The Eco Proforma™

(Lessons Learned on our way to scaling Passive House in the U.S.)
GHG Emissions

Peak year

TIMING MATTERS
HOW WILL THE MARKET CHANGE?

A) Goodwill...“Just do it”

B) Change the building code (everywhere)

C) Capitalism
HOW WILL THE MARKET CHANGE?

A) Just do it

B) Change the building code (everywhere)

C) Capitalism
Conventional Multifamily Apartment

- 35,000 GSF, 30,000 rentable
- 40 Units, average 750 SF/unit
- 4 levels, type-VA construction
- $170/sf construction cost
- $2.93/sf/mo average rent
- 5.5% vacancy
- $2M land cost
- $6M construction cost
- $1M annual gross revenue
CONVENTIONAL APPROACH

DEVELOPMENT COSTS

- **CONSTR.**
  - 65% $6.5 M
- **LAND**
  - 20% $2 M

CAPITAL SOURCES

- **DEBT**
  - 70% $7 M
- **EQUITY**
  - 30% $3 M

REVENUE ALLOCATION

- **ANNUAL REVENUE**
- **NOI**
- **EXPENSE**
  - EXCLUDING DEBT SERVICE, DEPRECIATION, AND AMORTIZATION

- **ROE = 21.0%**
- **CASH ON CASH = 7.7%**

- **CASH THROW OFF**
  - 23% = $230 K
- **DEBT SERVICE 40%** = $400 K

- **15%**
- **8%**
- **10%**
- **4%**

TOTAL $1 M

DESIGN FOR A SUSTAINABLE FUTURE
“We made too many wrong mistakes.”

- Yogi Berra
DESIGN FOR A SUSTAINABLE FUTURE
CONVENTIONAL APPROACH

DEVELOPMENT COSTS

- **LAND**: $2 M (20% of $10 M)
- **CONSTR.**: $6.5 M (65% of $10 M)
- **SOFT COSTS**: $1.64 M (16.4% of $10 M)

CAPITAL SOURCES

- **DEBT**: $7 M (70% of $10.79 M)
- **EQUITY**: $3.24 M (30% of $10.79 M)

REVENUE ALLOCATION

- **ANNUAL REVENUE**: $1 M
- **NOI**:
  - **CASH ON CASH**: 7.7%
  - **CASH THROW OFF**: 23% = $230 K
  - **DEBT SERVICE** 40% = $400 K

- **STD**
  - **ROE = 21.0%**
  - **CASH ON CASH = 7.7%**

- **PH**
  - **ROE = 20.0%**
  - **CASH ON CASH = 6.8%**

**MANAGEMENT**
- **UTILITIES**
- **OTHER**
- **PROPERTY TAX**

DESIGN FOR A SUSTAINABLE FUTURE
“The important thing is to learn a lesson every time you lose. Let me tell you, life is not fun when you're banging your head against a brick wall all the time.

- John McEnroe
**EcoProforma™**

**DEVELOPMENT COSTS**

- **CONSTR. 65%**
  - $6.5 M

- **LAND 20%**
  - $2 M

- **SOFT COSTS 15%**
  - $1.5 M

- **6.3% PREMIUM**

- **TOTAL**
  - $10 M

**CAPITAL SOURCES**

- **DEBT 70%**
  - $7 M

- **EQUITY 30%**
  - $3 M

- **TOTAL**
  - $10 M

**EcoProforma STEPS**

1. **IDENTIFY LOCAL INCENTIVES.**
2. **DETERMINE MAXIMUM LTV RATIO.**
3. **MINIMIZE CONSTRUCTION COST PREMIUM.**
4. **CALCULATE UTILITY SAVINGS.**
5. **ESTIMATE RENT & VACANCY PREMIUMS.**
6. **EXPLORE GREEN LOAN RATE REDUCTION.**
7. **CALCULATE NEW RETURN ON EQUITY (ROE).**

**REVENUE ALLOCATION**

- **ROE = 21.0% CASH ON CASH = 7.7%**
  - CASH THROW OFF 23% = $230 K
  - DEBT SERVICE 40% = $400 K

- **ROE = 22.7% CASH ON CASH = 8.7%**
  - CASH THROW OFF 25% = $258 K
  - DEBT SERVICE 41% = $422 K

- **3% INCREASED REVENUE FROM RENT PREMIUM & LOWER VACANCY.**
- **MANAGEMENT 15%**
- **OTHER 8%**
- **PROPERTY TAX 10%**

- **TOTAL**
  - $1 M

- **PH**
  - $1.03 M

**DESIGN FOR A SUSTAINABLE FUTURE**
Rent Premiums / Month

$20  $35  $40  $50  ?

Source: JPI / MPF Research, 1999 Market Analysis, Issaquah, WA
Rent Premiums / Month

$20  $35  $40  $50  $40

$40/month of value ~ 2% rent increase on 750 sf unit
x40 units = $20,000/yr additional revenue
EcoProforma™

DESIGN FOR A SUSTAINABLE FUTURE

ENLIGHTENED APPROACH
“NEW RULES”

EcoProforma STEPS
1. IDENTIFY LOCAL INCENTIVES.
2. DETERMINE MAXIMUM LTV RATIO.
3. MINIMIZE CONSTRUCTION COST PREMIUM.
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DEVELOPMENT COSTS

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<td>15.1%</td>
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<tr>
<td>$10 M</td>
<td>$1.5 M</td>
<td>$1.59 M</td>
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<tr>
<td>$6.5 M</td>
<td>$6.91 M</td>
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<td>INCENTIVES 1.4% = $150 K</td>
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CAPITAL SOURCES

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3% INCREASED REVENUE FROM RENT PREMIUM & LOWER VACANCY.
“Debt and equity markets do not like uncertainty.”

- Scott Matthews, Vulcan Real Estate
Thank You