

## **Goal: To reduce YCCoB CO2 emissions by 80% by 2050**

### **Preliminary Estimate of Current (2007) CO2 emissions:**

#### Heating:

Average 22 therms/day (1996) x 365 days = 8000 therms x 100,000 Btu/therm  
= 800 million Btu/yr x 117 lb CO2/million Btu  
= 95,000 lb CO2/yr

#### Electrical:

37,500 kwhr/yr (1996) x 1.3 lb CO2/kwhr (based on national average)  
= 49,000 lb CO2/yr

#### Driving:

Sundays: 50 cars x 10 miles/car = 500 miles/wk = 25,000 miles/yr  
Monthly meetings: 6 meetings x 5 persons x 10 miles = 300 miles/mo = 3600 miles/yr  
Pastor: 1000 miles/month = 12,000 miles /yr  
Total: 40,600 miles/yr x 1.0 lb CO2/mi (2002 ave., Ford @ ~20 mi/gal)  
= 40,600 lb CO2/ yr

#### Total:

95,000 + 49,000 + 40,600  
= 185,000 lb CO2/yr

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### **Reduction Strategy**

#### Heating:

Double furnace efficiency (10 years)  
Major renovation, incl. solar hot water heating, reduces gas requirement by 60% (20 yr)  
CO2 = (95,000/2) x .4 = 95,000 x .2  
= 19,000 (80% reduction)

#### Electrical:

Reduce consumption by 40% (20 yr)  
Wind mill and/or solar panels generates 30% of remaining electrical needs (15 years)  
Power company installs renewables or nuclear to decrease CO2 emission by 25% (40 yr)  
CO2 = 49,000 x .6 x .7 x .75  
= 15,400 (69% reduction)

#### Driving:

Within 30 years, all our cars average 80 miles per gallon (plug-in hybrids)  
Car pools, walking, fewer face-to-face meetings reduces transportation to 20,000 mi/year  
CO2 = 20,000 x 1/4  
= 5000 lb (87% reduction)

#### Trees:

Plant 30 trees x 50 lb of CO2 per year, removed by each (3 years)  
= 1500 lb CO2 removed per year

#### Total:

19,000 + 15,400 + 5000 - 1500  
= 38,000 lb CO2/yr (80% reduction)