



The Solutions Network

Rochester, New York

Sustainability Beyond Energy: Indoor Environmental Quality

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Sustainable Indoor Environmental Quality

- ❖ Synergy, not trade-off
 - Many improvements to indoor environmental quality promote energy efficiency
- ❖ Integration with site and materials
 - Site and materials decisions will impact indoor environmental quality
- ❖ Buildings are for people
 - Failure to deliver an acceptable indoor environment undermines all sustainability and asset management goals

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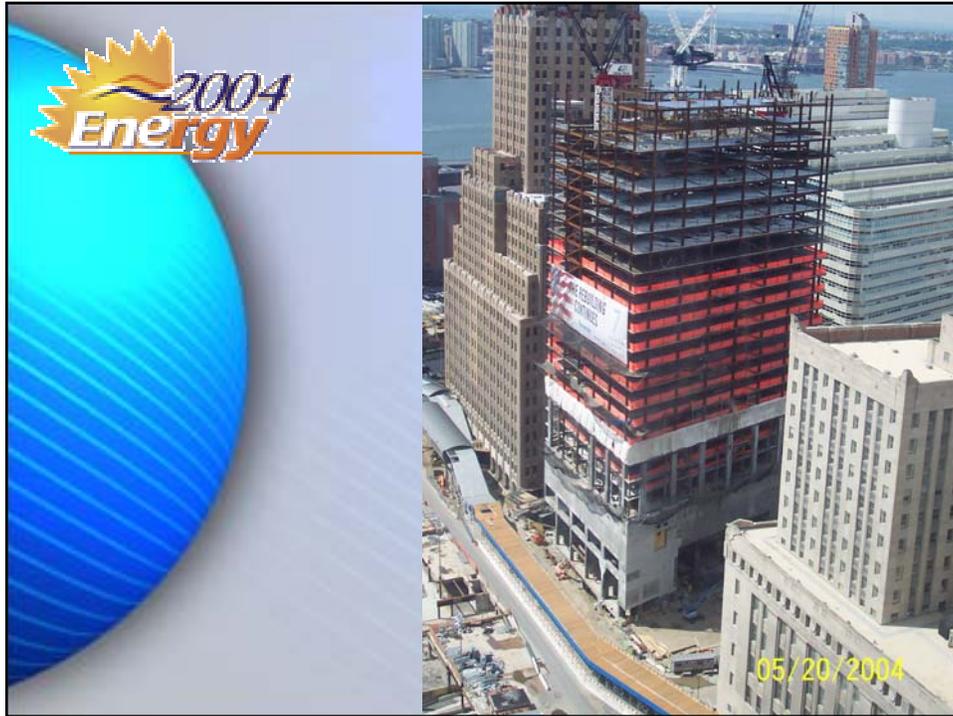


LEED Certification Levels

- ❖ LEED Certified 26-32 Points
 - ❖ Silver Level 33-38 Points
 - ❖ Gold Level 39-51 Points
 - ❖ Platinum Level 52+
- ❖ (69 Points Possible)

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2004 Energy LEED Point Distribution

	Possible Points	Percent
Energy & Atmosphere	17	25%
Indoor Environmental Quality	15	22%
Sustainable Site	14	20%
Materials & Resources	13	19%
Water Efficiency	5	7%
Innovation & Design Process	<u>5</u>	<u>7%</u>
Total	69	100%

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Indoor Environmental Quality

Credit	Task	Points
Prereq. 1	Minimum IAQ Performance	Req.
Prereq. 2	Environmental Tobacco Smoke Control	Req.
1.0	Carbon Dioxide Monitoring	1
2.0	Increase Ventilation Effectiveness	1
3.0	Construction IAQ Management Plan	1-2
4.0	Low-Emitting Materials	1-4
5.0	Indoor Chemical & Pollutant Source Control	1
6.0	Controllability of Systems	1-2
7.0	Thermal Comfort	1-2
8.0	Daylight & Views	<u>1-2</u>
	Total	15

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Two "Hot Issues" in the Indoor Environment

- ❖ Mold, moisture, and water intrusion
- ❖ VOC emissions, odor and chemical exposure risks

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Mold, Moisture, Water Intrusion

Prereq. 1	Minimum IAQ Performance	Req.
3.0	Construction IAQ Management Plan	1-2
7.0	Thermal Comfort	<u>1-2</u>
	Total	4

- ❖ Hit this "hot issue" and gain four LEED points – more than 25% of IEQ credits
- ❖ Links to energy reduction
 - Envelope integrity
 - Humidity management
- ❖ Links to materials selection

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VOC Emissions

Prereq. 1	Minimum IAQ Performance	Req.
2.0	Increase Ventilation Effectiveness	1
4.0	Low-Emitting Materials	1-4
5.0	Indoor Chemical & Pollutant Source Control	1
	Total	6

- ❖ Hit this “hot issue” and gain six LEED points – 40% of IEQ credits
- ❖ Links to energy reduction
 - Ventilation minimization potential
- ❖ Links to material selection

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Challenges

- ❖ Conventional cooling may be limited in humidity control
 - Some efficiency measures may limit moisture removal
- ❖ Low-emitting materials may have low recycled content

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2004 Energy

2004 Opportunities

- ❖ New moisture control technologies bring energy recovery benefits
- ❖ Resolving water and moisture issues preserves integrity of envelope efficiency
- ❖ New materials often combine mold resistance and low emissions

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Sustainable Indoor Environmental Quality

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- ❖ Buildings are for people

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