

JAMES A. GRAASKAMP COLLECTION OF TEACHING MATERIALS

V. INDUSTRY SEMINARS AND SPEECHES - SHORT TERM

I. Other Presentations In Which Either The Date And /  
Or Sponsoring Organization Is Missing

1. Risk Management/Investment Related Topics

- d. "The Value of Energy Savings: A New  
Perspective for the Finance Community",  
no date

The Value of Energy Savings: A New Perspective  
For the Financial Community

- I. Somebody rolled a rock in front of a cave and invented real estate by separating the void from the natural void all around. This basic space unit evolved into a space-time unit as it could be occupied by the moon, the month, a year, etc. Real estate is a space-time unit such as an apartment by the month, square foot by the year, tennis court hours, or time interval ownership of a condominium in the mountains for a week in summer or winter.
  - A. The first residences in Plymouth were caves and most of our building technology development has been dedicated to reducing the bulk and weight of our structures from the mass of a mountain to brick in compression to glass and steel and plastic in tension.
  - B. Only recently have we discovered we have proceeded too far in our structural revolution at the expense of efficiency in terms of maintaining a comfortable internal environment. As usual the development of sub-systems seldom maintains a balanced rate of development.
  - C. So here we are, as a society, beginning to reexamine the premises and interrelationships of energy consumption, land use policy, building techniques, and architectural forms. Indeed, we are assembled here to reevaluate certain attributes of the cave, the kiva, the sod home, and the fundamentals of Frank Lloyd Wright.
  - D. Imagine how all of this review of organic architecture must appear to a financial community which relishes the high rise skyscraper, closed in glass and <sup>finds</sup> security in colonial architecture and establish<sup>ed</sup> neighborhoods of obsolete homes.
  - E. One is reminded of the old classic:

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Sam Walter Foss, The Calf Path

- F. However in establishing a new perspective on the value of energy saving within the financial community they would be better off to consider the advice of Rufus Choate, a noted lawyer of the 1800's who wrote as a clerk:

"I will look, your honor, and endeavor to find a precedent if you require it; though it would seem to be a pity that the Court should lose the honor of being the first to establish ~~so~~ *a more* just ~~a~~ rule."

- II. Change represents risk and uncertainty to the financial community. Our residential financing systems have become highly specialized in allocating the risk of different assumptions to specialized risk bearing institutions. Therefore, the problem of adapting financing and appraisal procedures requires extensive education and a consensus among a variety of institutions involved in the loan process.
- A. The loan closing process is designed to lay off the risk of key assumptions on specialists.
1. Clear title - title insurance company
  2. Proper location of improvements - bonded surveyor
  3. Survival of improvements - property insurance
  4. Value changes - mortgage guaranty insurance
  5. Disability of borrower - accident income insurance
  6. Death of borrower - term life insurance
- B. System risks have also been institutionalized
1. Standardization and value cycles - mortgage guaranty insurance
  2. Property types - FDIC and FSLIC
  3. Liquidity - FNMA, HLB, FHLBMC
  4. Predictable portfolio income - GNMA
  5. Interest rate changes - variable rate mortgage
  6. Purchasing power risk - graduated payment mortgage
- C. The last fifteen years have seen a complete innovation <sup>in</sup> ~~and~~ mortgage loan concepts and mortgage capital institutional frameworks. So the financial community is capable of change and nowhere has it been more innovative than in housing finance.
- III. The unfortunate rise in energy costs ~~which~~ is diverting discretionary purchasing power from voluntary or forced savings toward basics of transportation, food, and utilities. ~~has been readily recognized by lenders~~ *recognizing* ~~as~~ <sup>the</sup> ~~threatening~~ the ability of homeowners to make payments on homes which are wasteful of heating and lighting energy, located to waste transportation energy, and devoted to a life style of expansive spaces which is recognized by many as soon passing out of vogue. Conspicuous consumption is a style going out of favor in Cadillacs, houses, rich food, and clothes.
- A. Since 97% of the housing stock already exists and less than 3% will be constructed in any one year, it is not surprising that the first rapid response to the energy issue was to provide capital for energy conservation in existing homes, regardless of income levels of the home owner.
1. Department of Local Affairs and Development program funded by the State and WHFA

2. Utility company programs of inspection and equipment improvement
3. Lender recognition of energy conservation capital and operating efficiency in basic loan forms or on special mortgage programs.
4. The appearance of contractors providing solar hot water, new insulation concepts, efficient fireplaces, or energy conservation modifications to conventional HVAC systems.
5. Design services introducing modified conventional structures with 6" walls passive orientation and air lock entryways, fireplaces, etc.

B. The Department of Energy is preparing Building Energy Performance Standards (Beps), NAHB is also preparing guidelines to avoid standardized housing, and now arguments have broken out as to the impact on housing costs of some federal requirement. The thermal performance guidelines and revised HUD minimum property standards would produce only marginal savings since there are so many varying climate zones and alternative theories of measurement about the house with a little control of the lifestyle within the house in terms of appliance usage, thermostat setting, and general housekeeping procedure. Indeed, conservation of our immense waste of energy is initially more a crisis of procedure than it is of technology shortfalls. In that light lenders should welcome a significant change in our basic premises about form and function of the single family home.

*CB.* Now it is time to question our basic site and design forms for the 2 or 3% of our housing stock which will be built new each year. The psyche of the financial community demanded improvements of its risk management systems, could accept tinkering with conventional building techniques, but how quickly can it accept changes in the fundamental housing form. To change our concept and image of a house is nearly as traumatic as a change in our body image. How well adjusted is the home mortgage lender?

*DC.* To oversimplify there are ~~three~~<sup>four</sup> basic responses available to the financial community which can accommodate the lending risks of financing earth sheltered structures:

1. Modify the appraisal process to reduce dependency on market comparison and increase the emphasis on life cycle costing.
2. Modify the income percentage which can be devoted to housing expense to permit higher loans for energy conservation capital costs.
3. ~~Provide~~<sup>Modify home loan packages to include</sup> piggyback loans for incremental capital costs to be amortized over the estimated payback period in terms of current utility prices.
4. Modify the <sup>underwriting</sup> standards of risk management institutions to provide incentives to the lender to experiment, innovate or prototype housing units for which market resale price cannot be estimated from past transactions.

- E. Freddie Mack has made a small dent in the appraisal process relative to energy conservation in change 13 to its Sellers Guide Conventional Mortgages as part of its response to Section 3 of Energy Conservation and Production Act of 1976.
1. Maximum loan ratios can be increased to 90% when refinancing existing homes if the additional 10% is used for energy conservation improvements.
  2. The tradition that the value is the lower of appraised market value at the time of purchase or the purchase price paid for the premises by the borrower is modified to include the full cost of actual energy conservation improvements to be added by the borrower so long as these are completed and certified before delivery and the appraiser can suggest market value after completion.
  3. That's the rub - the appraiser always look back to sale precedents rather than assume the market is tending toward the justified life cycle cost of the home. Appraisers like routine and the average home appraiser flees in horror from making technical computations on the cost implications of BTU and kilowatt budgets or the judgment call that market preference will soon swing behind the innovator and create a future premium for the innovator.
    - a. There/fore he will have to be forced by the modification of standard appraisal forms to provide formulas for computing the present value of BTU and kilowatt savings below expected norms for conventional housing or penalties for those with consumption above. Lending agencies will have to pool experience on resale premiums or discounts for the non-conventional energy efficient home until market action begins to provide some comparables. Regular reports on such sales might also help to create confidence among the skeptical.
  4. Some people might argue that by significantly reducing the utility cost threat of disposable income the percentage of income which could be devoted to housing expense should be increased beyond the 28-35% which is presently allowed for PITI. The real estate tax component of the earth shelter home is a challenging issue in equity. If you capitalize savings on utility expenses by investing in more in the initial purchase you may incur a real estate tax rather than a utility tax. Should the real estate tax ignore private investment to the degree that it makes unnecessary further investment in utility claims, etc.
  5. To provide an argument that expenditures for energy structures in excess of conventional construction was a form of prepaid utility expense and personal property, it might be desirable to have the home loan package consist of a basic loan on the real estate and a piggyback loan for the incremental capital cost which could be amortized over some specified payback period from savings in utility costs. The formula would need to be arbitrary and based on utility prices current at the time of construction.
  6. To pull loans on innovative buildings through lending channels the risk of unknown resale value can be met through public or private mortgage guaranty concerns. The sponsorship of this program by MGIC indicates that is feasible and my friend, Bob Hastings, at Foremost Guaranty in Madison indicated he would be willing to talk to any builder or homeowner in Wisconsin to see if guarantees could be used to pull the loan through a reluctant lender.

1. The critical issue is resale value and that risk has been the primary concern of the guarantor. The PMI is the place to start for if they set a precedent, FHA will follow.
- IV. We can build what we can finance whether it is rockets to the moon or common sense housing.
- A. The advantage of going to the moon was there were no bureaucracies in place to start with although I am sure the trip was made difficult enough by creative red tape. Nevertheless, it's a good thing our astronauts did not have to sign personally before taking the rocket up.
  - B. My father was a box maker. When he looked at my subdivision he said we were in the same business, only my ticky tacky boxes were bigger. He taught me to look at consumption systems rather than single products.
    1. The same must be done for housing. Subdivisions must be platted to provide proper solar orientation, utility depths and soils and drainage and covenants must be drafted to protect the right to innovative design, solar exposure, etc. Town Boards and lenders and zoning administrators may need to accept square lots, roads running from southeast to northwest, long cul de sacs, and careful use of landscape material to modify the micro climate.
  - C. Construction lenders will see project proposal first geared to the system and every question must be rebutted with the appropriate engineering environmental logic.
  - D. And so on through the entire home building process as it interacts with transportation costs, utility planning, educational systems, etc.