FUTURE ENERGY SOLUTIONS FOR NORTH ST. PAUL: EXPLORING NET ZERO CARBON

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Objectives

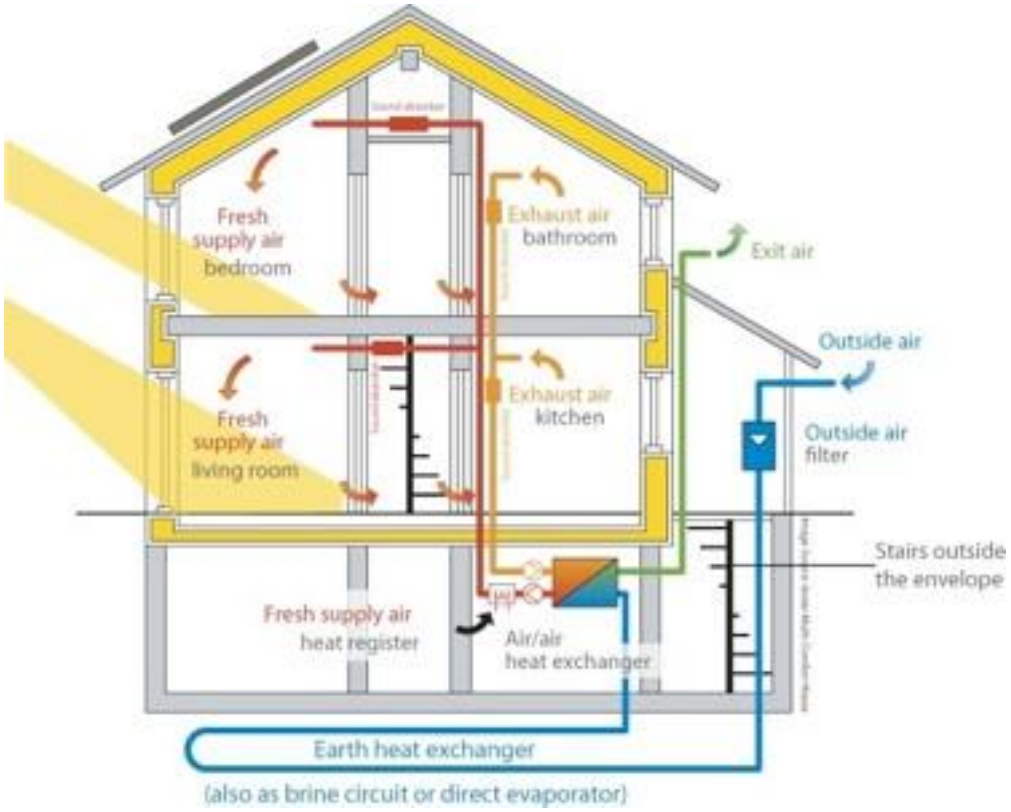
- Definition of net zero
- Net zero carbon development is a long term project
- Actions to take now

What is Net Zero?

- Net zero comes in two parts:
  - The first involves reducing energy consumption to as low a level as possible
  - The second involves sourcing the remaining need from renewable sources (wind, solar)

End goal: Zero Carbon Emissions

Passive House



Energy efficient standards for homes that cut consumption by 90% through specific measures:

- Solar Facing
- Passive Air Exchanger
- Thick, Airtight Walls

Less stringent standards for retrofits than newly built home

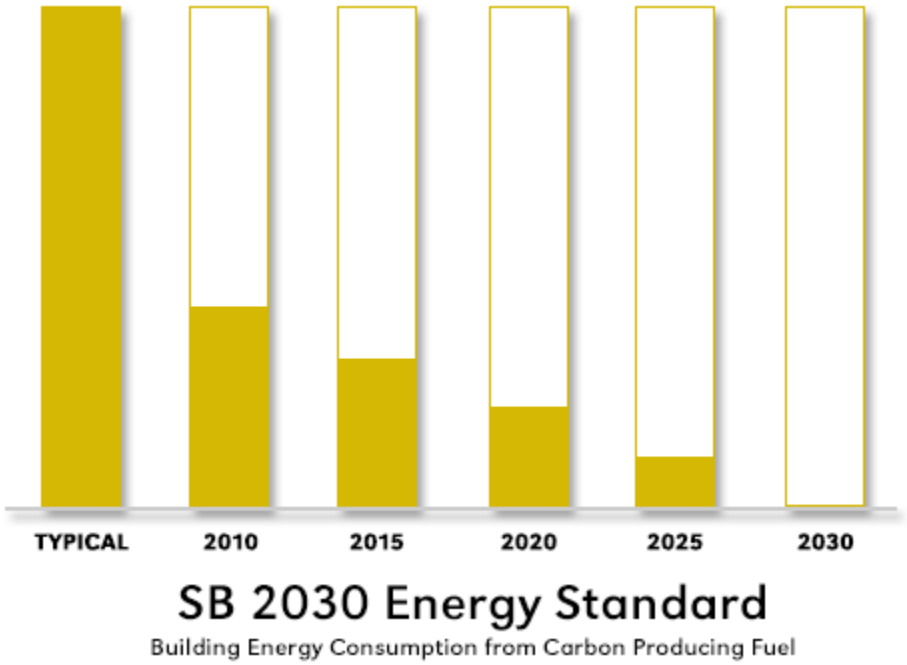
Video

http://www.youtube.com/watch?v=OdnLOxQ5biA&feature=youtu.be

About Sustainable Buildings 2030

- Requires reductions in carbon producing fuel use in state bonded buildings
- Based on a 2003 benchmark

In the year...	SB 2030 requires a fuel reduction of...
2010	60%
2015	70%
2020	80%
2025	90%
2030	100%



Challenges for Net Zero in North St. Paul

- Net zero design is more practical for new buildings than for retrofitting older buildings
  - Building stock already exists
  - Not a lot of new building in recent years
- Upfront costs of net zero are expensive

What to Do Now:

Efficiency Improvements Over the Long-Term

Two- Pronged Strategy:

- Target Existing Building Stock Through CIP
  - Marketing is key!
- Target New Buildings Through SB 2030
  - Redevelopment Plan Potential

Questions?

What is North St. Paul doing NOW?

- ENERGY EFFICIENCY:
  - Rebates
    - Lighting
    - Appliances
    - Renovations
- RENEWABLE ENERGY
  - Wind Power
    - Wind Power sourcing
    - 160 kW Wind turbine
- COLLABORATIONS
  - Green Step Cities
    - Efficient Existing Public Buildings (B3)
    - Efficient Existing Private Buildings (Marketing)
    - Efficient Outdoor Lighting
    - Renewable Energy