MagWall™
Building Systems

Alberta Energy Efficiency and Green Buildings
Challenges and Opportunities
What Are Structural Insulated Panels?

Traditional Wood SIPS – Walls, Roofs, and Floors

Can Utilize OSB, Plywood or Pressure Treated Plywood Sheathing
MagWall
Building Systems

MagWall Panels
Why MagWall?

- Cementitious MGO Sheathing (on both sides)
  - non combustible, breathable, moisture resistant, impact resistant and will not rot or mould
- Solid Expanded Polystyrene Core – 40% - 60% better thermal performance than fibreglass batt. Far superior to concrete.
- Eliminates trades and shortens construction cycle.
Misconceptions About “R Value”

• Fibreglass is an open cell insulation that allows air to circulate through it
• The application of electrical outlets, vapour barrier with staples, drywall application with screws – all cause air leakage
• Oakridge Laboratory - fibreglass insulated walls are 50% less effective @ -28’ C  R40 = true R21
Brock University Study

Built Two Identical Houses Side by Side

• The wood frame constructed home
  – rated R19 insulation
  – SIP home - rated R17

• At the lowest temperature point
  – the framed wall effective R Value declined to R-4
  – SIP R value remained at R17.
Roofs
1977 Chrysler New Yorker
Opportunities

Green building is better building, but is often looked upon as not being “cost effective”
Retail Industry
Example of Collaboration
Efficient Consumer Response
WalMart – Created competitive advantage
“Optimizing components in isolation tends to pessimize the whole system—and hence the bottom line. You can actually make a system less efficient, simply by not properly linking up those components. If they’re not designed to work with one another, they’ll tend to work against one another.”

– Hawken, A. Lovins, H. Lovins, Natural Capitalism
Opportunities

• Supply Chain Optimization
  – More systematized approach – better coordination and integration of specialities
  – Site built vs factory built – or combination of both?
  – Better planning and partnerships

• Integrated Design
Home Run Equities - Calgary
Challenges

• Regulatory System – Canadian Construction Materials Center
  – For truly innovative products – CCMC must take time to develop an evaluation protocol
  – Can take several years
  – in the case of MagWall cost estimate is between 800k – 1M
  – This creates a barrier to entry