



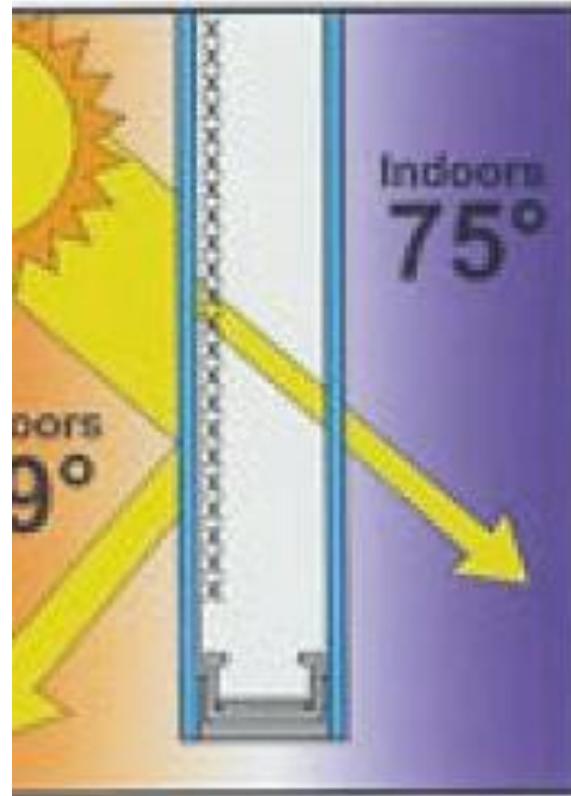
Sustainable Building Materials and Design

Urban Development Project

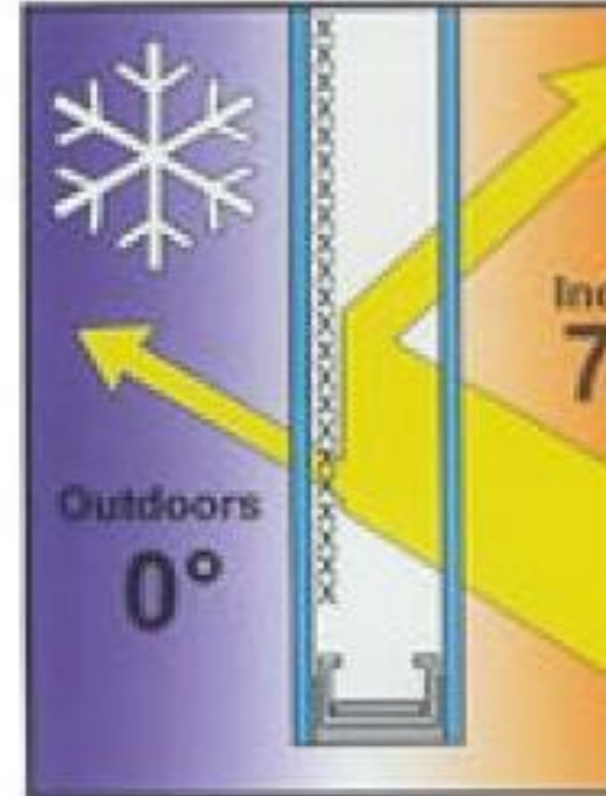
Energy Saving Windows

- Keep the heat out in the summer and the heat in during the winter
- Uses less energy
- Saves money

Energy Savings & Comfort



Summer



Winter

Biowalls

- Interior and exterior
- Reduce need for heating and cooling energy
- Better air quality
- Acts as a buffer
- Can be added to an existing wall



BioWall
Vegetated
Panels



<https://blog.vts.com/green-roofs-are-on-the-rise-because-of-these-4-benefits/>

Green Roof

- Improves air quality
- Retains rainwater, aids stormwater management
- Insulates building, → decreases energy use → saves money
- Less likely to burn in a fire
- Acts as a buffer

<https://greenroofs.org/about-green-roofs/>

Solar Panels

- Solar panel windows
- Reduce use of nonrenewable energy sources → saves money
- If possible, use as window frames

Lighting

- Fluorescent > incandescent
- Incorporate a lot of/ big windows for natural light
- Motion-sensored lights
- Daylight controlled lighting system



<https://www.hok.com/thought-leadership/the-scientific-workplace-of-the-future/>



Building Materials

- Bamboo
- Cork
- Reclaimed/recycled wood and metal
- Precast concrete slabs
- Sheep's wool insulation

Heat

- Place heating systems on second floor
- Heated floors
- Adjustable thermostats
- Motion sensed heating/cooling
- Vestibule



Stairs and Elevators

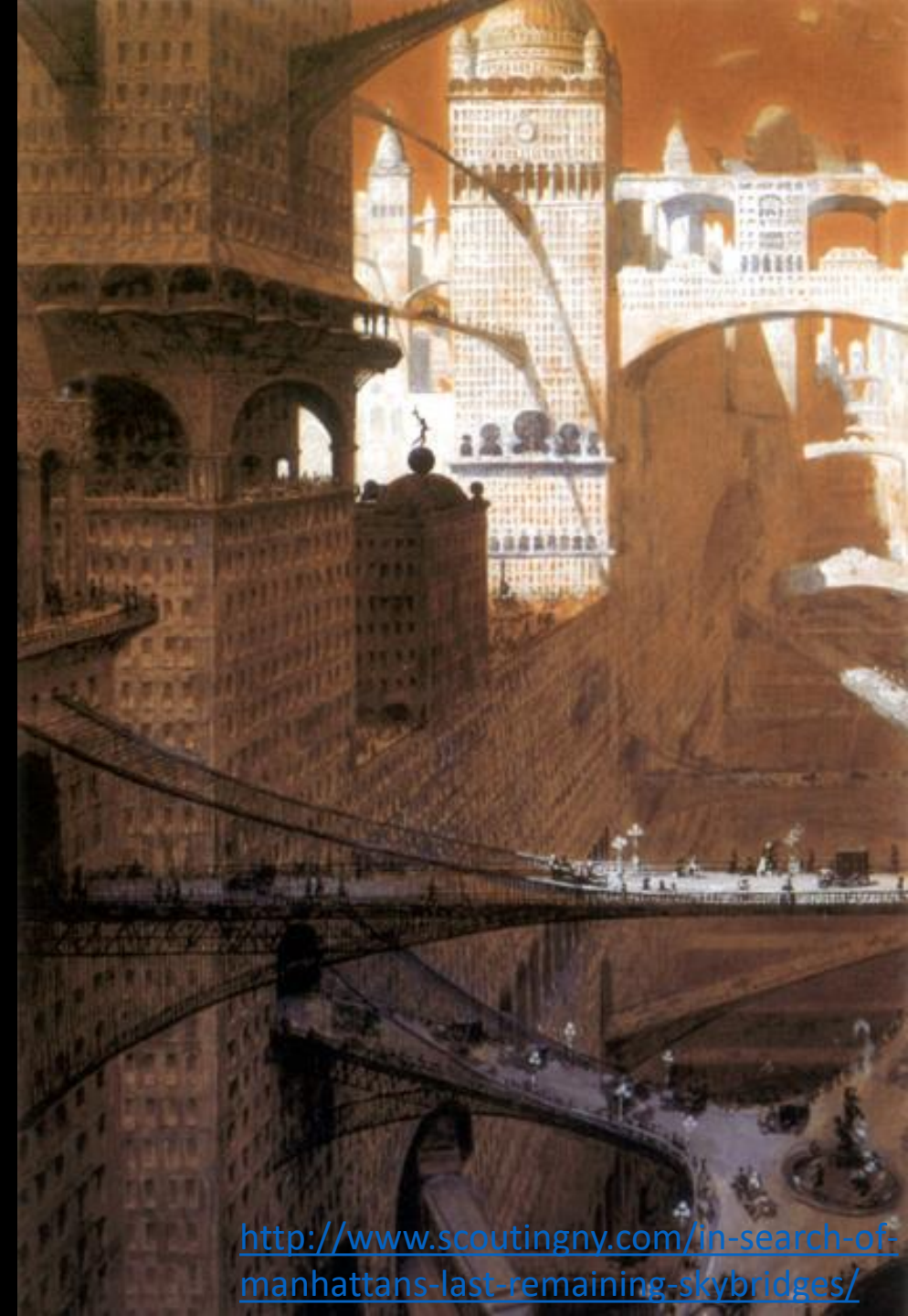
- Aesthetic staircase discourages elevator use
- Provide elevators only for those who need it



<http://www.cmrp.com/blog/wp-content/uploads/2011/08/st-thomas-circular-stairs.jpg>

Bridges

- Allows people to walk from building to building above the street
- Encourages walking instead of driving



Works Cited

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- "Green Building Materials." *Green Building Solutions*, www.greenbuildingsolutions.org/green-building-materials/. Accessed 11 Feb. 2019.
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