

## Rogue Energy Consciousness

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The Intergovernmental Panel on Climate Change, The Oregon Climate Research Institute, and the US Climate Change Program have all released reports recently underlining the reality that climate change is happening here and now, we are responsible, and it is destined to compromise the livability of our planet for future generation unless we address it promptly. Collectively they provide sufficient evidence that the conclusions could only be disputed by someone ignorant of science or exhibiting malicious intent. On this issue, it is impossible to be too alarmist.

Rogue Valley residents should understand what we are doing to cause climate change, and how we might address it.

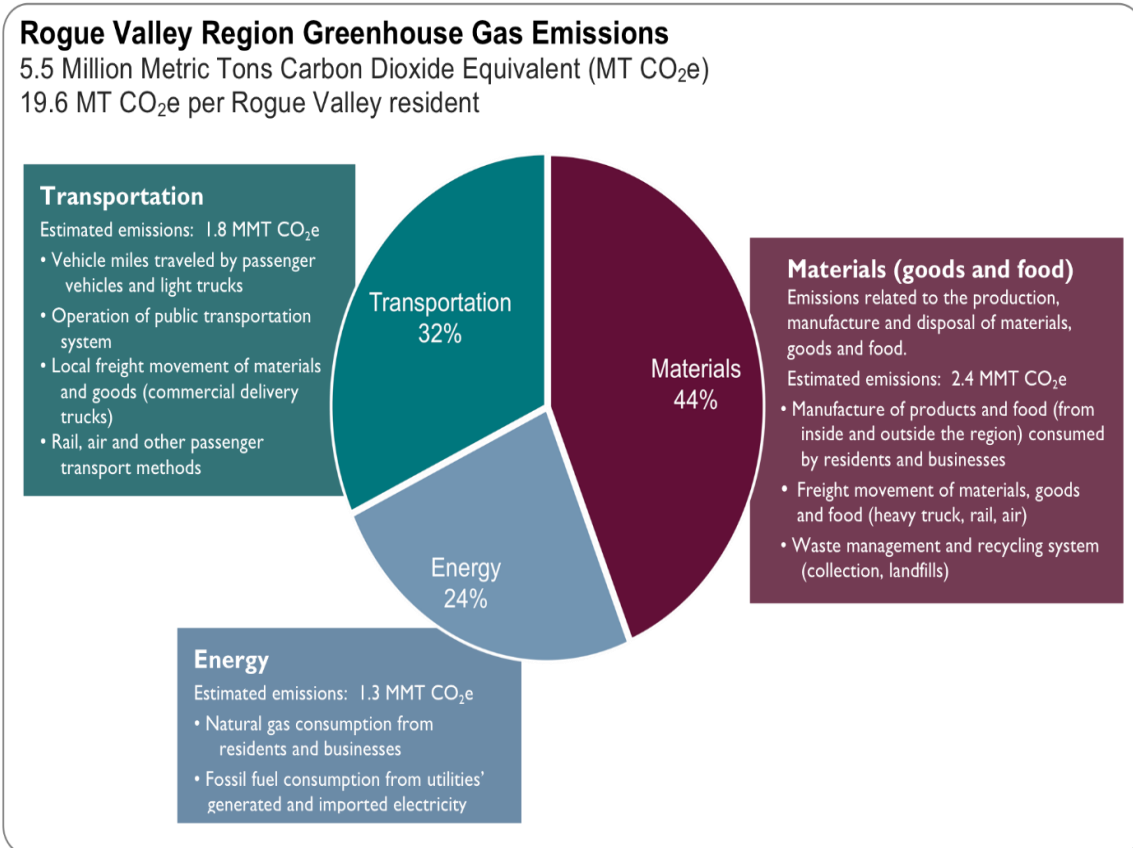


Figure 1. Rogue Valley Greenhouse Gas Emission sources (Good Co 2011a).

A March 2012 Rogue Valley analysis identified that our carbon (and equivalent gas) emissions originate from three general activities (Figure 1)

- Fully 44% result from materials (clothes, shoes, food, appliances, cars, etc.) we buy that are produced elsewhere and shipped here, the energy cost of making them and shipping them to us being assigned to us. The famous Earth Day motto 'Reduce, Reuse Recycle' is germane here. The less we buy, and the more locally made materials we buy, the less emissions we cause.
- Our Transportation in private or commercial vehicles and public transit along with the transport of locally made materials results in 32% of our emissions. Reducing our fossil-fuel based travel, and doing it more energy efficiently, will reduce this component.
- Finally, Energy production results in 24% of our emissions. About three quarters (=18% of total emissions) of this is public utility or industrial power plant production of energy, largely electricity, consumed in our residences and businesses. It also includes natural gas we use for heating. Any reduction in our use of utility-generated electricity will likely reduce our carbon emissions.

A December 2011 report (Figure 2) evaluated how the region might increase its reliance on clean energy while reducing its reliance on electricity generated from fossil fuel sources. This report, focusing on Jackson and Josephine Counties, indicated that we used about 3 million megawatt hours of electricity in 2005, of which 900,000 (less than a third) was derived from renewable sources (largely hydro-power), leaving 2.1 million mwh hours derived from carbon polluting fossil fuels. The study also concluded that the combination of increased Anaerobic Digestion (4,000mwh), increased hydro power (17,000 mwh), Solar (58,000 mwh), Wind (69,000 mwh), and Biomass burning (81,000 mwh) could reduce our fossil fuel needs substantially.

The report also concluded that increasing our energy use efficiency could have a far greater impact than all these techniques combined, reducing our electrical energy needs by 718,000 mwh annually.

While increasing energy use efficiency does not generate energy, this analysis suggested that increasing efficiency could reduce our fossil fuel consumption (currently 2.1 million mwh) for electricity by (718,000mwh) or little over a third. Meanwhile, if we added the renewable energy generation potential suggested here, we could reduce the fossil fuel electricity need by about 900,000mwh down to about 1.2 million mwh annually. This represents a reduction in our electricity fossil fuel need of about 43%.

Since energy generation (Figure 1) accounts for 18% of our greenhouse gas emission regionally, undertaking these steps could reduce our emissions 43% of that 18%: nearly 8%.

While we cannot all install solar or wind generation to substitute for fossil fuel generated electricity, we should do it if we can. However, we can all address what is called 'the low hanging fruit' in the energy arena: increasing our energy use efficiency. The most effective

ways to enhance our individual residential energy use efficiency are (in rank order): improvements in space conditioning (HVAC = heating, ventilation and air conditioning), water heating, and consumer electronics. These are followed by enhancing home office equipment and home lighting efficiency and then improving refrigeration.

Figure ES-1: Summary of renewable energy technologies, by feasibility criteria.

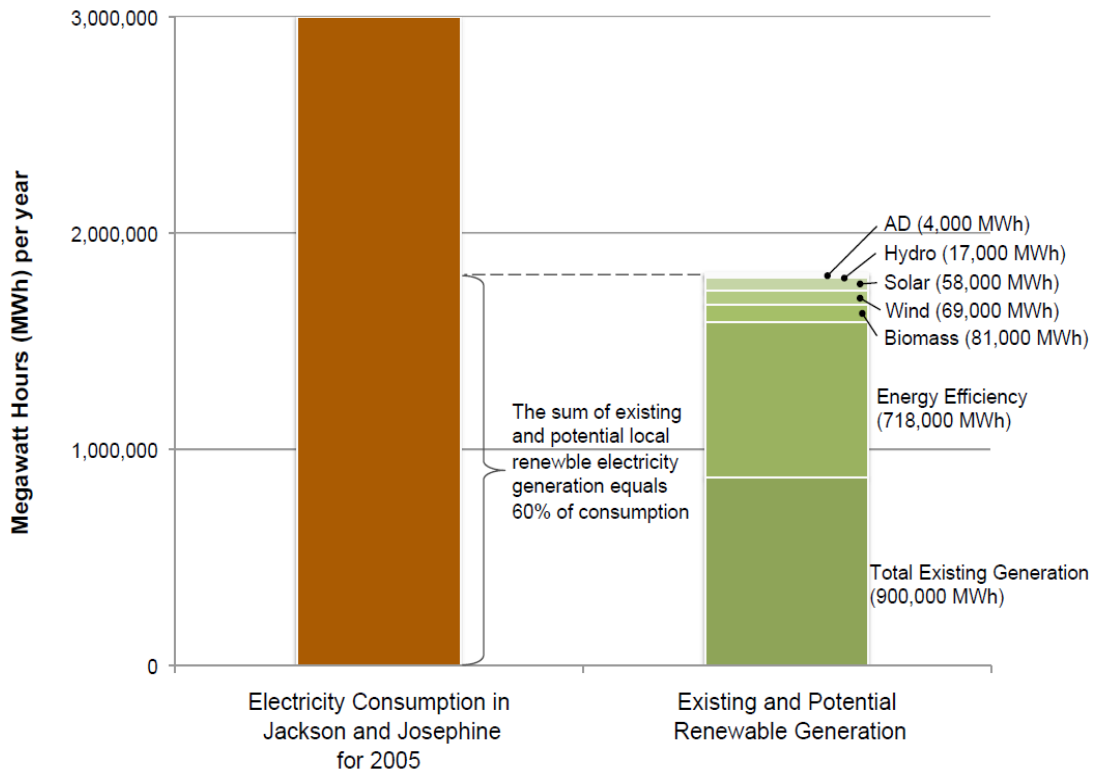


Figure 2 Potential strategies for reducing electrical energy usage in Jackson and Josephine Counties. (Good Co. 2011b).

Meanwhile, in the industrial / commercial arena, the most effective targets are lighting and HVAC again, followed by office equipment, food processing, external lighting, refrigeration, and fans.

It is noteworthy that while these efforts may require investment, ultimately they all save money.

What each of us individually does will not make a colossal dent in saving the planet for future generations. Even if regionally we all do the maximum we can do, the impact will not be sufficient. But, we are all, individually and collectively, confronted with a serious moral and ethical challenge. Should each of us do the maximum we can do to protect this planet for future generations, or should we do nothing and just contribute further to the problem?

Good Co. 2011a [Southern Oregon Regional Greenhouse Gas Inventory](#)

Good Co. 2011b [Renewable Energy Assessment for Jackson and Josephine Counties](#)

Links to both articles can be found in the SOCAN Resources pages @ <http://socan.info/climate-science/>