### What is Green Building?

- A 'green' building reduces or eliminates negative impacts, and can create positive impacts on our natural environment, as well as the people who inhabit them.
- Green buildings preserve precious natural resources and improve our quality of life.
- Green building is a holistic concept that considers impacts throughout the entire life cycle of a building.

### U.S. GHG Emissions Flow Chart

<table>
<thead>
<tr>
<th>Sector/IPCC Reporting Category</th>
<th>End Use/Activity</th>
<th>Gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation</td>
<td>27.2%</td>
<td></td>
</tr>
<tr>
<td>Electricity &amp; Heat</td>
<td>32.4%</td>
<td></td>
</tr>
<tr>
<td>Other Fuel Combustion</td>
<td>11.7%</td>
<td></td>
</tr>
<tr>
<td>Industry</td>
<td>12.4%</td>
<td></td>
</tr>
<tr>
<td>Fugitive Emissions</td>
<td>3.0%</td>
<td></td>
</tr>
<tr>
<td>Industrial Processes</td>
<td>4.5%</td>
<td></td>
</tr>
<tr>
<td>Agriculture</td>
<td>6.2%</td>
<td></td>
</tr>
<tr>
<td>Waste</td>
<td>2.6%</td>
<td></td>
</tr>
</tbody>
</table>

**BusinessWeek Magazine**

*The dangers of sick buildings*

By Michelle Conlin

**Carbon Dioxide**

- (CO₂) 85%

**Other Emissions**

- HFCs, PFCs, SF₆ 2%
- Methane (CH₄) 8%
- Nitrous Oxide (N₂O) 5%

**World Resources Institute**
Innovation
Introduction of novel features and procedures

Indoor Environmental Quality
Use of natural light and efficient air conditioning

Materials and Resources
Responsible construction waste management and sustainable sourcing of materials

Location and Transportation
Land protection and access to public transportation and green vehicles

Sustainable Sites
Sufficient green open space and light pollution reduction

Energy and Atmosphere
Optimizing sustainable energy production and metering

Water Efficiency
Indoor and outdoor water reduction

Source: www.usgbc.org
CE/ME 448
Green Building Strategies: LEED Lab
Project Objectives

Make campuses into living laboratories
  • Teach new applied learning courses in which students certify campus green buildings

Develop NYS Workforce
  • Students earn personal LEED Green Associate credentials
  • Develop capacity of faculty & staff LEED Associated Professionals to certify campus green buildings

Scale knowledge across the SUNY System
  • Share expertise and best-practices with other campuses
IDS 251 Principles of Green Buildings

Hilltop Residence Hall (under construction)
Green Building Experiential Learning Collaborative

Early Successes 2019

• SUNY Poly - One new course CE/ME 448 with 17 enrolled Fall 2019. One new course IDS 251 approved for Spring 2020. One existing building (Wildcat Field House) registered for certification. Two summer interns prepared LEED v4.1 O+M certification documents and passed LEED AP exams in August. One other student passed LEED GA exam in July.

• SUNY ESF - One new course CME 496 completed Spring 2019. 23 students passed LEED GA exam and one passed the LEED AP in May. One staff passed LEED AP exam last November. One existing building (Baker Lab) registered under LEED v4 O+M. One summer intern employed to help finish building certification.

• SUNY Oneonta - Four new online courses under development 2019-2020. One faculty hired and training for LEED AP and PHC. One existing building targeted for certification. Five staff & faculty passed LEED GA exam in March. Two staff passed LEED GA in July.

Project Goals

• Certify 7 campus buildings
• Train 10 faculty & staff in LEED GA or AP
• Credential 100 students in LEED GA or AP
• Conduct workshops with partners to facilitate other SUNYs to start-up similar courses.
Green Building Experiential Learning Collaborative

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