

Justification of \$10 per Month Household Savings

Clean Energy Progress

819 S. Williams St.

Denver, CO 80209

www.CleanEnergyProgress.org

Objective: Quantitatively justify the CEP assertion that we can save households at least \$10/month. The calculations below assume Xcel's current residential delivered price of \$0.09/kWh. Clearly as the cost of electricity goes up the savings become even greater. Note that the items below are not always additive.

1. California example.

California has made a concerted effort since 1972 at energy efficiency. Relative to the national average (which is very close to Colorado), each Californian uses 5,300 kWh/yr less electricity or about **\$40/month** less at Colorado electricity rates.¹

2. Refrigerator replacement

The EIA reports that the average household refrigerator uses 1239 kWh/yr². Replacing this with an efficient EnergyStar refrigerator could cut this figure about in half³, saving **\$5/month**.

3. Lighting

The same EIA report shows that an average household use 940 kWh/yr on lighting. By installing CFLs, we could save 750 kWh/yr (assuming CFLs use 20% of the power of an incandescent) saving over **\$5/month**.

4. Parasitic power.

Many appliances have large parasitic energy consumption. It is reported to be about 100 W per household, but much of this will be difficult to capture because of consumer resistance to unplugging so many appliances. However, the average TV/VCR/DVD or a computer/printer setup has about 15 W of parasitic power. Assuming that an average home has two places that this parasitic power can be stopped with by installing a power strip will save about **\$2/month**. Mandated appliance standards on cable TV boxes, TiVo's, etc. would save much more.

¹ <http://www.energy.ca.gov/2007publications/CEC-999-2007-031/CEC-999-2007-031.PDF>, slide 3.

² www.eia.doe.gov/emeu/rep/er01_us_tab1.html.

³ Personal experience. One of our members has a large Energy Star refrigerator that consumes 580 kWh/yr by direct measurement.

5. Clothes dryer.

The average clothes drier uses 1080 kWh/yr. If a household cut its drying use in half by hang drying when able, they can save **\$4/month** (and their clothes will last longer with probably greater savings!).

6. Boulder case study⁴.

The Climate Smart program in Boulder ran a case study on a home daycare center. The actual energy reductions were over 400 therm/yr in natural gas and 300 kWh/yr in electricity for a savings of **\$38/month**.

7. Home energy audits.

Louisville Gas and Electric estimate that a home energy audit saves an average household **\$8/month**.⁵

Comment [JTM1]: This sounds VERY low to me but I can't find another reference on it right now. We need to check with CRC.

Summary

Method	Savings (\$/month)
California electricity	\$40
Refrigerator replacement	\$5
CFL lighting	\$5
Parasitic power	\$2
Reduce clothes drying 50%	\$4
Boulder case study	\$38
Energy audits, LG&E	\$8

⁴ www.beclimatesmart.org/whatCanIDo/home.php

⁵ www.eon-us.com/rsc/lge/dsm_home_audit.asp