse effects on health, crops, etc, may well be unacceptable. According to the IPCC, this goal can be met only by preventing a doubling of the pre-industrial revolution concentration of atmospheric carbon dioxide by the year 2100.

Members of the British government working with the University of East Anglia have determined that this would require a 60% reduction of CO₂ emissions in the developed world. By becoming an official CRed site, communities, businesses, and individuals promise to cut CO₂ emissions by 60% from their current levels by the year 2025 (a slightly relaxed version of CRed sets the target year at 2050). So far hundreds of individuals, dozens of companies, and two communities have signed the CRed pledge in England and have vowed to meet its carbon reduction goals through the use of alternative energy sources, such as solar and wind energy, and the reduction of energy use, ultimately resulting in reduced production of CO₂.

How does one become a CRed member?

To become an official partner in CRed, the Town of Chapel Hill would have to develop a plan outlining the actions it intends to pursue. We are asking that the town pledge to become a CRed demonstration site by identifying measures for carbon dioxide reduction by the town and participating organizations. Ideally, these actions would be categorized into specific sectors of transportation, residential, commercial, and industrial/institutional. After the town does this, the proposals would be sent to CRed headquarters at the University of East Anglia. They would in turn send a pledge to be signed by the town. The pledge carries with it no punitive consequences if the goals are not met; it is instead a declaration to the CRed network, the local community, and the state of North Carolina that carbon reduction is a serious goal and that major steps will be taken to meet this goal.

CEP's Role

Through the Senior Capstone Project taken by all Environmental Science and Studies majors at UNC, the Carolina Environmental Program will partner with the town to outline goals, identify specific measures that might be taken in existing or planned developments, and provide technical expertise to meet these goals. The CRed Capstone course has begun this semester by examining possible carbon reduction strategies for the future Carolina North development. In semesters to come, the Capstone course will address other issues related to university and town development and will serve as a think-tank and a resource for the Town of Chapel Hill to receive information. We stand ready to assist the town in whatever way is needed to establish Chapel Hill at the forefront of carbon dioxide reduction in a way that balances environmental quality, social justice and economic development. And we will work to ensure that our own campus meets the challenge by also becoming a CRed participant.

Materials

We attach two documents that describe the CRed program pledge. More information may be seen at the UEA CRed web site (www.cred-uk.org). The examples shown in this material are rather modest as they refer primarily to pledges in individual homes. We envision a much more far-reaching program for Chapel Hill. Our project team will be happy to meet with the Town Council, the Mayor and/or others to understand these documents and develop the plan needed for creating the pledge. We would particularly enjoy attending a Town Council meeting and describing both CRed and our own project. You may contact us through the CRed project web site at UNC (www.cep.unc.edu/cred), by calling Douglas Crawford-Brown at 966-6026, by e-mail at douglas_crawford-brown@unc.edu, or by contacting the student team members through the course web site at www.unc.edu/~dcrawfor/envr95.htm.

Carbon Saving Hints and Tips

No cost – just savings!!

1. Many appliances continue to use electricity even when you are not using them. A staggering £230 million pounds of the nation's electricity bills is spent on stand by and appliances left plugged in when not used. A TV if left on at the socket will be responsible for 30 kg CO₂ over the year. A mobile phone charger if left plugged in when not charging will be responsible for 21.5 kg CO₂ over the year.
Get the message: just unplugging things when you are not using them can help us reach the CRed 60% challenge.
2. On those cold winters evenings always reach for a cardi first before going for the thermostat. Every degree over 18°C will increase your heating bills by 8%. For a gas fired system that's between 220 to 250kg CO₂ a year and a cost of around £30.
3. **Cover your pans when you cook.** This can reduce the energy needed by up to 90%!
4. **Boil only the amount of water you need.** Every cup you boil represents 25 cups of CO₂ released.
5. Every time you use you a dishwasher you use enough electricity to release nearly 1kg of CO₂. If you use it just once less a week that's a saving of about 67kg CO₂ and a saving on your electricity bill of £7 over the year.
6. On a nice day **hang your washing outside** instead of using a tumble dryer. Every time you use a tumble dryer you use enough electricity to emit over 1.5kg CO₂. A tumble dryer if used for every wash will be responsible for emitting about 140kg CO₂ and costs you £16 on your electricity bill.
7. Help your appliances work efficiently. **Keep your fridges and freezers in a cool place** and clean the dust of the condensing coils on the back and regularly defrost them.
8. **Use the lowest temperature setting** appropriate on your washing machine and always wash a full load. Wasted space = wasted energy and pointless CO₂ emissions.
9. When you are using your car drive with style, keep your distance and minimise the amount of breaking and accelerating you have to do. **This is a much more efficient way of making your car do more miles to ever litre you pay for.** Infact it can save you about 13% of your fuel costs.
10. Every journey under 3 miles that you decide not to use the car for will save about 2 kgCO₂. **Walk or cycle instead and it will improve your health and your waistline.**

Measures that will cost you to do but will save you money in the long run

11. When your appliances (such as washing machines or fridge freezers) need replacing purchase an 'A', rated energy efficient one. This can save you up to 150kg of CO₂ a year compared to a 'D', rated one. It will only cost you a few pounds more in most cases but **you will recoup those costs through reduced electricity bills (up to £18 a year!!)**
12. **Fit low energy light bulbs where you can.** For an initial outlay of just £7 for each bulb you will save about 80kg CO₂ and £10 on your electricity bills each year.
13. **Make your home as cosy as you can by:**
 - a. **draughtproofing windows, doors and your loft hatch** (if you have one). For a £40 outlay you will **save about 107 kgCO₂ and £12.50 a year**
 - b. **Fit cavity wall insulation if you can.** Its not as flash as double glazing but its cheaper and much more effective. This will cost you about £300 and **will save you up to 860kg CO₂ and £100 a year.** There are grants available to help you with the costs of doing this.
 - c. Make sure your loft insulation is at least 200mm thick, if you do this yourself it will cost you less than £100. A poorly insulated loft could be loosing you up to 25% of your heating.

There are loads of other ways of making your life more CO₂ efficient – please let us know if you have any other hints and tips (email: cred@uea.ac.uk). For more energy efficiency advice and grant information contact your local Energy Efficiency Advice Centre on telephone: 0800 512 012.

Remember if it reduces the energy you need it will reduce the CO₂ that you are responsible for and it will also make you richer. Just imagine what you could treat yourself to with all that money you won't be spending on your energy!



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