



ENERGY CENTER OF WISCONSIN

# Investing Versus Expensing

*How Sustainability Can Provide Immediate Positive Cash Flow*

**Eric Truelove, P.E., LAP, Associate AIA**

YOUR PARTNERS IN ENERGY RESEARCH, EDUCATION & CONSULTING

## We Just Need More Money...Right?

The economy is in bad shape, energy costs are skyrocketing, and unemployment is rising.

- *Picture a single one-million dollar bill.*
- *Picture one-million, one million dollar bills.*
- *We go through that much money in just 30 days.*



Is lack of money a problem, or just the way we choose to spend it?



ENERGY CENTER  
OF WISCONSIN

# Why Haven't We Invested More?

Most homes could produce all of the electric energy they use from solar panels installed on their roof.

- *You could reduce your electric bill to about \$50 a month.*
- *This system would last 20 years with minimum maintenance and drastically reduce greenhouse gas emissions.*
- *So, what's the catch?*



The solar electric system would cost about \$50,000.



# How Much Do We Spend in Iraq?

According to the government, about \$2-billion a week.

- *If we lose Iraq to radicals they would be able to: "...pull millions of barrels of oil off the market, driving the price up to \$300 or \$400 a barrel".*
- *Quote from President Bush in Capital Times, 11/6/2006.*
- *What else could we do with that money?*



We could convert 40,000 homes to solar every week!



## Is This Just a Government Problem?

According to the U.S. Census Bureau:

- *In 1978, 30% of all new homes were over 2,000 square feet in size.*
- *In 2007, 62% of all new homes were over 2,000 square feet in size (26% were over 3,000 square feet).*
- *What does 1,000 square feet cost?*



Typically \$80,000 to \$100,000, twice what the solar collectors would have cost if the owner asked for them.

# Are We Kidding Ourselves?

This decade will be known as the decade of denial.

- *Green upgrades are evaluated based on simple payback.*
- *Simple payback is equal to the added up-front cost divided by the annual savings.*
- *If you spend \$5,000 to save \$1,000 a year, the simple payback is 5 years.*



With this information in hand, the owner foolishly assumes a bad decision will take 5 years to catch up with him/her.

# We Don't Have The Money!



What can we do for a 12,000 square foot building in Madison?





ENERGY CENTER  
OF WISCONSIN

# We Don't Have The Money!

- Cost of 13 SEER cooling instead of 10 = \$4,127.
- Cost of 90% efficient heating instead of 80% = \$1,468.
- Cost of air to air recovery and occupancy sensors = \$7,494.
- Total cost with general contractor markup = \$14,660.
- First year utility bills total \$3,302 (20%) less than similar Energy Star® buildings in Madison.



**This cost the owner nothing!**





ENERGY CENTER  
OF WISCONSIN

# The Miracle Of Financing

Owner's don't buy buildings, banks do.

- Annual payment on a commercial loan for \$14,660 is \$1,384.
- Since the owner saves \$3,302 each year in utility costs, the net savings are \$1,918.
- If the owner takes part of this money out of another investment, the outcome is the same.



Unlike cars, buildings are a great investment and additional debt can actually be a good thing!

# Can This Be Repeated?

- Renovated 32,000 square foot RenewAire manufacturing facility.





ENERGY CENTER  
OF WISCONSIN

# Can This Be Repeated?

- New, 5,000 square foot Home Savings Bank branch office.





ENERGY CENTER  
OF WISCONSIN

# Can This Be Repeated?

In each case, the first cost addition (financed) was less than the annual energy savings, resulting in immediate positive cash flow.



[www.ecw.org](http://www.ecw.org)

Renschler

# We Need to Change

Let's stop focusing on payback and start focusing on immediate positive cash flow.

- Any time an investment can be repaid with savings alone, why say no to it?
- Energy costs are a prime example.
- What will happen with energy costs in the future?



But, what if we are wrong and energy costs go down? What is Plan B?

# Conclusions

The positive cash flow approach is not about taking risks, but about reducing risk.

- Most conservation upgrades yield immediate positive cash flow.
- Risks are minimal since an unlikely decrease in energy costs will make things better, not worst.
- This crisis is the opportunity of a lifetime.

Let's stop focusing on "appearing" wealthy and focus on being wealthy.

