

Cost of Doing Nothing Seminar: How to Keep Energy Costs From Draining Your Business

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Website Resources: www.EnergyEconomyOnline.com

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Grand Junction Chamber of Commerce/Xcel Energy Seminar

"The Cost of Doing Nothing"

Two Rivers Convention Center

Grand Junction, CO

Major Energy Costs for Most Businesses



- Transportation



- Heating Your Building



- Cooling Your Building



- Lighting and Other Electric Uses

(photo: My Chemical Romance, [Wikimedia Commons](#))

The Cost to Your Business of Doing Nothing About Energy Costs

- No Control over Major Cost
- Rising Costs – Like Signing Blank Checks
- Today's Market May Not Let You Pass Higher Costs to Customers
- Your Profits Cut or Eliminated
- Jobs Impact - Pay Staff or Pay Gas Pump?
- Money leaves local economy
- Doing Nothing Now Means Passing Up Tax Breaks & Utility Rebates that Are Expiring

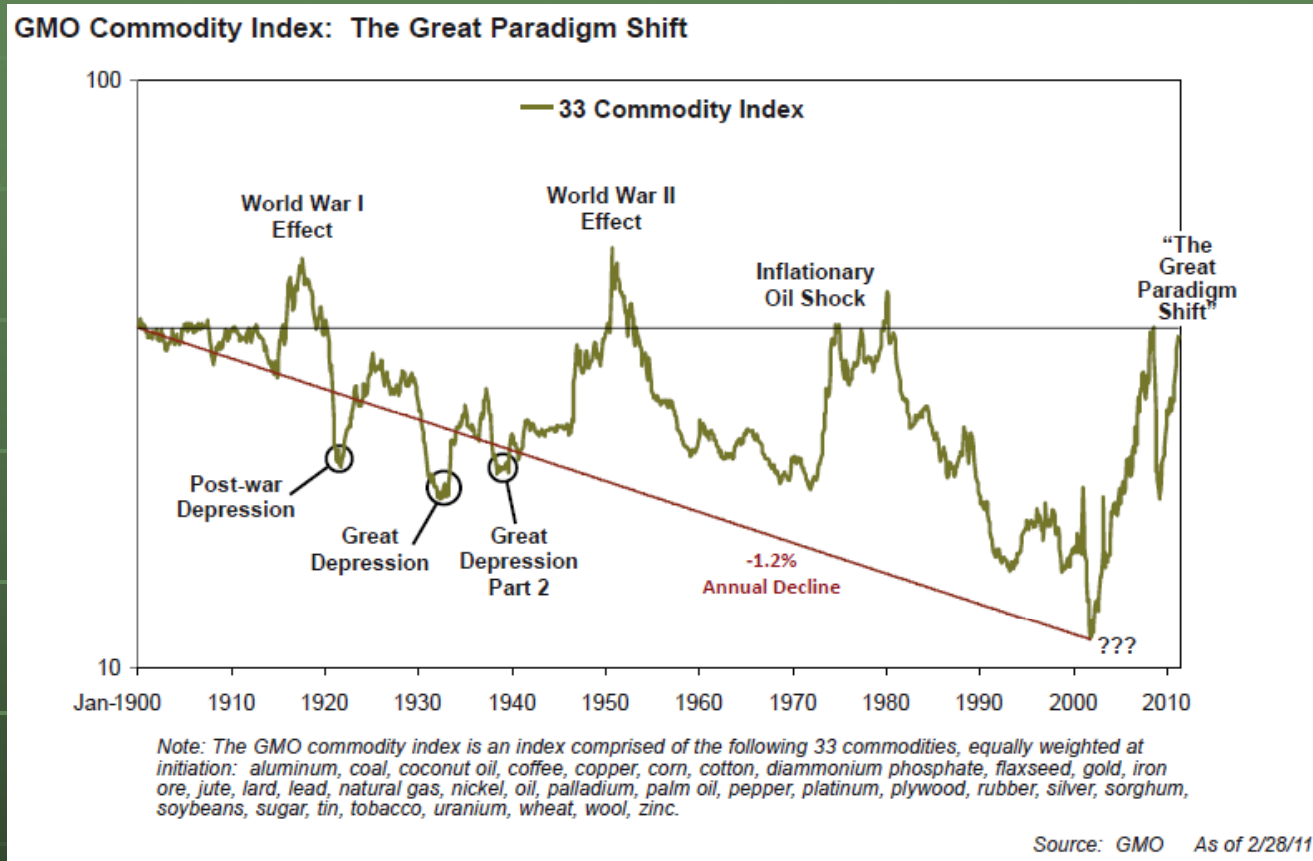
World IS Changing – Will Your Business?

Value of Mental Models...



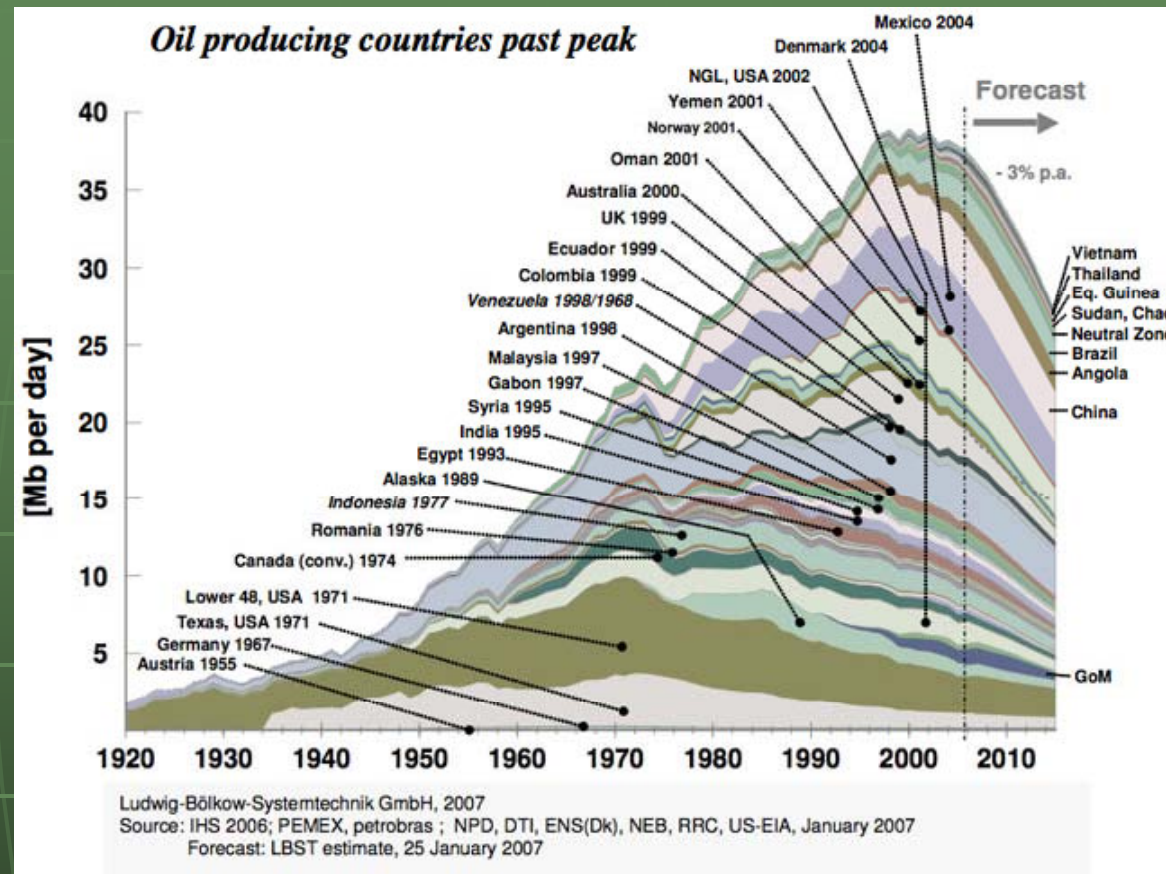
“Say... What’s a mountain goat doing way up here in a cloud bank?”

Irresistible Force (Population & Demand Growth) + Immovable Object (Finite Resources) = Higher Prices



“Accelerated demand from developing countries, especially China, has caused an unprecedented shift in the price structure of resources: after 100 hundred years or more of price declines, they are now rising, and in the last 8 years have undone, remarkably, the effects of the last 100-year decline!” -- from “Time to Wake Up: Days of Abundant Resources and Falling Prices are Over Forever”, Jeremy Grantham, GMO

Finite Resource: Oil



T. Boone Pickens ("Legendary Oil Man") at National Press Club, April 19, 2011:

"Oil's a finite resource, and it's running out. When we look at the 4th QTR of this year, demand is projected for 90 million barrels per day, and **I don't think that the world can produce 90 million. If it can't, then the only way we can kill demand is with price – so price is going to go up.**"

"If we go forward 10 years like we have operated for the last 40 years, **in 10 years you'll be paying \$300-\$400 for the oil** and we'll be importing 75% of our oil at that point".

Electric & Natural Gas Prices

Electricity

- 29% avg. national rate increases 2004-2009 (EIA)
- Aging old power plants & grid – avg. age of coal plants 38 years (EIA)
- Cost to build an average new power plant more than doubled (215%) from yr 2000 to 2010 (CERA)
- Lesson: Electric rates are going up – will skyrocket if we must build a lot of new power plants

Natural Gas

- Great abundance of U.S. resources
- Caveat: prices now far too low to develop substantial new supplies
- Generally agreed new rigs need at least \$5.50 - \$6.00 per million Btu
- Natural gas price now only about \$4.35
- Lesson: We have natural gas but prices will go up

Doing Something About: Transportation

Your Next Business Vehicle?

- Big Tax Write Off
- Can Haul a Lot
- Great for Construction
- Goes Just About Anywhere
- Great Traction on Ice & Snow



What Works Best to Get *Yourself* Around?



High Cost Dinosaur

- High Fuel Costs
- High Purchase Cost
- You Can Write off what actually spend
- Best to treat as special-purpose vehicle -- you do want to make a *profit*, right?
- Get *yourself* around with low-cost sport



Low Cost Sport

- Negligible Fuel Costs
- Moderate to Similar Purchase Cost
- If Business Owns – Tax Code Won't let you write off full cost
- If You Own Personally – Turn in 51 cents a mile (2011) *even if that's more than spent*
- Use for light-load trips

Get Your Own “Oil Depletion” Tax Breaks for Efficient Vehicles

- Standard Mileage Rate (2011 is 51 cents/mile) even for a low-fuel-cost vehicle – for business auto expense of non-fleet vehicles
- Up to \$7,500 Federal Tax Credit on Purchase of New Electric or Plug-In Hybrid Vehicles
- State of Colorado 2011 Tax Credit for Wide Range of Alternative Fuel Vehicles (usually thousands of \$)



Nissan Leaf All-Electric Car



Chevy Volt

Doing Something About: Your Commercial Building

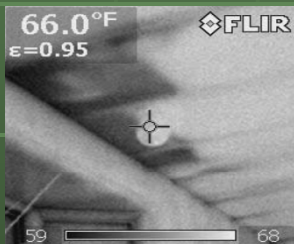
Overall Rebates & Tax Incentives for Commercial Buildings

- Up to \$1.80/sq ft. Immediate Depreciation for Costs to Reduce Overall Building Energy Use at Least 50%
- Utility Rebates on Specific Items; + customer can propose custom items for rebates
- Utility subsidies for audits/energy plan development
- 30% Federal Business Credit for Solar Hot Water, Process Heat, Solar Space Heat, or Solar Electric, or Small Wind
- 10% Federal Business Credit for Geothermal, Cogeneration
- For 2011 - GRANT ok in lieu of Federal Business Credit
- Five Year Depreciation on alternative energy equipment
- If placed in service 2011 - 100% immediate Bonus Depreciation available; 2012 50%. Includes leasehold impr.
- CO Property Tax Exemption (Local Option thru 2017) for Renewable Energy Systems

Major Strategies for Cutting Heating Costs



Vestibule at RMHMO



- Control Air Leaks & Use Heat Exchanged Fresh Air if flow needed
- Seal & Insulate Air Ducts or Radiator Pipes & Balance Flows
- Beef Up Insulation – especially Cure Gaps & Airwashing (photo: infrared image of attic insulation gaps & airwashing, dark=colder)
- Programmable Thermostats; Replace Inefficient Furnace or Boiler
- Insulate +/- or Replace Windows (photo: double cell insulated window blinds)

Simple Example of Passive Solar Heating



Agape Family Practice



- Business Condo Unit about 1450 sq. feet – heated by only about 100 sq. ft. of South facing windows & glass door
- Waiting Room showing inside view of South windows; tile floor absorbs heat
- Intake duct in ceiling of South waiting room – in-duct fan pulls air from South ceiling & pushes thru insulated ducting above false ceiling; warm air then exits at floor level on North side of unit to distribute heat evenly; almost 100% solar heated (40 therms/year nat. gas)
- Roof overhang over windows prevents unwanted Summer sun from entering

Major Add'l Strategies (on top of Heating Strategies) to Cut Cooling Costs



- Shade South Windows to Keep Summer Sun from Entering



View out of windows with 70% sunscreens

- Minimize N, E, & especially W windows; use reflective coating or reflective screens on these in the Summer

- Trees to shade building



- White Roofing or Roof Coating (Photo: Solar Reflective Coatings Council)



- In low-humidity climates replace refrigerant a/c with indirect (no humidity enters building) evaporative cooler for 80 - 90% a/c saving (Image: Coolerado)



Major Strategies to Cut Lighting & Other Electricity Costs



- Replace old lights w/new efficient flourescents (~ 50% lighting savings compared to old flourescents)

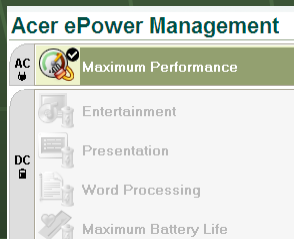


- Room occupancy switches (about another 10% lighting savings)



Tubular Skylight

- Skylights or other “daylighting”, + light sensor switches to shut off ½ of tubes in each ceiling light panel in daylight



- Turn things off! – e.g. computer hibernation, shut off “phantom” loads



- More efficient refrigeration, other special needs to your business *(Image: Sunfrost)*

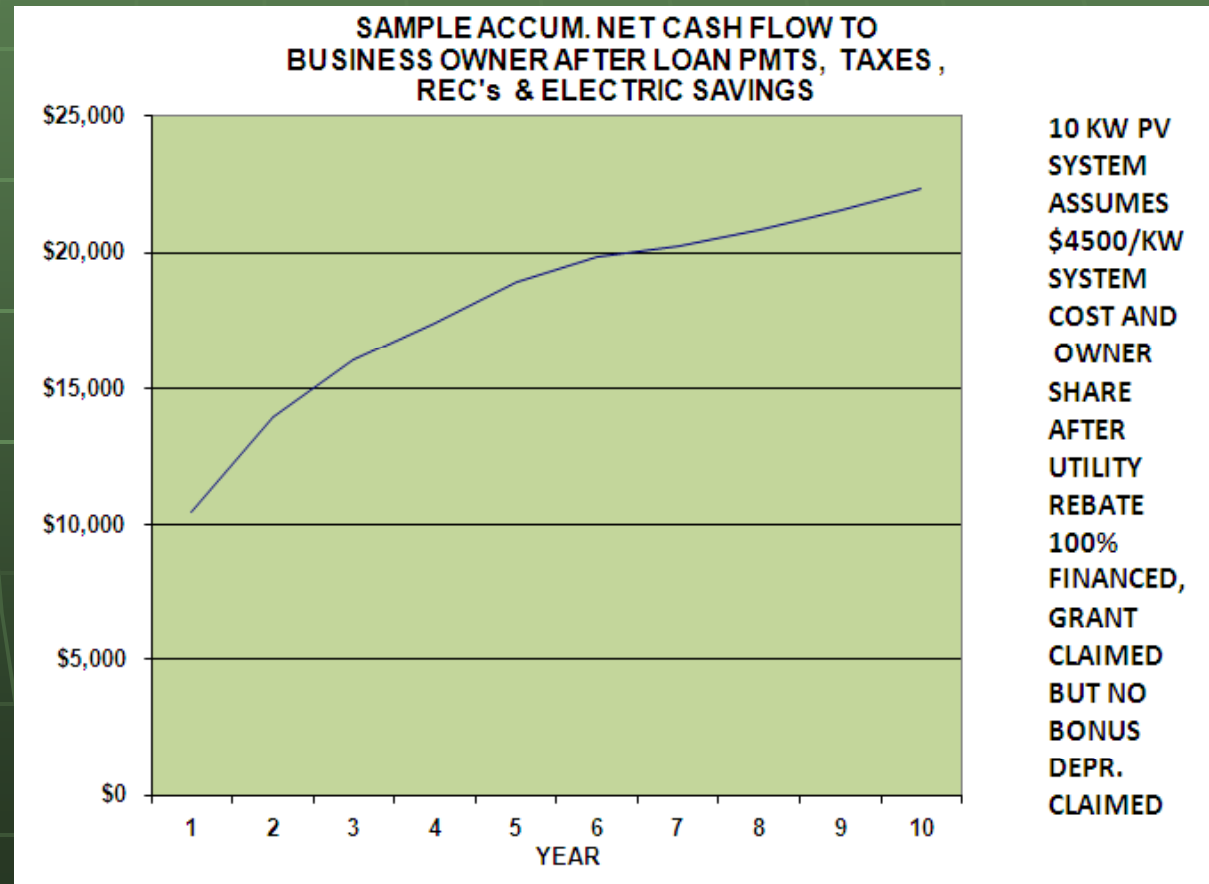
Generate Your Own Solar Power



Conclusion: Solar PV System Can More Than Make Loan Payments and Generate Positive Cash Flow to Business Owner

(We Bought our Prius with Our Savings)

- 30% Federal Tax Credit – or 2011 Grant
- \$1,750/kW Xcel rebate for up to 10 kW system
- Net Metering – Run meter backward
- \$.04/kWh REC paid to your business



Suggested Resources

- www.EnergyEconomyOnline.com –my energy issues website, also has links to several other key energy sites
- <http://www.dsireusa.org/> - website with Federal, State, & Utility incentives
- Your local utility - for energy audit and rebate help
- Please patronize local firms to do the work
- Grand Jct Chamber GreenBacks Program
- A good financial advisor or CPA to look at your own business & tax situation