



A “greener” Mansion House: Phase Two

Phase Two (proposed for Fall 2010):

- Use heat pumps to heat the hotel’s domestic hot water (extracting solar energy from the hotel’s geothermal loop and the ground water)
- Use heat pumps to heat the hotel’s pool and hot tub (extracting solar energy from the hotel’s geothermal loop and the ground water)
- Roof garden irrigated by ground water, growing produce for Zephyrus Restaurant, reducing cooling load of the hotel, reducing CO₂ produced by hotel (directly and indirectly)

Phase Two Projected Savings:

- 15,800 gallons of fuel oil annually would not be burned to heat domestic hot water, pool, and hot tub
- 133.7 tons of CO₂ annually that Mansion House will not produce due to DHW and pool heat pumps
- CO₂ savings of roof garden depend on coverage of roof, relative carbon footprint of produce grown, etc.

Geothermal loop and ground water energy source details:

- 800,000 Btu/hr (or 234 kW) of solar power in hotel’s geothermal loop plus 111,000 Btu/hr (or 32 kW) of solar power available in ground water for use by heat pumps to heat domestic hot water, pool, and hot tub – about four times what is needed.