

The Climate Toolkit Presents

# Webinar 12: Buildings, Energy and Decarbonization



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# Phipps Conservatory





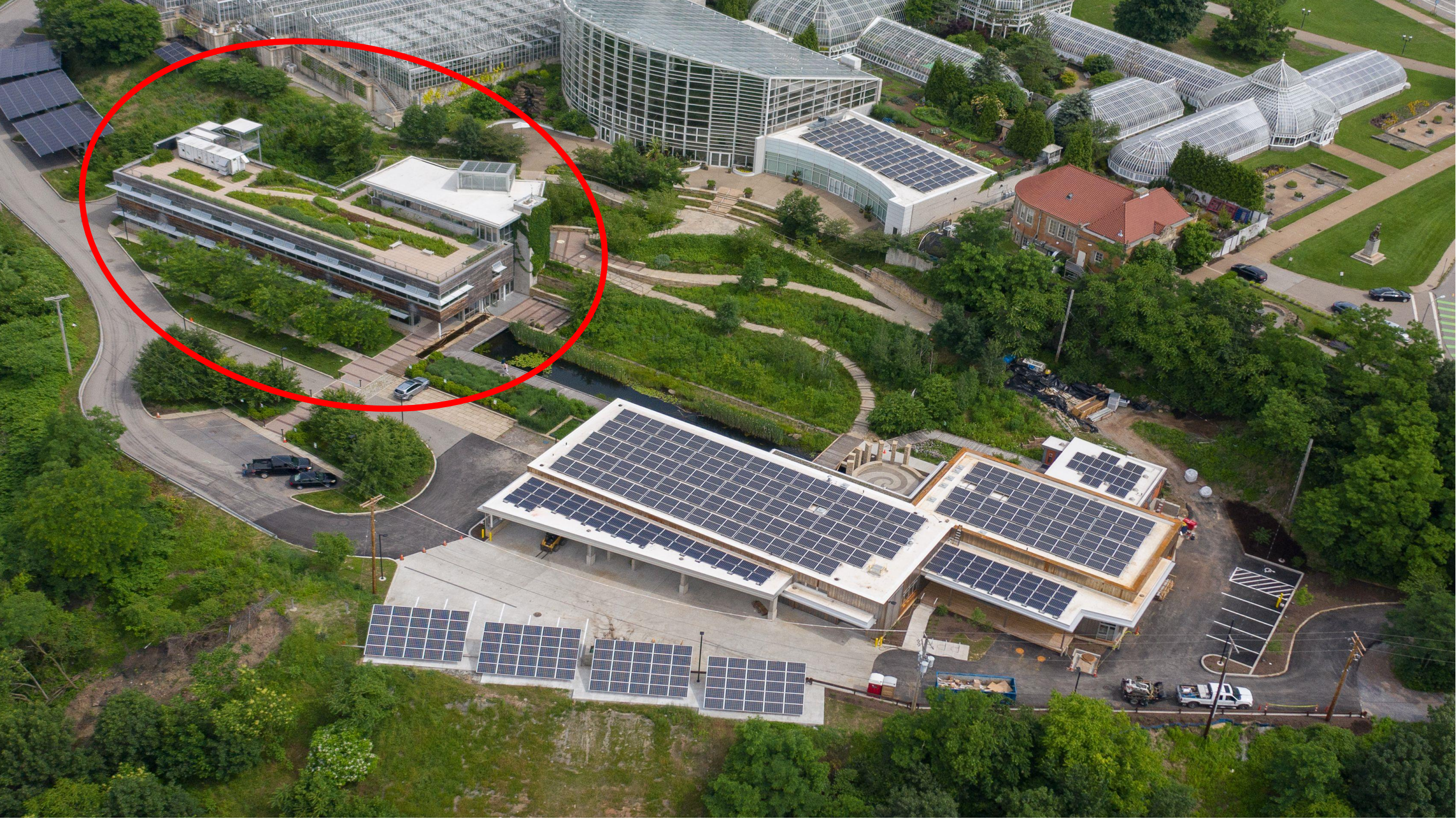
Before (2009)



After (2023)









# Center for Sustainable Landscapes

## *Regenerative*



NET-ZERO ENERGY



# How Do You Measure Success






















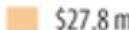


















## **ROI vs. OKR**

Return on Investment vs. Objectives Key Results

# ROI vs. OKR

	ROI	OKR
Zero Energy	X	✓
Clean Air	X	✓
Clean Water	X	✓
Toxic Chemicals	X	✓
Habitat	X	✓
Biodiversity	X	✓
No fossil fuels	X	✓

# Taking a Long-Term View

	Construction	FFE	Design	Net Present Value	
<b>Living Building</b>  <ul style="list-style-type: none"> <li>100 Year Building</li> <li>45' Wings</li> <li>Solar Orientation</li> <li>Natural Daylighting</li> <li>Natural Ventilation</li> <li>Living Machine®</li> </ul>	 \$12.9 m <ul style="list-style-type: none"> <li>Living Machine®</li> <li>45' Wings</li> <li>Increase in Photovoltaics (100%)</li> <li>Design For Deconstruction</li> <li>Reduce Life Cycle Impacts of All Building Materials</li> </ul>	 \$1.7 m <b>\$16.6 m</b>	 \$2.0 m	 \$18.7 m 30 Year Model  \$19.6 m 60 Year Model  \$20.8 m 100 Year Model	<b>Living Building</b> 
<b>LEED™ Platinum</b>  <ul style="list-style-type: none"> <li>100 Year Building</li> <li>45' Wings</li> <li>Solar Orientation</li> <li>Natural Daylighting</li> <li>Natural Ventilation</li> </ul>	 \$12.1 m <ul style="list-style-type: none"> <li>100 Year Building</li> <li>45' Wings</li> <li>Increase in Photovoltaics (20%)</li> <li>Additional Window Shading</li> <li>Additional Concrete Massing</li> </ul>	 \$1.6 m	 \$1.7 m	 \$18.5 m 30 Year Model  \$23.7 m 60 Year Model  \$62.2 m 100 Year Model	<b>LEED™ Platinum</b> 
<b>LEED™ Gold</b>  <ul style="list-style-type: none"> <li>80 Year Building</li> <li>65' Wings</li> <li>Solar Orientation</li> <li>Natural Daylighting</li> </ul>	 \$11.5 m <ul style="list-style-type: none"> <li>80 Year Building</li> <li>65' Wings</li> <li>Increase in Photovoltaics (10%)</li> <li>Concrete Frame Building</li> <li>Partially Daylit Parking</li> </ul>	 \$1.6 m	 \$1.5 m	 \$18.5 m 30 Year Model  \$27.8 m 60 Year Model  \$95.8 m 100 Year Model	<b>LEED™ Gold</b> 
<b>LEED™ Silver</b>  <ul style="list-style-type: none"> <li>60 Year Building</li> <li>90' Wings</li> <li>Natural Daylighting</li> </ul>	 \$11.3 m <ul style="list-style-type: none"> <li>60 Year Building</li> <li>90' Foot Wings - 3 Stories</li> <li>Raised Access Flooring</li> <li>Sun Shades on South</li> <li>Photovoltaics (5%)</li> </ul>	 \$1.5 m	 \$1.5 m	 \$19.7 m 30 Year Model  \$36.7 m 60 Year Model  \$166.9 m 100 Year Model	<b>LEED™ Silver</b> 
<b>Market</b>  <ul style="list-style-type: none"> <li>40 Year Building</li> <li>120' Wings</li> <li>Big Box</li> </ul>	 \$10.0 m Typical Class "A" Office Building	 \$1.3 m <b>\$12.6 m</b>	 \$1.3 m	 \$22.7 m 30 Year Model  \$62.9 m 60 Year Model  \$348.9 m 100 Year Model	<b>Market</b> 



# The True Cost of Conventional Building:

## Operational and Maintenance Expenses

BUILDING TYPE	UPFRONT DESIGN+BUILD COST	NET PRESENT VALUE		
		30 YEARS	60 YEARS	100 YEARS
Living Building	\$16.6 m	\$18.7 m	\$19.6 m	\$20.8 m
Market Rate Building	\$12.6 m	\$22.7 m	\$62.9 m	\$348.9 m



# Four Different Paradigms for Interacting with the World

Extractive	Less Bad	Do Good	Regenerative
About Me	About Us Inter-connectedness	About Us Reciprocity	About Us Relationships
Fragments	Fragments Stabilize them	Fragments Improve them	Whole
<b>Exchange or Extract Value</b>	<b>Stabilize or Arrest Disorder</b>	<b>Improvement</b>	<b>Evolve Capacity</b>

Source: Carol Sanford