

## Rethinking – Cheap

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Hidden costs or extraneous costs – not true costs: like the tailings or waste from mining operations, that with acid rain pollute the ground water with heavy metals, but the cost of a ton of ore never includes the cost of cleanup.

Life Cycle Assessment, a recently evolved science, is beginning to bring understanding to the use of building materials, infrastructure, city planning and waste management. The true cost of living in our societies can't be based on the initial capital cost or 1st costs; the equation requires a 7th Generation view. Cost currently is held up as the No. 1 barrier to greater implementation of just about everything; you've probably been subjected to "Value engineering" But has this become a self-fulfilling prophecy?

Because of cheap Chinese made solar products, the entire solar industry thinks of the price of a watt of Pv before considering the cost to society. The glut of excess product hasn't helped either. But has the energy community accustomed customers to look at energy generation as only initial capital costs?

The question of initial cost comes up so frequently, one would think saving money was the primary motivation for all decision making. Yet hundreds of items that have added to our cost of living surround us and consume our money with no rationalization. Cable TV, cell phones, options added to our cars, extra floor space in homes and offices, living rooms never used, big useless yards, and cars with power we never tap, are just a sampling of the costs we incur without discussing payback. We absorb these expenses to make an impression, to realize an emotional high, or to be part of having the latest and greatest cool gadget in our hands/home/car/life. We waste money on subjective things every day, in life, in design and in constructing our environments.

However, when it comes to applying a new technology, we are dragged through total cost of ownership analysis and rationalization of paybacks within some arbitrary time frame. Companies rush into full conversion from Blackberry phones, with early cancellation penalties paid, in order to own the newest phones. There was not one question of the financial return.

There is seldom any discussion of life-cycle cost analysis, return on investment or net present value. Now we are presented with this issue of CO2 regulations and how it is going to add to the cost of energy. The U.S. EPA has deemed it necessary for public health to regulate emissions from CO2 generators.

Cutting global warming pollution would not only make the planet healthier, it would make people healthier too, new research suggests. Slashing carbon dioxide emissions could save millions of lives, mostly by reducing preventable deaths from heart and lung

diseases, according to studies released in December 2009 and published in a special issue of The Lancet British medical journal.

So who and what generates CO<sub>2</sub>? Well - cows, rotting vegetation, natural gas vehicles like those "clean burning" city busses, whole fleets of "environmentally friendly" methane (natural gas) powered city cars, delivery vans, petro-chemical (fossil fuel) powered cars and oh yeah – coal (just to name a few)! The problem is, most of U.S. energy comes from coal. It is their costs that are going up.

"Relying on fossil fuels leads to unhealthy lifestyles, increasing our chances for getting sick and in some cases takes years from our lives," U.S. Health and Human Services Secretary Kathleen Sebelius said in a telecast briefing from her home state of Kansas. "As greenhouse gas emissions go down, so do deaths from cardiovascular and respiratory diseases. This is not a small effect."

CO<sub>2</sub> regulations are a way of attacking major health problems at the same time as dealing with climate change.

It is the cost of coal emission scrubbing that is going to go up. So why don't we start implementing alternative micro-grids of distributed energy? Why don't the utilities stop transmitting electricity from polluting coal-fired plants? Why doesn't the coal industry create new profit centers selling scrubbing equipment to themselves?...because state regulators don't see the future and what an extraneous cost bad air is on society.