

Developing Whole Institution Sustainability Projects for Science Centers and Museums

ASTC 2022

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**SUSTAINABLE
FUTURES**

NISE NATIONAL INFORMAL
STEM EDUCATION
NETWORK

MAY 26, 2022

THE DAILY HERALD

HEATTOWN'S
FAVORITE PAPER

WILDFIRE THREATENS HOMES, POWER GRID

High temperatures and winds fanned the blaze that threatens homes near the edge of town. The local utility is increasingly concerned that the fire could damage power lines and cause a blackout.



A helicopter sprays water on the wildfire raging in Jefferson Forest.

JEFFERSON FOREST: Scorching heat is fueling wildfires in the Jefferson Forest area south of downtown.

High heat and high winds are drying out dead trees and leaves, creating a dangerous situation for local residents and firefighters. Evacuations of local homes are underway.

About 100 homes are currently threatened by the fire.

The local utility is keeping a close watch on the fire. Several high

electricity to the city run through Jefferson Forest.

The potential for power outages due to damage from the fire has local authorities worried about public safety.

Without power or air conditioning, thousands across the city could face dangerous conditions with record temperatures forecasted for later this week.

“High temperatures and no A/C is a recipe for heat exhaustion or heat stroke,” said Jeremy, a city

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NATION

Rolling blackouts called off amid 'extraordinary heat event' in California

John Bacon, Celina Tebor and Thao Nguyen USA TODAY

Published 10:26 a.m. ET Sept. 6, 2022 | Updated 1:49 a.m. ET Sept. 7, 2022

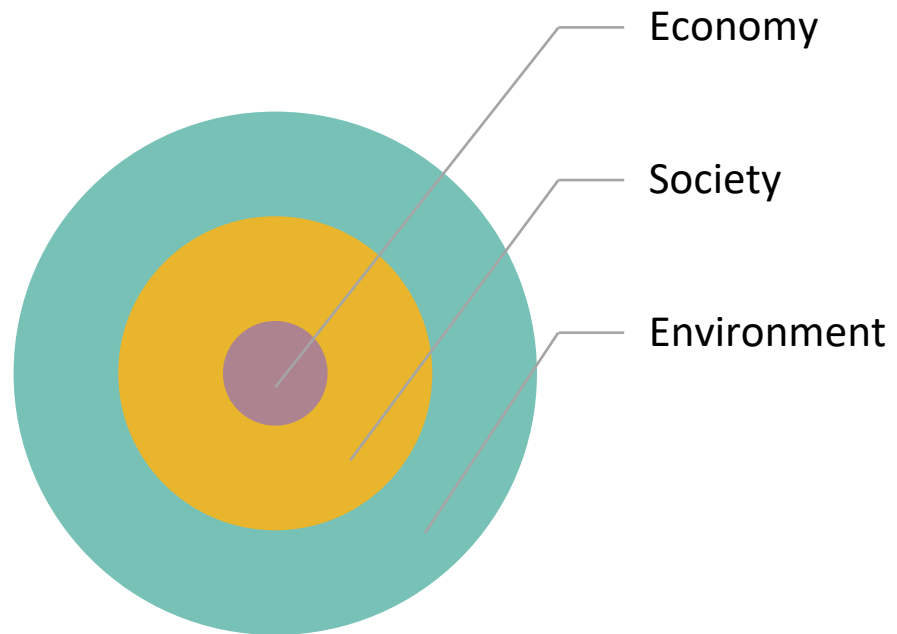
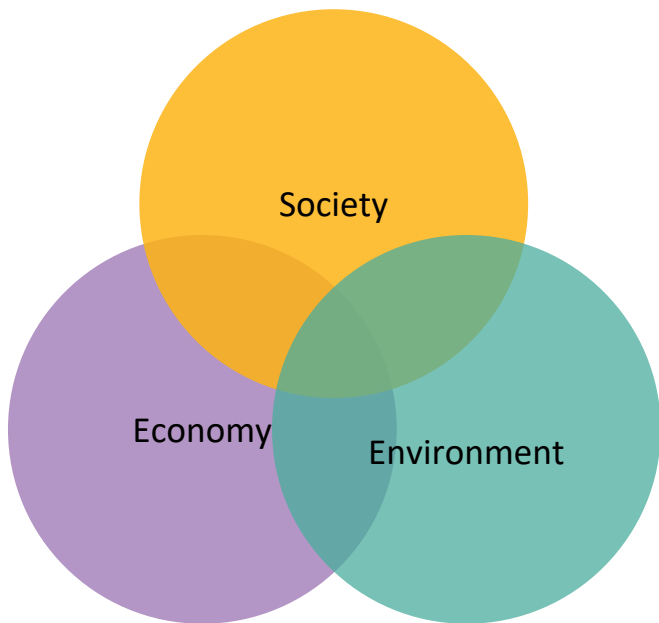
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Sustainability





Sustainability

“meets the **needs** of the **present** without compromising the ability of **future** generations to meet their own needs”

Needs – include food, water, shelter, work, happiness, and respect.

Future – people in the future will also have needs. How will our actions affect them?

Present – people all over the world have needs that are equally important and must be met.

Sustainability means healthy people, communities,
and environments, now and in the future.

United Nations





Education for sustainability

“cultivates **individual** and **collective** potential ... to increase the possibility that humans and other life can flourish on Earth now and into the **future**”

Individual – empowering
learners

Future – making a difference as
an organization

Collective – connecting
with our communities

Sustainability & Museums Fellowship

1. Establish relationships with other fellows
2. Share and learn key concepts in sustainability science and education, sustainability practices for cultural organizations, and available tools and resources
3. Develop project ideas in collaboration with other fellows and others at their organizations
4. Implement and report out about a sustainability project

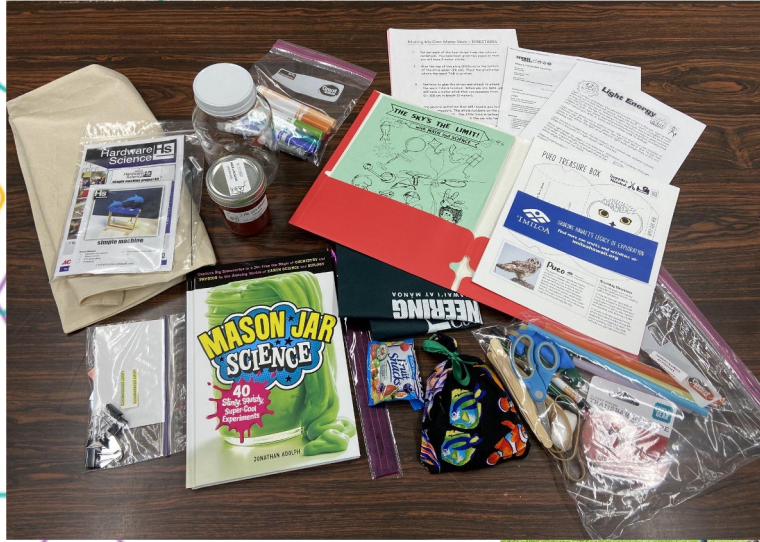


Whole institution approach to sustainability (UNESCO)



A whole institution approach integrates sustainability into all aspects of an organization.

Whole institution approach in practice...



Photos from Christian Wong,
Hawai'i Science and
Technology Museum



Sustainability fellows sought to

- **Educate** and build awareness
- **Model** behaviors, big and small
- **Create collaborations** and community
- **Start conversations** with their community and visitors

A decorative pattern of overlapping hexagons in purple, yellow, and teal colors is located on the left side of the slide.

Sustainability and Museums

“[A broader view of sustainability] really helped me get a better grasp of how deep sustainability can go in a museum setting. I’ve found myself thinking every day about the little decisions that we can make, or the small things we can tweak, to be a more sustainable institution.”

– Museum professional

Navigating sustainability

Make sustainability relevant to your community

- Highlight local natural features or issues important to the community
- Build partnerships with your community
- Avoid “blame”

Sustainability is about more than nature



Photos from Robin Ramsey, Boonshoft Museum of Discovery

Navigating sustainability

Make sustainability relevant to your community

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Sustainability is about more than nature.



Post by Darcie Cook, Cape Fear Museum

Practical considerations

Start small and build on existing programs

Work with those in your organization or community who are already supportive

Make it fun for your team



Sustainable Futures Professional Resources

Professional resources

Sustainable Futures professional resources are designed for museums and similar cultural organizations. Materials are designed to help your organization become more familiar with sustainability science and practices and to help you plan and implement sustainability-related projects.

- [Why Sustainability?](#)
- [List of Selected Resources](#)
- [Sustainability Conversation Guide](#)
- [Sustainability Effort Planning Table](#)
- [Photovoice Training Guide](#)
- Sustainable Development Goals Brainstorming Activity [Facilitation Guide](#) and [Worksheet](#)



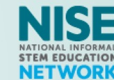


**SUSTAINABLE
FUTURES**

Sustainability and Museums:

A Workbook for Improving Operations, Engaging
Communities, and Creating Partnerships

By Nicholas Weller and Rae Ostman



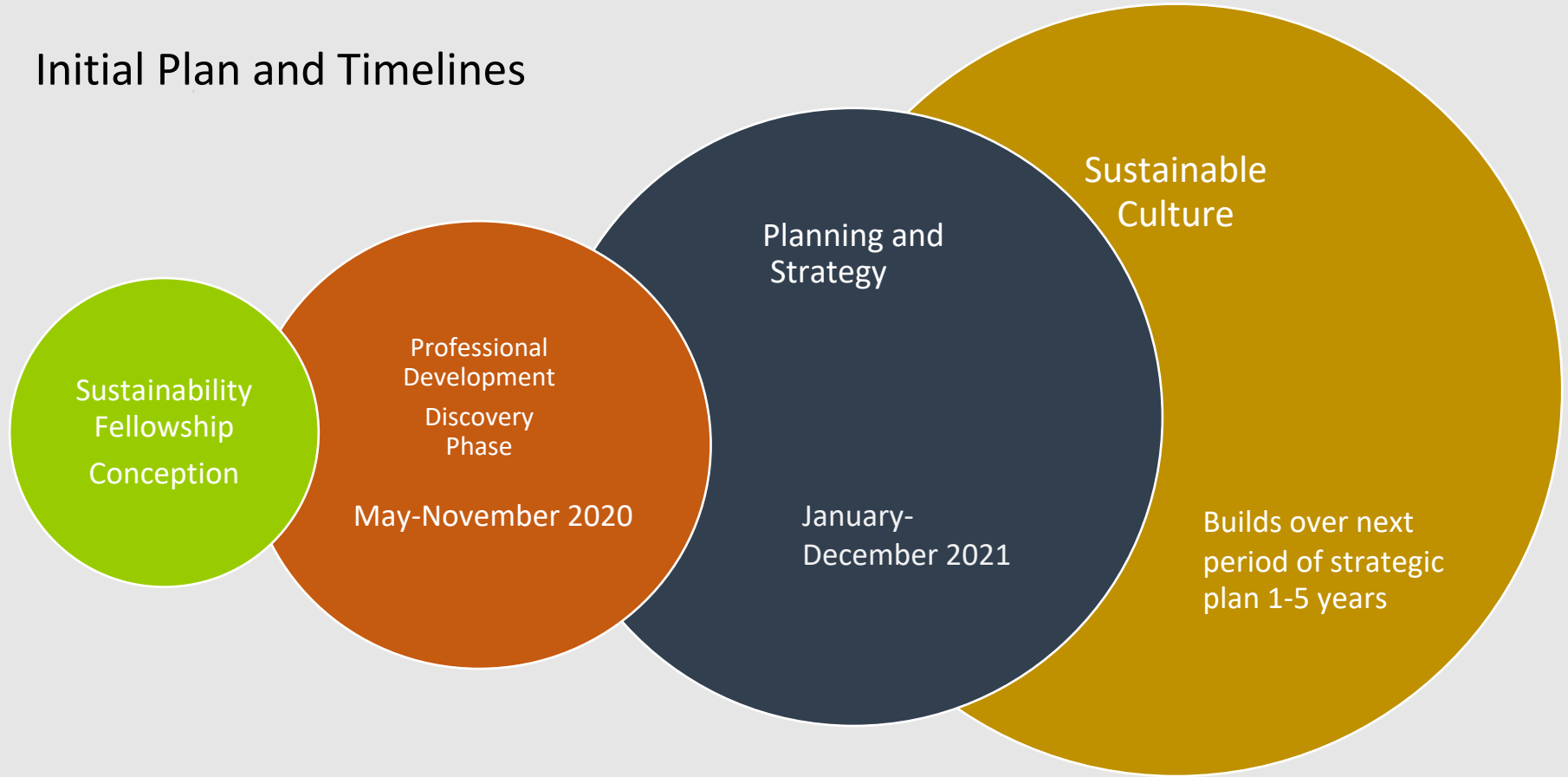
www.nisenet.org

PROJECT: Work with the Science Center to adopt the Sustainable Development Goals across departments with the structure to support this.

Maddie Earnest



Initial Plan and Timelines



Current thinking



Sustainable Futures Team 2022 goals

Yellow=completed Blue=in progress Grey=changed

	1 Communicate External to the public	2 Learn Internal with SLSC Staff and galleries	3 Organization or operations Internally we as SLSC will do
Good Health and Well Being	Continued vaccine/booster communication with public as needed.	Continued work with vaccine conversation station	HR Wellness program Re-install "No idling" signage (can get free from Lung Association) Meal planning—March Garden class—lunch n learn Bike commuting class in May
Clean Water and Sanitation	World Water Day, 3/22 Tues Social Media World Toilet Day, Saturday, November 19 Social Media		Redesign Rain Play to reduce water consumption Green Biz Challenge Design and install educational signage at water bottle filling stations.(complete)
Sustainable Cities and Communities <small>By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities. By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.</small>	Social Media posts written by SFT Air Quality sign on bridge—redo	Provide brown bag to staff on decreasing home energy consumption Air Quality staff in-service—American Lung Association Host Green Living Festival with Missouri Botanical Garden	Turn off your computer challenge-IT and SFT Reduce barriers to membership for ____people Join USGBC

	1 Communicate External to the public	2 Learn Internal with SLSC Staff and galleries	3 Organization or operations Internally we as SLSC will do
Climate Action	Climate Science on Webpage—current science Communicate climate change conversation efforts through social media and through New Science	Continued training with the zoo Set goals for education staff regarding content	Develop Sustainability Statement for SLSC Develop Sustainability strategy Finalize SLSC Climate Change Statement Join Midwest Climate Collaborative
Responsible Consumption and Production	Communicate efforts to external channels (New Science, Social Media, Media, Website, etc) Use Social Media—what can guests do in their own lives	Do a staff challenge around waste or consumption (example food waste or reduced trash) Communicate efforts within SLSC (Town Halls, SF, Fridays huddle) "The Great Giveaway" (staff free garage sale) December 2022 Zero Waste event—joint events with ZMD institution (September/October) Find and distribute Sustainability videos for staff	Utensils and/or lunch bags for new staff—SFT at all orientations update signage on trash cans (get costs) this includes the 3-D printed change update signage on dumpsters outside (can't see recycling signage from dock) Institute Battery recycling (altered to institute rechargeable battery use) Exhibits team to use OMSI Guidelines for exhibit development. (To consider—what is the percentage of budget increase we'd need? Work with other institutions for sourcing...) Encourage a culture of reuse and sustainability—examples of seasonal/holiday decoration
Reduced Inequalities (DEAI team)		Series of trainings with all staff Include DEAI in staff orientation	Staff training on DEAI to interface with Paylocity Equity statement for SLSC



Planning

SFT team, team
sponsors, ZMD group,
STL Green Biz Challenge



Sustainable Culture

Actionable and
ongoing

Strategy

Organizational level
Policy changes,
sustainability
statements,
financial inputs



Simon Mused

Senior Exhibitions Manager



Tale of Two Museums

Scott Family Amazeum



MOXI, The Wolf Museum of Exploration + Innovation



Climate Change Challenge

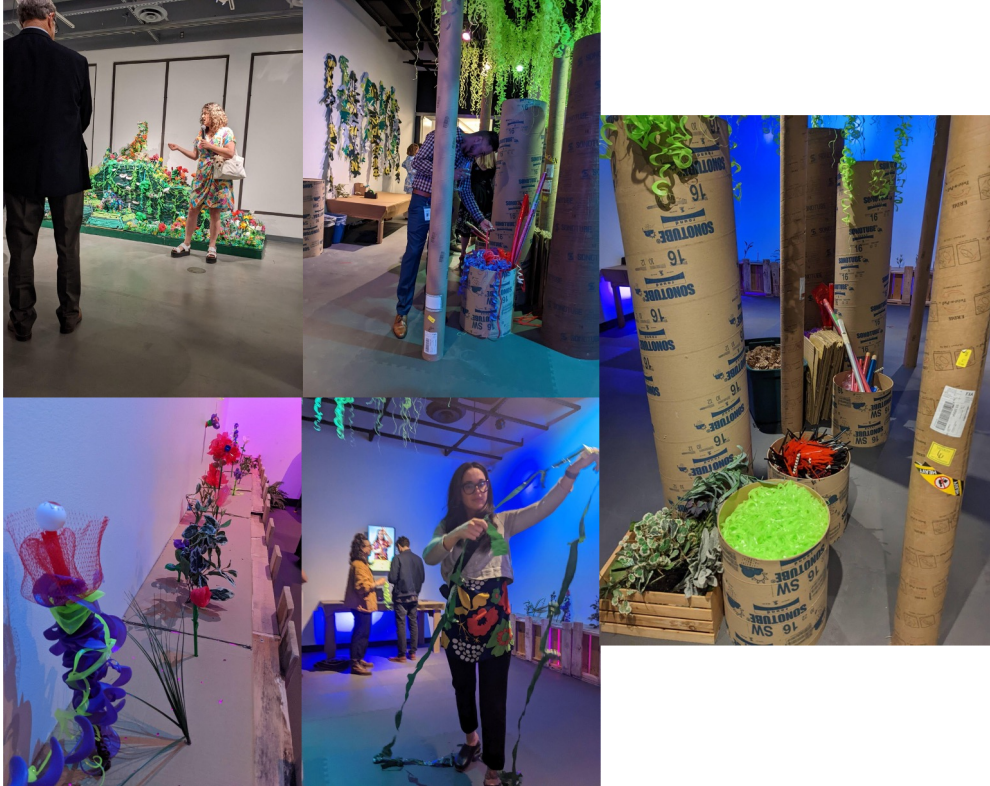


**ENVIRONMENTAL
ALLIANCE**

Santa Barbara
County Museums



Scrap Reuse Makerspace



Scott Family Amazeum



Presented by Willard & Par Waller
Chemical Foundation, Inc.

Teacher PD Programs

Geothermal Heating

Boards/Advisors to Schools

Girls in STEM Programs



Marci Howdysshell

Senior Director of Scientific Content and Research

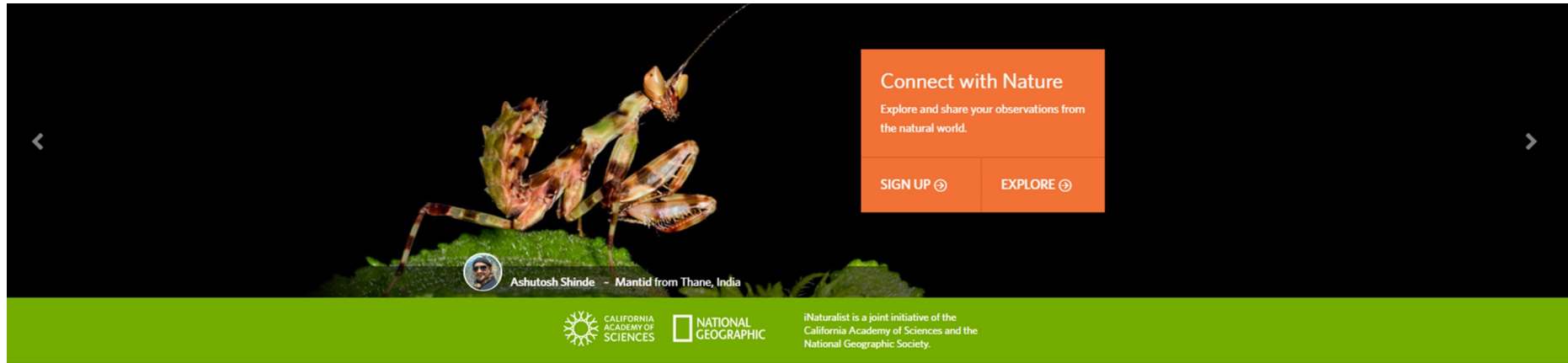


2022



BLITZ

cosi
SCIENCE
FESTIVAL



Ashutosh Shinde - Mantid from Thane, India



iNaturalist is a joint initiative of the California Academy of Sciences and the National Geographic Society.

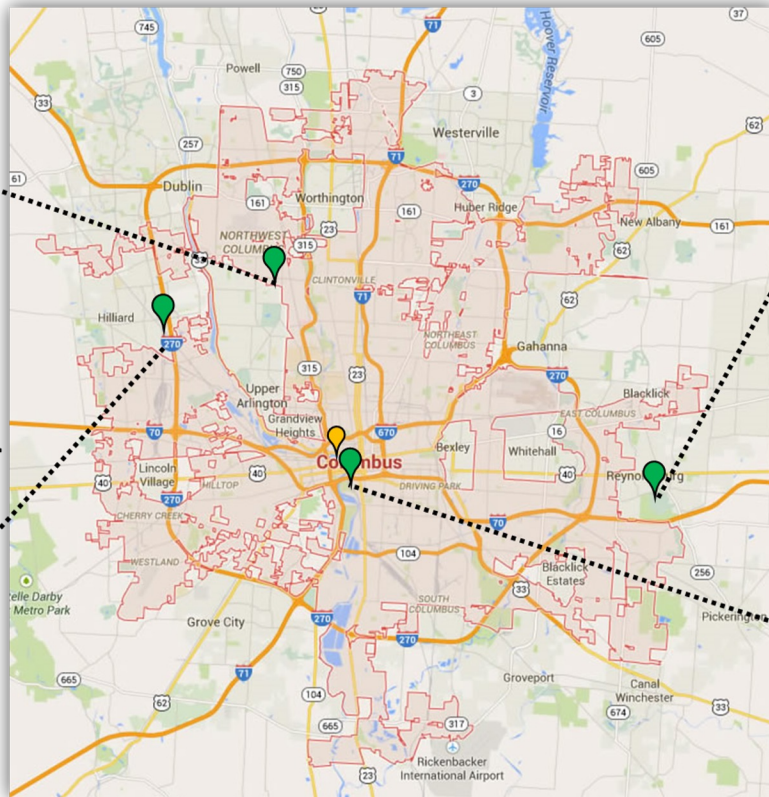
How It Works



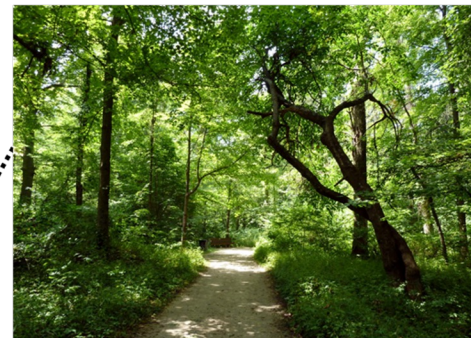
Whetstone Park



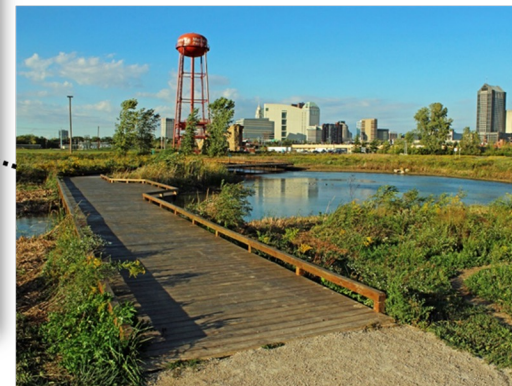
McKnight Outdoor Education Center



Blacklick Woods Metro Park



Scioto Audubon Metro Park



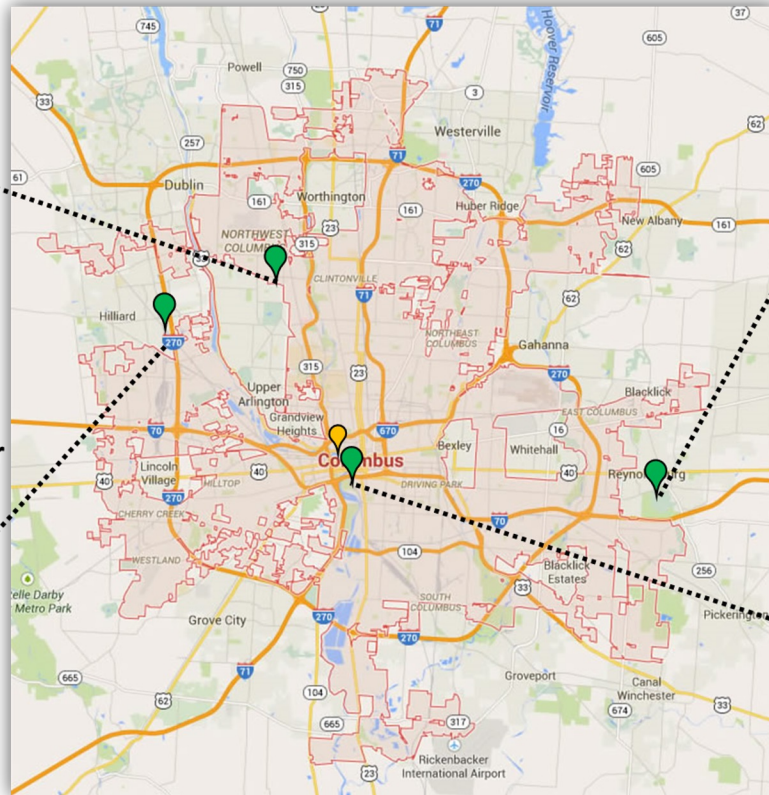
Whetstone Park

- Restored Prairie Tour



McKnight Outdoor Education Center

- *Flora, Fauna and Flyers* guided hike



Blacklick Woods Metro Park

- *Be a Scientist!* Guided hike



Scioto Audubon Metro Park

- Birdwatching guided walk
- Macros and Margs





SUSTAINABLE DEVELOPMENT GOALS



Karen Dewhirst

Creative Discovery Museum

Chattanooga, TN

Sustainability Internship

Sustainable Practices Statement

Creative Discovery Museum is committed to making our community the best place for a child to grow up. Protecting and improving the local environment and being good stewards of our resources is integral to achieving this vision goal. To that end, CDM will:

- Reduce trash going into landfill.
- Increase compostable collection.
- Reduce single use plastics sold and used.
- Reduce costs by streamlining procedures.
- Educate guests and staff.

Meet Ashley Sustainability Intern

Results from Internal trash Audit

- 68% cafe & party waste
- 15% bathroom waste
- 10% paper & paper toweling
- 7% mixed waste
- 10% recyclables recycled



Initiatives

- Zero waste member event
 - Saved \$20 over previous year
 - Remember the little things (foil on hot dogs, condiment pkts)
 - Have compost experts on hand to keep compost plastic free
 - Diverted over 100 pounds from landfill to compost
 - Test collection of bathroom paper towels not successful
- Adult Halloween event compost education
 - Touch & identify partially composted matter
 - Participation didn't increase compost collection
- Energy Star Portfolio Manager
 - Track energy, water and natural gas usage

Initiatives (continued)

- green/light certification achieved 12/20
 - Solar panels installed (grant funded)
 - Energy efficient light bulbs throughout
 - Energy efficient windows installed (grant funded)
 - Rooftop gardens and green roof
- Surveyed staff
 - Established baseline commuting miles/year 335,000
 - 86% of respondents said sustainability was of high importance
 - 54% agreed that organization was environmentally sustainable



Staff awareness is increasing!

Compost collection is
increasing!
>2 tons of compostable
waste diverted since 2019

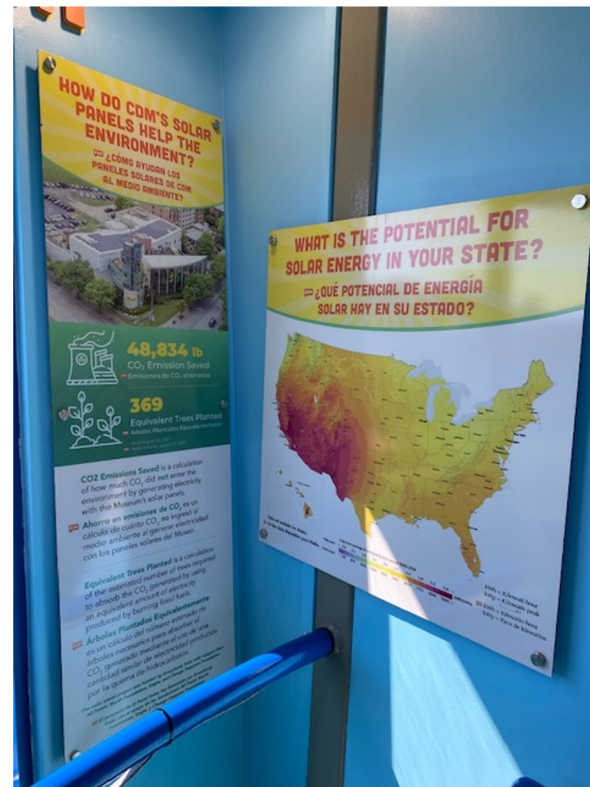




Water filling stations reduce single use plastics



Additional solar panel arrays installed



Signs help to inform guests and staff

How did we do?

Creative Discovery Museum is committed to making our community the best place for a child to grow up. Protecting and improving the local environment and being good stewards of our resources is integral to achieving this vision goal. To that end, CDM will:

- Reduce trash going into landfill - **somewhat**
- Increase compostable collection - **yes!**
- Reduce single use plastics sold and used - **somewhat**
- Reduce costs by streamlining procedures - **somewhat**
- Educate guests and staff - **yes!**

Sustainability and Museums Activity

Share ideas, successes, and feedback for
integrating sustainability into your
institutions

Sustainability and Museums Activity

Choose 3 SDGs you feel your organization is well-suited to address and 3 SDGs you feel would be challenging to address



Sustainability and Museums Activity

Choose 3 SDGs you feel your organization is well-suited to address and 3 SDGs you feel would be challenging to address

Share these with those at your table



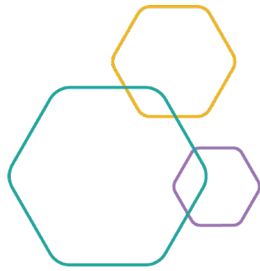
Sustainability and Museums Activity

Choose 3 SDGs you feel your organization is well-suited to address and 3 SDGs you feel would be challenging to address

Share these with those at your table

Select a few challenging SDGs as a table and brainstorm or share ways organizations might address them





The Rob and Melani Walton Sustainability in Science and Technology Museums program is supported through funding from The Rob and Melani Walton Foundation.



Sustainable Museums: Professional Development to Support Fieldwide Capacity in Practice, Partnerships, and Education for Sustainability is made possible in part by the Institute of Museum and Library Services

*The Sustainable Development Goals (SDGs) logo, color wheel, and icons are used according to the United Nations guidelines:
https://www.un.org/sustainabledevelopment/wp-content/uploads/2019/01/SDG_Guidelines_AUG_2019_Final.pdf*