

BUILDINGENERGY BOSTON

Spinach and Sustainability: Making Green Irresistible

**Heather Jauregui, Perkins Eastman
Ale Menchaca, AIRLIT studio
Jana Silsby, DLR Group**

Curated by Danny Veerkamp

Northeast Sustainable Energy Association (NESEA) | March 24, 2026

Making Green Irresistible

NESEA BuildingEnergy Boston 2026

Spinach and Sustainability

Nice to Meet You



Heather Jauregui
Perkins Eastman



Ale Menchaca
AIRLIT studio



Jana Silsby
DLR Group

Why We Are Here

Hiding the Spinach

You made this smoothie

Your family asks what's in it

What do you say?



What Is Our Objective

Our goal is not to hide information.

We want to execute best practices that meet their goals,
without distractions or barriers

- Sometimes too much info is distracting
- Sometimes there are triggers, biases, or misconceptions that can stand in the way

Give us an example of...

A misconception that you've heard about high performance design.

An aerial photograph of rolling green hills, likely in a rural or agricultural area. The hills are covered in lush green vegetation, and a winding river or stream flows through the valleys. The perspective is from a high angle, looking down at the landscape. The text is overlaid on the left side of the image.

**Let's focus on
what really
matters**

How you understand your client's values

Without saying the s word

If Good Design is Sustainable
Design...

Do we even need to talk about
sustainability at all?

What does your client care about?



How you understand your client's values

Without saying the s word

DO: Broaden their perspective with a framework

DO NOT: Ask them what their sustainability goals are



How you understand your client's values

Without saying the s word

DO: Get them to vote/prioritize their values

DO NOT: Listen to just the loudest voice in the room



How you understand your client's values

Without saying the s word

DO: Create design guidelines from these prioritized values

DO NOT: Never think about them again

What are the key themes?

While stakeholder groups chose different cards or interpreted cards in different ways, they often expressed similar goals and values. The following key themes arose across stakeholder groups in the workshop and can be used to guide project decisions going forward. The pages to come outline each priority, the cards chosen within it, and the goals that support it.



ENERGY & TRANSIT

All GSCS ideas centered around energy consciousness are at the forefront. Reducing the district's energy consumption and generating renewable energy can help instill a sense of awareness surrounding energy infrastructure and sustainable practices. This is key in creating a sustainable and greener future for GSCS and the community.



ALTERNATIVE TRANSIT

Many stakeholders at GSCS indicated the need and desire for alternative ways to access campus to help improve the congestion of vehicular traffic. Providing students, teachers, staff, and community members with safe multimodal access can help improve the pedestrian experience on campus and reduce transportation emissions.



IMPROVED STUDENT & TEACHER HEALTH

Stakeholders expressed the importance of student and teacher health and how it affects performance. Through the implementation of nutrition programs, community gardens, and active spaces, students and teachers can have opportunities and support to improve their overall health.



SENSE OF PRIDE

Community involvement and engagement with the students was highlighted to help preserve local history and pride in Gulf Shores. Shared school pride amongst students, teachers, and community members can help create more professional partnerships and opportunities for career pathways through volunteering, mentorships, internships and more.



COMFORTABLE LEARNING SPACES

Stakeholders indicated the need and desire for more comfortable learning spaces where students and teachers can perform at their best. Improved indoor environmental quality in the classrooms can help support cognitive function in students and teachers.



OUTDOOR LEARNING

Gulf Shores offers a unique variety of natural ecosystems and the protection and maintenance of the dunes and wetlands can help build resilience. Outdoor learning spaces that integrate plantlife can help improve student health and encourage action to help preserve local ecosystems.

How you understand your client's values

Without saying the s word

DO: Brainstorm design strategies to meet these goals

DO NOT: Forget to discuss everyone's role in meeting the goals

MATHER BERKELEY SUSTAINABLE DESIGN PRINCIPLES

		STRATEGIES	High Performance Skin	Night Flushing Natural Ventilation	Central System	Treat facades differently - orientation and context	Cross Ventilation	Increase Ventilation	Thermal Chimney	Introduce Light Vertically	Circadian lighting	Enhance corridor experience
GOALS												
Be at the cutting edge of sustainability		High performance design and operations	X	X	X	X	X	X	X			
Promote health and well-being		Devising to the climate	X	X		X	X	X	X	X	X	X
Win community support		Target 7 dimensions of wellness	X	X	X	X	X	X	X	X	X	X
Balance the budget		Resident comfort	X	X	X	X	X	X	X	X	X	X
Increase intergenerational connections		Get passed by the Berkeley City Council	X	X	X		X		X			
Be marketable		Attract Berkeley residents	X	X	X	X	X	X	X	X	X	X
Enhance urban walkability		Improve site access and circulation										X
Connect people to the environment		Enhance "secret pathways"	X			X	X	X	X	X	X	X
Be actively inviting to the community		Create a cohesive campus and coherent center			X							X
Ensure safety and security		Heal the site										
Use as research opportunity for improving senior living		Increase habitat on site and in the region										
Be reverent to history and context		Enhance and support habitat										
Target LEED Gold		Preserve existing mature trees on site	X	X	X	X	X	X	X	X		

How you understand your client's values

Without saying the s word

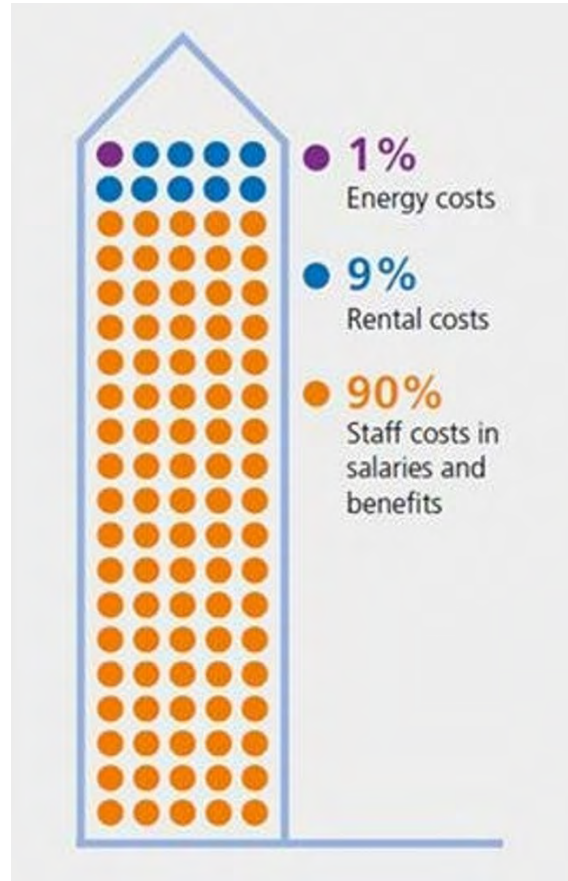
DO: Make sure you get the questions that you need answered to inform your work

DO NOT: Assume these questions have been asked or answered for you



	1	2	3	4
	Air Source Heat Pump with Fan Coil Units	Air Source VRF with Fan Coil Units & Cassettes	Distributed Ground Source Heat Pumps (GSHP)	Traditional Chiller/Boiler with Fan Coil Units
First Costs	●	●	●	●
Energy Performance	●	●	●	●
Incentives & Rebates	●	●	●	●
Maintainability & Simplicity	●	●	●	●
Aesthetics & Acoustics	●	●	●	●
Life Cycle Costs	●	●	●	●
On Site Emissions Implications	●	●	●	●

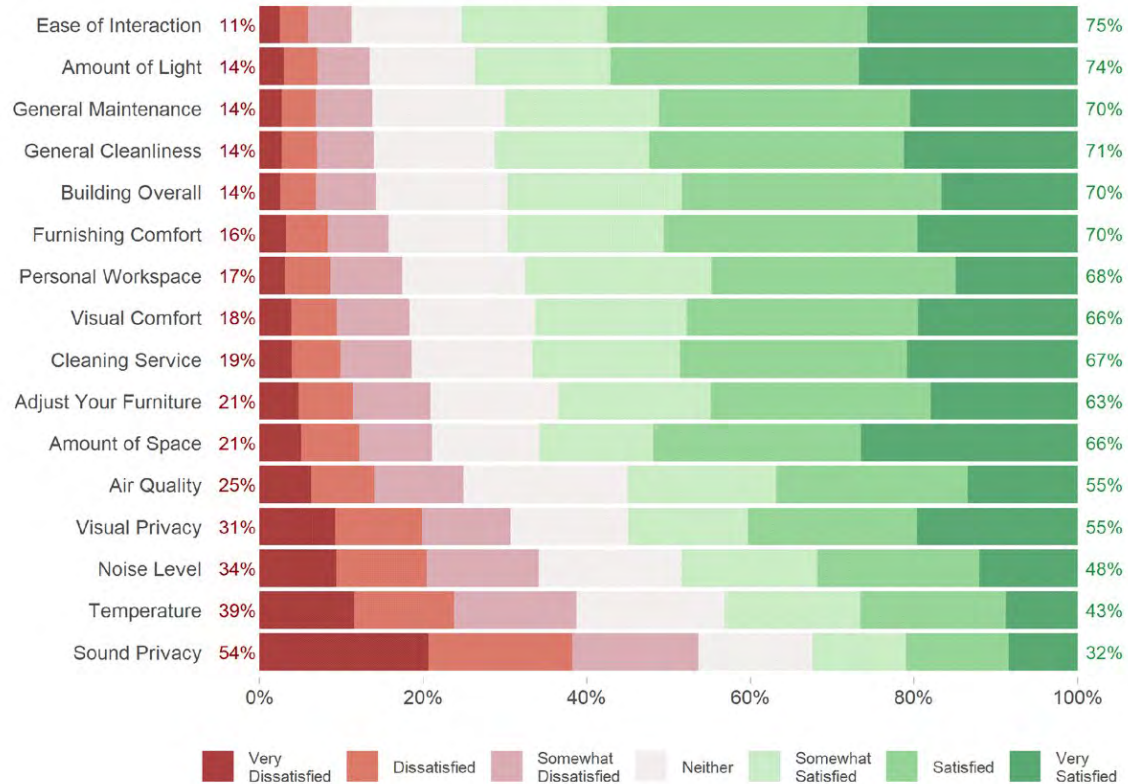
Not about sustainability.



Occupant Performance

For the End Users!

How satisfied are you with...



Occupant Productivity

Daylight / Views / Glare



Occupant Productivity

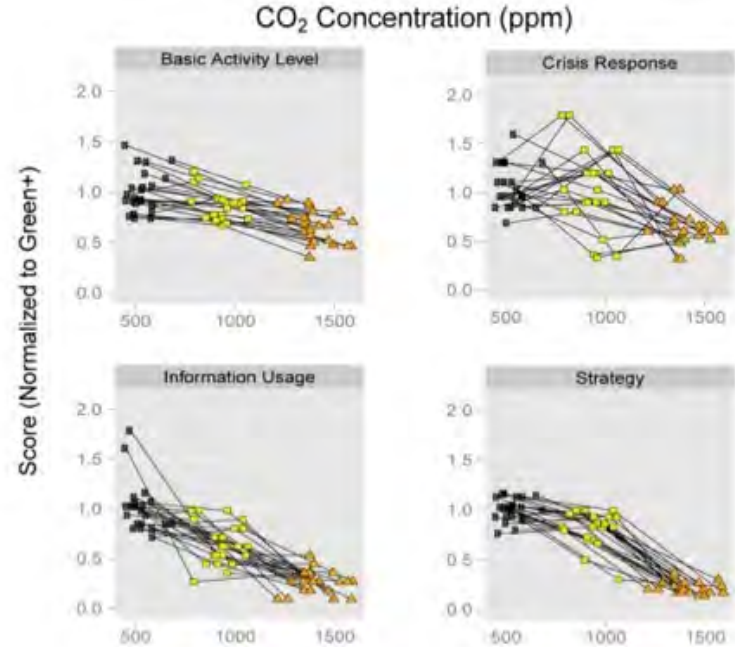
Thermal comfort, Biophilia



Kropman, Daan, et al. "The business case for a healthy office; a holistic overview of relations between office workspace design and mental health." *Ergonomics* 66.5 (2023): 658-675.

Occupant Productivity

Indoor Air Quality



Kropman, Daan, et al. "The business case for a healthy office; a holistic overview of relations between office workspace design and mental health." *Ergonomics* 66.5 (2023): 658-675.

Allen, Joseph G., et al. "Associations of cognitive function scores with carbon dioxide, ventilation, and volatile organic compound exposures in office workers: a controlled exposure study of green and conventional office environments." *Environmental health perspectives* 124.6 (2015): 805. Alle

Risk

Resilience



i A patient waits to be evacuated from the devastated hospital. Photograph: Brad Loper/Dallas Morning News/Corbis



Do you know...

What your clients care about
most?

A close-up photograph of a vibrant green leaf, showing the intricate network of veins. The leaf is the background for the text. The text is in a bold, white, sans-serif font, positioned on the left side of the leaf. The lighting is even, highlighting the texture of the leaf's surface.

Values In Action

The background consists of several overlapping, diagonal stripes of varying shades of green, ranging from a dark forest green to a bright, almost white-green. The stripes are oriented from the top-left towards the bottom-right, creating a sense of depth and movement.

COST

Boston Arts Academy

Boston, Massachusetts | K-12 school

What does my client care about most?

Cost

What do I want?

Triple-Pane Glazing

What are the co-benefits?

- **Lower Operating Costs**
- **Lower Energy Usage**
- **Improved Thermal Comfort**
- **Reduced Noise**



- System Cost Savings: \$508,250
 - Cost of Glazing: \$515,550
- \$7,300 premium**

During buy-out,
Saved over **\$800,000**

in **first costs**

by pursuing triple pane glazing

OSF Healthcare

Peoria, OH | Healthcare

What did the client value most?

Lower Cost

What did the design team want?

Exterior Shading

What are the co-benefits?

- **Better daylight quality**
- **Lower shade deployment**
- **Improved thermal comfort**
- ~~Energy Savings~~
- ~~Smaller HVAC~~



OSF Healthcare

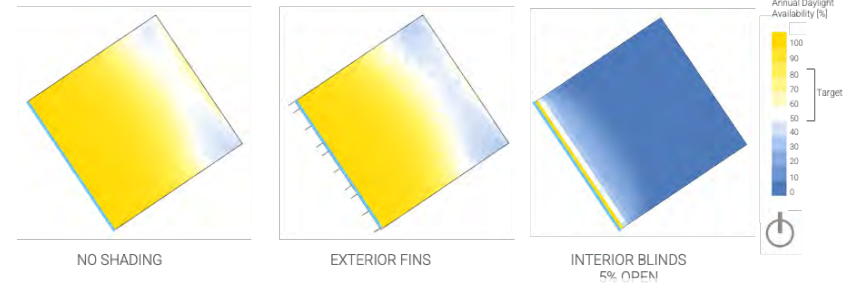
Peoria, IL | Healthcare

What did the client value most?
Lower Cost

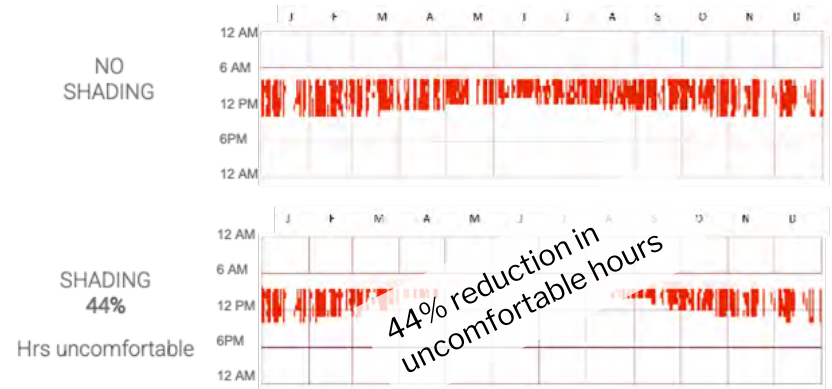
What did the design team want?
Exterior Shading

What are the co-benefits?

- **Better daylight quality**
- **Lower shade deployment**
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- ~~Energy Savings~~
- ~~Smaller HVAC~~



95% less daylight with shades down



■ Uncomfortable
□ Comfortable

OSF Healthcare

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~340 occupants*

X

\$100,000 / yr**

=

34 M / yr of salary costs

* 20% of building occupants

** annual cost per employee (salaries/benefits/etc)

OSF Healthcare

Peoria, IL | Healthcare

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1% perimeter occupant productivity increase =
\$340,000/yr

Annual utilities = \$360,000/yr

The background is a vibrant green marbled paper texture with various shades of green and some brownish veins.

USER OUTCOMES

Western Supply

Tulsa, Oklahoma | Multi-family residential

What does my client care about most?
Community well-being and justice

What do I want?
To go beyond code minimums

What are the co-benefits?

- **Improved thermal comfort**
- **Significant energy savings**
- **Operational cost savings**
- **Passive survivability**



	Code	Enhanced	EUI savings
Walls	R 6.5	R 16.5 (2" continuous)	-5%
Windows	U 0.60	U 0.30	-7%
Infiltration		0.4	-5%
Heating	Electric resistance	Heat pump	-19%

Total energy savings: **30%**



What does my client care about most?
Educational Outcomes

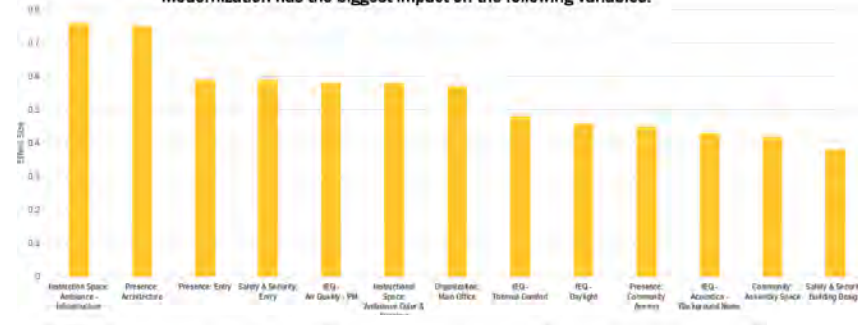
What do I want?
\$\$ for school modernization

What are the co-benefits?
- **Teacher retention**
- **Student/Teacher health/wellness**

Study Design



Modernization has the biggest impact on the following variables:





LIABILITY & RISK

USVI Dept. of Education Design Standards

Multiple Campuses: St Thomas, St John, St Croix | K-12 Schools

What did the client ask for?

Modern Educational Facilities

What did the client really value most?

Withstanding Climate & Hazards

What was the common ground?

- **Passive survivability & IEQ**
- **Low maintenance systems**
- **Materials to withstand wet & humid conditions, corrosion, & pests**
- **Off-grid capability**



Large University Campus

Atlanta, GA | Higher Education

What did the client think they wanted?

Lower Campus Energy Use

What did the client really value most?

Uninterrupted Operations

What was the common ground?

Buildings with a low peak:

- **Lower Energy Use**
- **Lower risk of going offline in a weather event**
- **Lower first HVAC cost**
- **Lower load on the central plant**



An aerial photograph of a dense, lush green forest canopy, viewed from directly above. The trees are packed closely together, creating a textured, vibrant green surface. The lighting is bright and even, highlighting the various shades of green in the foliage.

GUERRILLA SUSTAINABILITY

American University, Meltzer Center

Washington, DC | Higher Education

What does my client care about most?

Providing a center for the holistic wellness of their student athletes

What do I want?

Net Zero Energy

What are the co-benefits?

- **Supports their carbon neutral goal**
- **Helps with BEPS compliance**

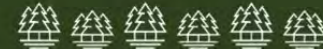


AU IS NOW THE FIRST
CARBON NEUTRAL
UNIVERSITY IN THE US

Carbon Neutrality at AU=

1,253,460

trees planted



EUI 27.3 kBTU/sf/yr

627 kW PV array

+\$1.7M from initial budget

-\$550k federal tax credit

~\$100,000/yr energy cost savings

14 year payback

Woodward-Granger Middle School

Des Moines, IA | K-12 School

What does my client care about most?

Educational Outcomes; Cost

What does the team want?

Meet our Climate Commitments

What are the co-benefits?

- **Significant energy savings**
- **Operational cost savings**
- **Ease of Maintenance**
- **Indoor/Outdoor Env. Quality**
- **Reduced Carbon**
- **Reduced 1st Cost allowing investment in energy alternatives & expansion**



Integrated Design Strategies for:

- AIA 2030: NZE (pEUI 17; w/PV's nEUI 0); EC Reduction of Arch (GWP)
- SE 2050: EC Reduction Target 50%
- ME2040: GSHP + IRA; All Electric
- Materials Pledge: EPD's, HPD's, Red-List Free, EC Reduction (GWP)

WoodwardGranger Middle School

Des Moines, IA | K-12 School

What does my client care about most?
Educational Outcomes; Cost

Integrated Strategies:
**Indoor/Outdoor Environmental Quality -
Daylight, Shading, Views, Wind
Embodied Carbon vs R-Value**



WoodwardGranger Middle School

Des Moines, IA | K-12 School

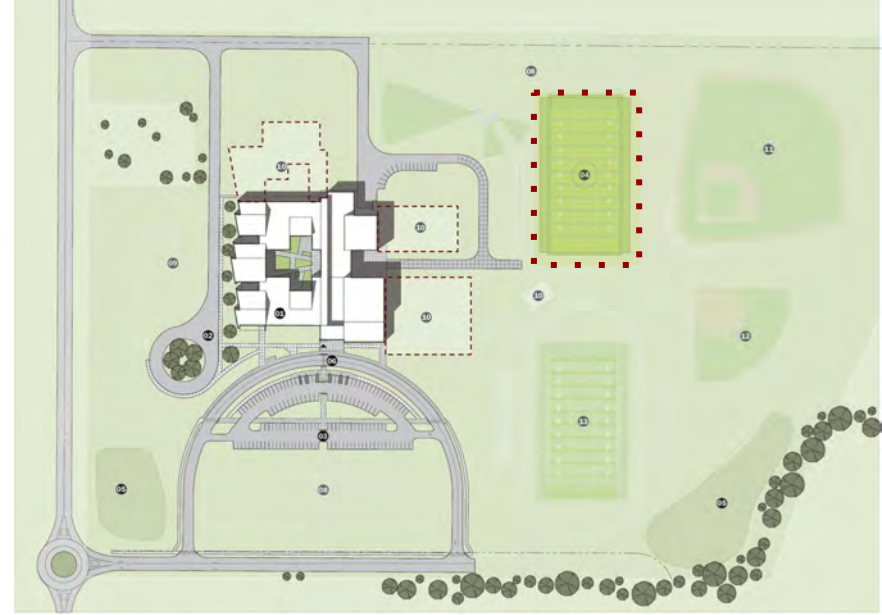
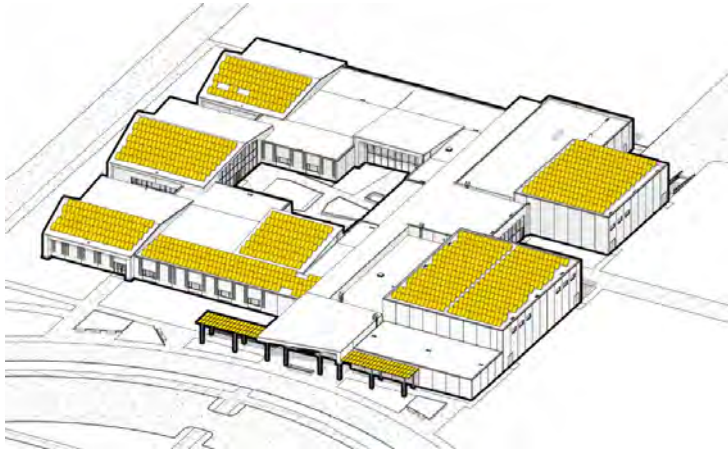
What does my client care about most?

Educational Outcomes; Cost

Integrated Strategies:

Design for Expansion

Structural Embodied Carbon



Integrated Design Strategies for:

- Future Expansion to become a HS
- GSHP well field sized for future SF
- IRA Direct Payments
- PV design for future SF

Embodied Carbon Reduction: ~45%

- AIA Benchmark: 36.2 kgCO₂/SF
- LCA Tally Report at CD: 19.5 kgCO₂/SF₃₈

WoodwardGranger Middle School

Des Moines, IA | K-12 School

What does my client care about most?

Educational Outcomes; Cost

Integrated Strategies:

Material EC & Health



AIA Material Pledge Areas of Impact



HUMAN HEALTH



SOCIAL HEALTHY & EQUITY



ECOSYSTEM HEALTH



CLIMATE HEALTH



CIRCULAR ECONOMY

A	B	C	D	E	F	G	H	
1	DESIGNATION	PRODUCT	BASIS OF DESIGN MANUF	GLOBAL WARMING POTENTIAL (A1-A3)	RED LIST FREE	HPD	EPD	certifications
2	HC, SCE	CONCRETE						
3	PLC	POLISHED CONCRETE						
4								
5	DP-01	WOOD TAMBOUR	Solution Surfaces		yes	✓		✓
6	DP-02	WOOD PANELS	Soelberg		no			
7								
8	F-01	FINISHED FABRIC	Designtex		WELL Certified	✓		
9	F-03	FINISHED FABRIC	Xorel		yes	✓		✓
0	F-05	FINISHED FABRIC	Designtex		no	✓		
1	WDP-01	WOOD WALL PANEL	Solution Surfaces		yes	✓		✓
2	WDP-02	WOOD WALL PANEL	Solution Surfaces		yes	✓		✓
3								
4	FRP-01		Crane Composites		no			
5								
6	CT-01	WALL TILE	Emser		no	✓		✓
7	CT-02	WALL TILE	Emser		no	✓		✓
8	CT-03	WALL TILE	Emser		no	✓		✓
9	CT-04	WALL TILE	San't Agostino		no	✓		✓
10	CT-05	WALL TILE	Emser		no	✓		✓
11	PT-01	FLOOR TILE	Lea Ceramiche		no	✓	✓	✓
12								
13	APC-01	CEILING TILE	Rockfon	✓	yes	✓	✓	✓
14	APC-02	CEILING TILE	Rockfon	✓	yes	✓	✓	✓
15	APC-03	CEILING TILE	Rockfon	✓	yes	✓	✓	✓
16	APC-04	CEILING TILE	Rockfon	✓	yes	✓	✓	✓
17								
18	WS-01	WOOD CEILING	Rulon	✓	no	✓	✓	✓
19								
10	WAF-01	WOOD ATHLETIC FLOOR	Robbins Sports		no			



ACTIVITY!

Listening Activity

Cards Against Sustainability

A card game to help you listen and respond to your clients without using the S word.

Senior Living Community

What They Care About

- Resident well-being, independence, and social connection
- Operational efficiency and long-term viability
- Family and staff satisfaction

Pain Points

- Tight margins and complex regulations



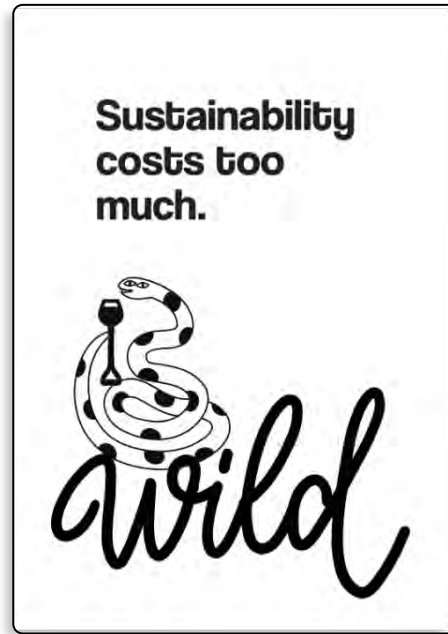
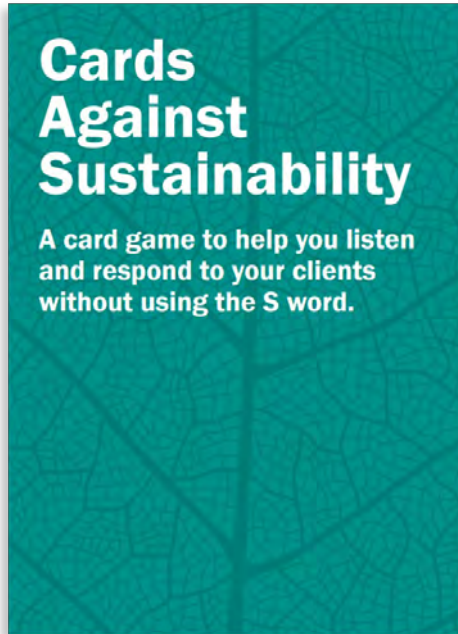
Design for Ecosystems

Good design mutually benefits humans and nonhuman inhabitants. It considers the greater environment for opportunities to create harmony.

Point A

Point B

Listening Activity



Listening Activity



Cards Against Sustainability

A card game to help you listen and respond to your clients without using the S word.


Senior Living Community

What They Care About

- Resident well-being, independence, and social connection
- Operational efficiency and long-term viability
- Family and staff satisfaction

Pain Points

- Tight margins and complex regulations

 **Design for Ecosystems**
Good design mutually benefits humans and nonhuman inhabitants. It considers the greater environment for opportunities to create harmony.

- Connection to outdoors critical to resident health
- Investing in bioretention with native/adaptive planting creates robust outdoor gardens without a ton of work/maintenance
- Doubles to meet your stormwater regulations

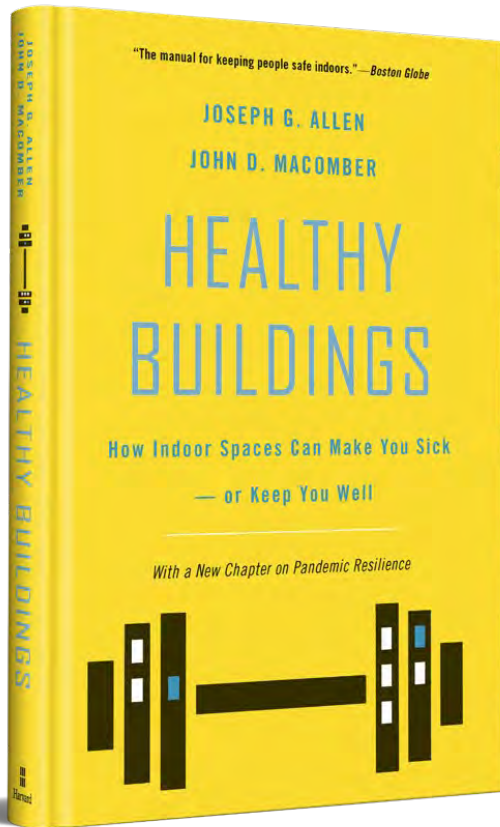
Listening Activity



- Plan to report out to the larger group on:
 - Your **FAVORITE** client scenario card and response
 - The one that stumped you

RESOURCES

Financial Benefits of Healthy Buildings



Focusing on What Matters



Staying Motivated





Q&A

Reach Out!



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BUILDINGENERGY BOSTON

Please fill out an evaluation for this session



or: nesea.org/eval

Northeast Sustainable Energy Association (NESEA)