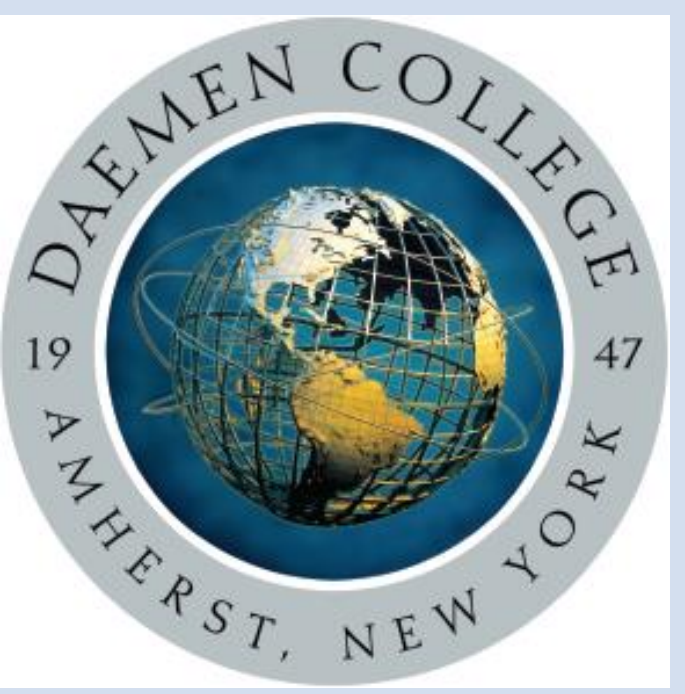




“LEEDing” the Way: Green Building Design at Daemen

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Green Buildings Course



What is LEED?

LEED- Leadership in Energy and Environmental Design

- US Green Building Council green building rating system
- Most widely used green building rating system in the world
- Available for virtually all building types
- Provides framework for healthy, highly efficient, and cost-saving green buildings.

Daemen’s LEED Gold Buildings

VPAC – Haberman Gacioch Center for Visual & Performing Arts
– Received 66 points out of 110 (LEED Version 2009)

- Opened in 2013
- Equipped with 3 art studios, 2 Graphic Design computer labs and Animation Center

RIC – Research and Information Commons

– Received 39 Points out of 69 (LEED Version 2.1)

- Opened in 2009
- Houses Library, Academic Support and Computing Services and Small-group study rooms

LEED Categories

- Sustainable Site and Transportation
 - Building site characteristics, transportation options
- Water Efficiency
 - Indoor water conservation, outdoor reduced use for landscaping
- Energy and Atmosphere
 - Energy and ventilation efficiency, renewable energy options
- Materials and Resources
 - Use of local, renewable, recycled, healthy encouraged
- Indoor Environmental Quality
 - Daylighting, air quality, temperature control
- Innovation in Design
 - Creative features unique to the building



Figure 1. RIC façade-controls amount of sunlight heating the building.

RIC Features

- Solar Panels - Renewable energy source and reduces energy cost
- Materials-carpet from recycled material; wood from sustainably harvested forests; paints low in volatile organic content
- Daylighting –increase natural light throughout building
- Passive solar design-oriented to the south and allows sun to warm the building in the winter when the sun is lower in the sky; façade on front blocks peak summer sun from overheating space



Figure 2. Solar panels that are placed on the roof of the RIC.

VPAC Features

- Geothermal Heating and Cooling- Renewable energy source and reduces energy cost
- Water Use – Intent is to reduce energy needed to heat/purify drinking water, and conserve amount of water
 - Low-flow sinks and low-flow toilets that use less water
 - Sinks also have sensors that turn off the water automatically



Figure 3. VPAC - This building heated and cooled by the geothermal system.

Site Location and Transportation

- Stormwater control is important to reduce runoff pollution; bioswale helps to slow flow of water and reduce volume of water going into stormwater collection pipes
- Buildings located along bus route



Figure 4. Bioswale helps to improve stormwater control and purify water.

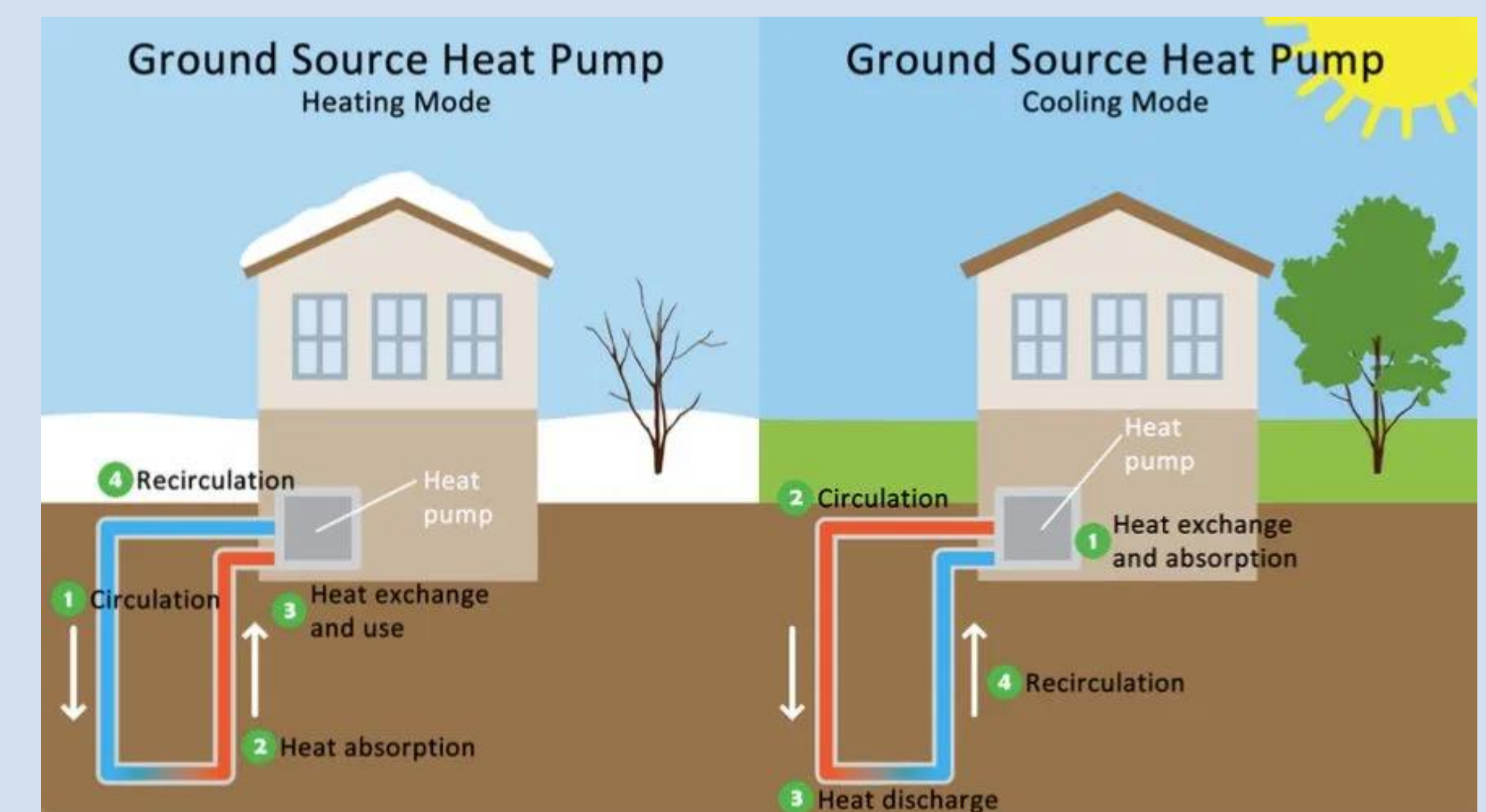


Figure 5. Diagram depicting how geothermal heating and cooling works inside a home, using constant ground temperature to offset energy needed for heating or cooling.

Sources

US Green Building Council- <https://www.usgbc.org/>