



Suggestions for CO2 Reductions *Vintage Single Family Home: 1900- 1920*

1. Typical Home Features*

- a. Homes built in Evanston from 1900 to 1920 typically are load bearing masonry homes that are two or three stories plus a basement. The roofs are a mix of either flat or pitched.
- b. The original insulation levels in these homes were quite low as the insulation, if any, was set in a narrow wall cavity between the masonry and the furred out plaster.
- c. The mechanical systems typically are radiant heaters, both steam and water types. The original boilers, while durable, were not efficient.
- d. The original windows are single glazed units, sometimes with wood storm windows.

**Each home is unique. This gives an overview of typical conditions found in homes of this time period.*

2. Where to Start

- a. To calculate your current CO2 emissions, use the Zerofootprint One Minute Calculator (http://www.zerofootprint.net/one_minute/evanston) to determine your individual and/or family levels.
- b. The goal of the ECAP is to reduce Evanston's CO2 levels by 13% by 2012. Therefore, the goal is to reduce your individual emissions by this amount.
- c. The goal is to find ways to reduce your CO2 levels that make sense for your individual circumstances. Everyone is unique in this respect.
- d. Reductions can come from 'Travel', 'Flights', 'Diet' and 'Home'. After reducing the items in the 'Travel', 'Flights' and 'Diet' areas, look for ways to reduce your household CO2 emissions.
- e. It is therefore recommended that the first step is to have a home energy auditor do an analysis of your existing home to determine where energy use can be reduced. Energy usage is directly related to CO2 emissions.

3. Possible CO2 Home Renovation Strategies

- a. The Evanston Climate Action Plan has over 200 recommendations for reducing CO2.
- b. Specific items related to home renovation work that may be appropriate for this type of building include;
 - i. Installation of CFL porch lights. Each 75W porch light replaced with a 13W CFL bulb will yield 140 lbs. of reduced CO2 emissions. Switching interior lights yields similar savings.
 - ii. See if it is possible to plant shade trees or vegetative cover (on the walls and roof) as an energy conservation technique. This will help reduce the cooling load on a building in the summer.



- iii. When replacing appliances, select Energy Star appliances. Each appliance is different, but replacing the same sized (18 cf) pre 2001 model refrigerator with an Energy Star refrigerator will use 40% less energy which translate into 112 lbs of CO₂. Remember to recycle the old refrigerator by visiting www.recyclemymoldfridge.com.
 - iv. When replacing a roof, consider a lighter colored roof. This can help lower your cooling load in the summer as well as reduce the effects of the 'urban heat island', which is a way of helping reduce your neighborhood's summertime temperature.
 - v. Consider installing solar thermal panels which provide domestic hot water and can also assist with your space heating system (refer to ECAP handout '*Residential Solar Thermal Panels*'). A three panel system (sized for domestic hot water) can abate 2 **tons** of CO₂ per year.
 - vi. Upgrade the existing perimeter insulation. Given the narrow depth of the cavity available to put insulation in, one possibility is to fill the cavity with an open cell expanding foam insulation. This needs to be reviewed with the home energy auditor.
 - vii. The windows may be able to be restored. If the existing windows will be replaced with new, vinyl windows are to be avoided as vinyl is a petroleum product. Aluminum or fiberglass clad wood windows provide the best of both in terms of durable materials and a proper aesthetic match. The glazing should be a double glazed thermal pane unit with a low 'E' coating, and the space between the glazing filled with an inert gas such as argon.
4. **Contact Bidders** – Be sure to get bids from at least three qualified contractors for any work being done.
5. **Required Permits** –
- a. Some renovation items will require a building permit and may require zoning permits.
 - b. If your home is located in a historic district or is a listed historic structure, the work may have to be reviewed by the City of Evanston's Preservation Committee. They can be reached at 847 866-2928 ext. 2265.
6. **Spread the Word**
- a. After your work is done, recalculate your CO₂ emissions. You can post them on the ZFP's Personal Carbon Manager. This will allow you to form groups (if you wish), set goals and track your progress.
 - b. Tell your neighbors about your success story and encourage them to reduce their CO₂ emissions!