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Turning a Red building into a Green building

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Turning a Red Building into a Green Building

1. Office Building Vs House
2. Existing Vs New
3. Window Design For Thermal Conditions (Sample of Renovation Work)
4. Conclusions
1- Office Building versus house

- Work on non-residential buildings accounted for **41 percent** of the value of all building work undertaken in the year ended September 2006.

- Commercial buildings consume **more** energy
1- Office Building versus house

• Different Approach

  - Design Requirements
  - Developers and the quick return of investment
  - Commercial Building valuation
  - Tenants and whole life costs
2. **Existing Versus New**

- Important Barriers
  - Life span of the building components and materials
  - Lack of information and rating systems for renovation
2. Existing Versus New

- The Building Shell lifespan
  - 50-75 years

- Services lifespan
  - 15 years
2. Existing Versus New

- Scenery lifespan, fixed interior elements
- 5 years

- Settings, Day to Day arrangement
3. Window Design for Thermal Conditions

- Roof monitors to bring day light into interior
- Reduce E/W glazing area
- Use vertical fins and plants to shade windows
- Use overhangs on North
- Increase glazing on N/S
3. Window Design for Thermal Conditions
3. Window Design for Thermal Conditions

1. The top window located close to the ceiling for daylight

2. The bottom window for view (at eye level) with the sill above the work station bench top height.

3. Window venetian curtain for manual controlling the glare

4. The Glazing panel

5. Vertical panels

6. Window overhangs

7. Sensor overhead lights
3. Window Design for Thermal Conditions
Conclusions

Thank You