

Navigating Green Infrastructure Operations & Maintenance



ENVIRONMENTAL POLICY
INNOVATION
CENTER

July 12, 10am PT



Housekeeping & How to Ask Questions

Chat

Me to **Everyone** 2:22 PM

Type your questions in the chat!

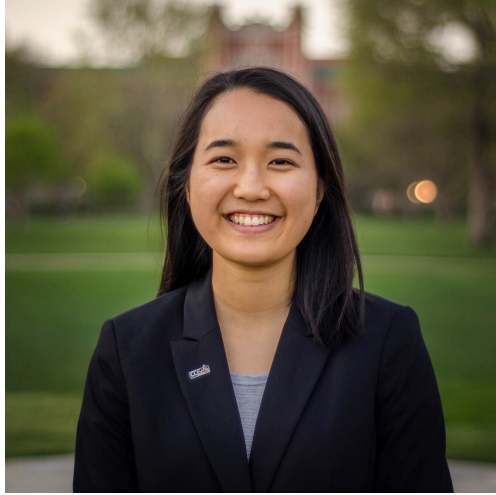
Who can see your messages?

To: Everyone

Type message here...

Zoom meeting controls showing the Chat and Reactions buttons. Two red arrows point to these buttons. The Reactions menu is open, showing options like Clapping Hands, Thumbs Up, Heart, Laughing Face, and Raise Hand.

TODAY'S SPEAKERS



STEPHANIE VO
Senior Water Policy Associate,
Environmental Policy
Innovation Center



BARBARA HOPKINS
Executive Director,
Green Infrastructure
Leadership Exchange

TODAY'S SPEAKERS



NICOLE CHAVAS
President and COO,
Greenprint Partners



LISA SASSO
Sr. Project Planner,
Milwaukee Metropolitan
Sewerage District



CAROLINE KOCH
Water Policy Director,
WaterNow Alliance

Agenda



- About WaterNow Alliance
- State of Public Sector GSI
- Navigating GSI Maintenance with Capitalized Establishment Costs
- Case Studies: MMSD's History of GI Funding Programs
- Next Step "Visioning" Discussion
- Audience Q&A

PLEASE COMPLETE OUR WEBINAR EVALUATION!



 **waternow** alliance
water leaders. resilient solutions.

OUR MISSION

ENGAGE

our growing network and connect them to opportunities, ideas, data, resources and one another

ADVOCATE

for a sustainable water future by eliminating barriers and advancing solutions through our policy work

DEMONSTRATE

success by showcasing strategies that communities can replicate and scale

A forum and network of local water leaders advancing sustainable, affordable, equitable and climate resilient water strategies

WHAT DO WE MEAN BY SUSTAINABLE?

Providing safe, healthy, and affordable water services for people while preserving the integrity of water resources and the environment for future generations.



WHAT DO WE MEAN BY EQUITABLE?



Water equity means universal access to secure, affordable, safe, and healthy drinking water, and wastewater and stormwater management services. Equitable water infrastructure investment should support the long-term sustainability of our waterways, water systems, and utilities.



The State of Public Sector

Green Stormwater Infrastructure



Tap Into Resilience Meeting | July 12, 2023
Presented by: Barbara L. Hopkins, Esq., ASLA, Executive Director,
Green Infrastructure Leadership Exchange



the **green** infrastructure
leadership exchange

Advancing Equitable GI Implementation

The Exchange

56 Member Organizations

360 Individual Members

The Exchange is a social impact network and community of practice that seeks to activate local governments & stormwater agencies in the U.S. & Canada to implement green stormwater infrastructure (GSI) equitably.



The Report

www.stateofgsi.org

The State of Public Sector
Green Stormwater Infrastructure

2022



 the green infrastructure
leadership exchange

Purpose

1

Understand the current **state of green infrastructure implementation**, and to assess the drivers, barriers, and levers affecting adoption.

2

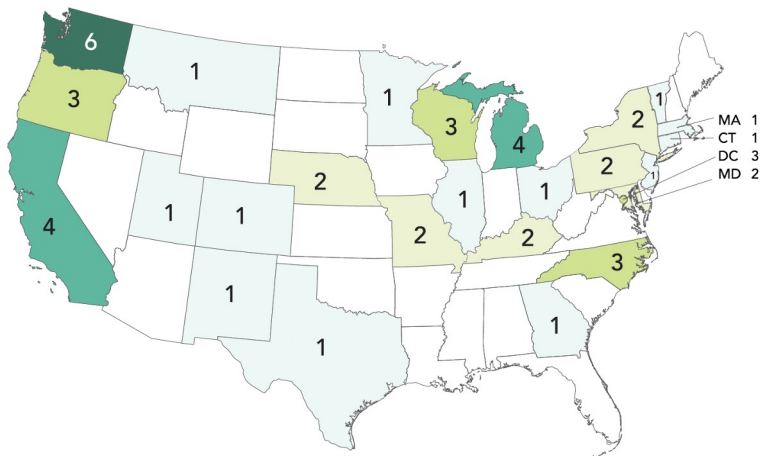
Move the industry toward a **shared standard** for green infrastructure that's inclusive of equity, community engagement, co-benefits, and long term maintenance and fits within the One Water framework.

3

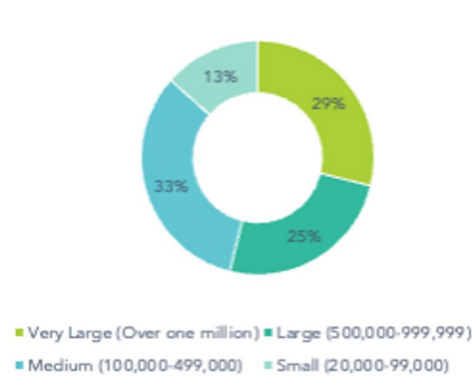
Offer **recommendations** for the public sector, and those that seek to support scaling of green stormwater infrastructure that serves communities.

Whose story are
we telling?

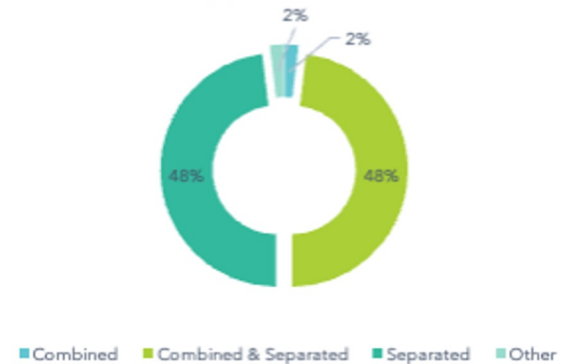
52 public sector stormwater management organizations representing 13% of the US population responded.



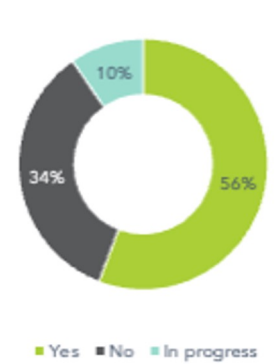
Population size of Jurisdiction Served



Sewer Type of Jurisdiction



Stormwater fee



Size of GSI Team

Median # FTEs Focused on GSI:

Planning + Delivery Staff 3
 Maintenance Staff 2

TOTAL YEARS OF GSI PLANNING & DEVELOPMENT



What are we
spending?

Nationwide, GSI accounts for **10%** of stormwater-related capital expenditures.

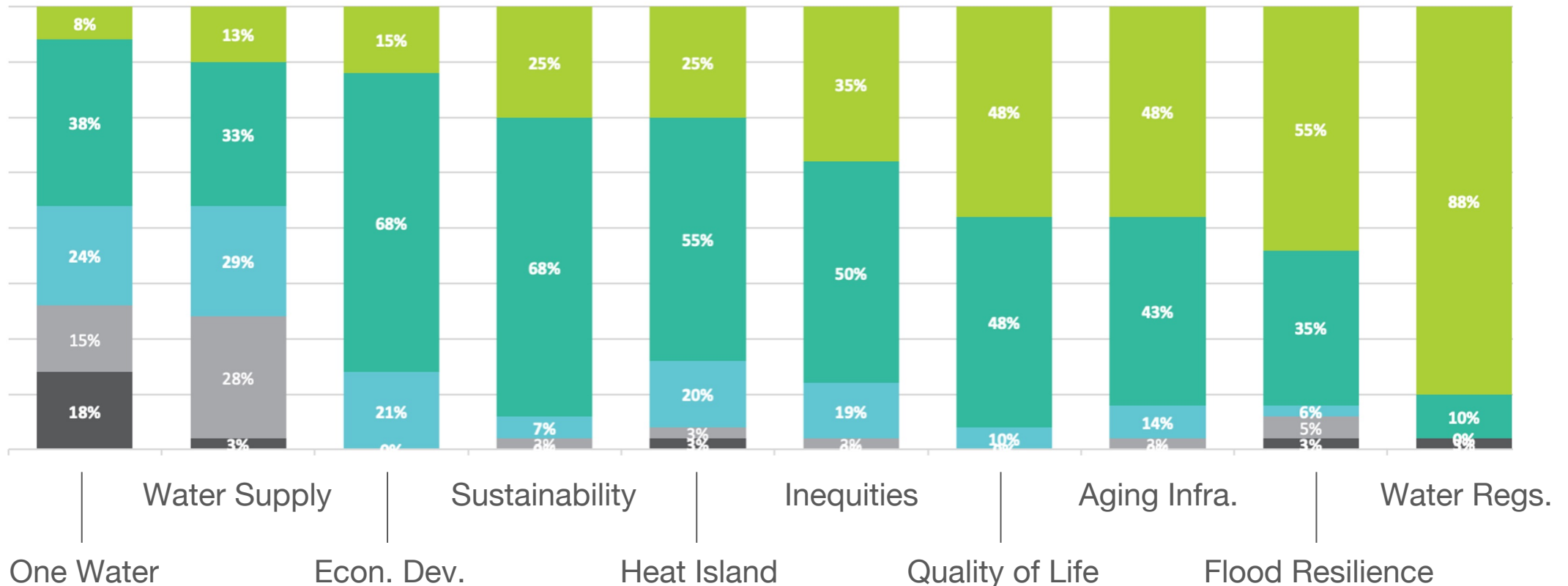
	Range	Median
Current Annual Total Capital Expenditures for Stormwater Management (USD)	\$0 - \$288,870,000	\$2,750,000
Current Annual Green Infrastructure-Related Capital Expenditures (USD)*	\$0 - \$156,030,000	\$280,000
Current Annual Green Infrastructure-related O&M Expenditures (USD)*	\$0 - \$5,300,000	\$100,000
Percent of Stormwater Annual Capital Expenditures Spent on Green Infrastructure**		10%
\$/Drainage Acre Managed	\$0 - \$930,000	\$38,168
\$/Gallon	\$0 - \$46	\$1.07

The State of Drivers

Regulation is the **#1 driver**, but co-benefits are not far behind. Flood resilience and supporting aging infrastructure are secondary drivers, and community quality of life and equity are tertiary drivers.

GSI Support Drivers

Don't know / Not sure
 Not applicable
 Not at all important
 Somewhat important
 Very Important

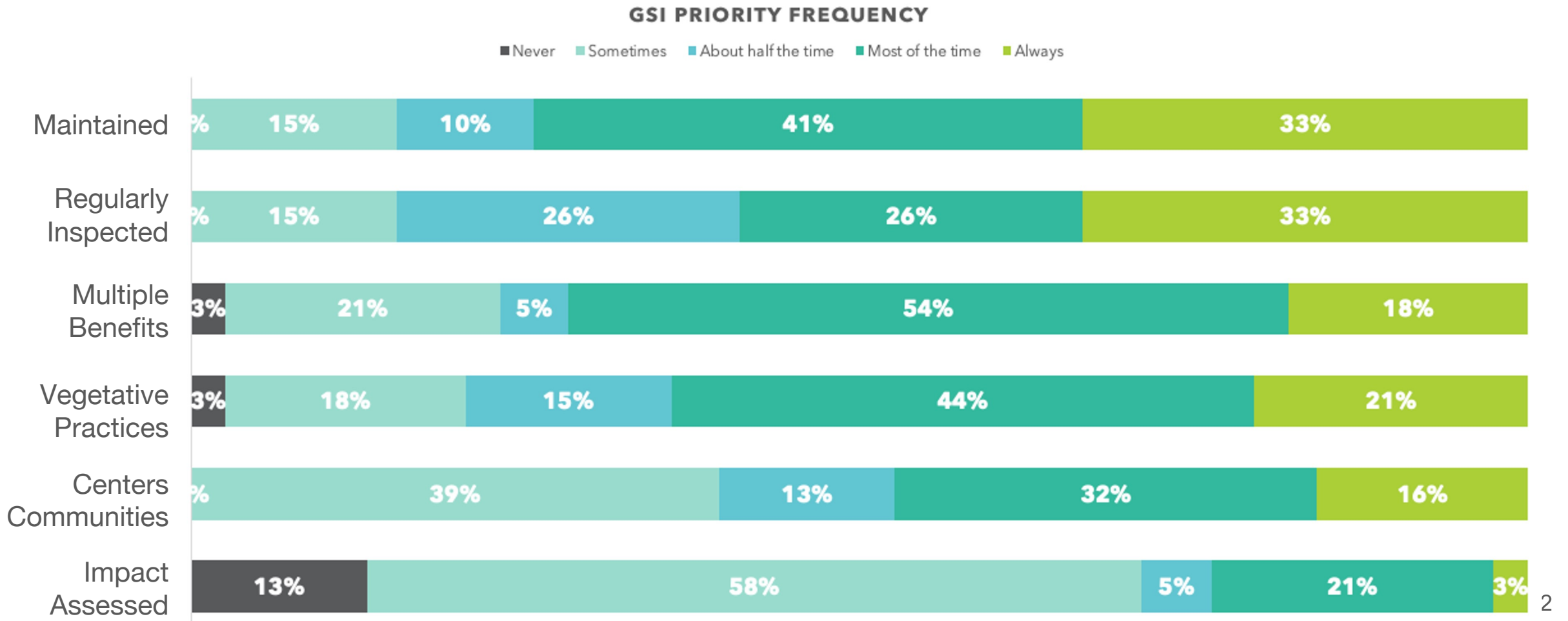


Advancing an Equitable National Standard

Envisioning a new standard for green infrastructure

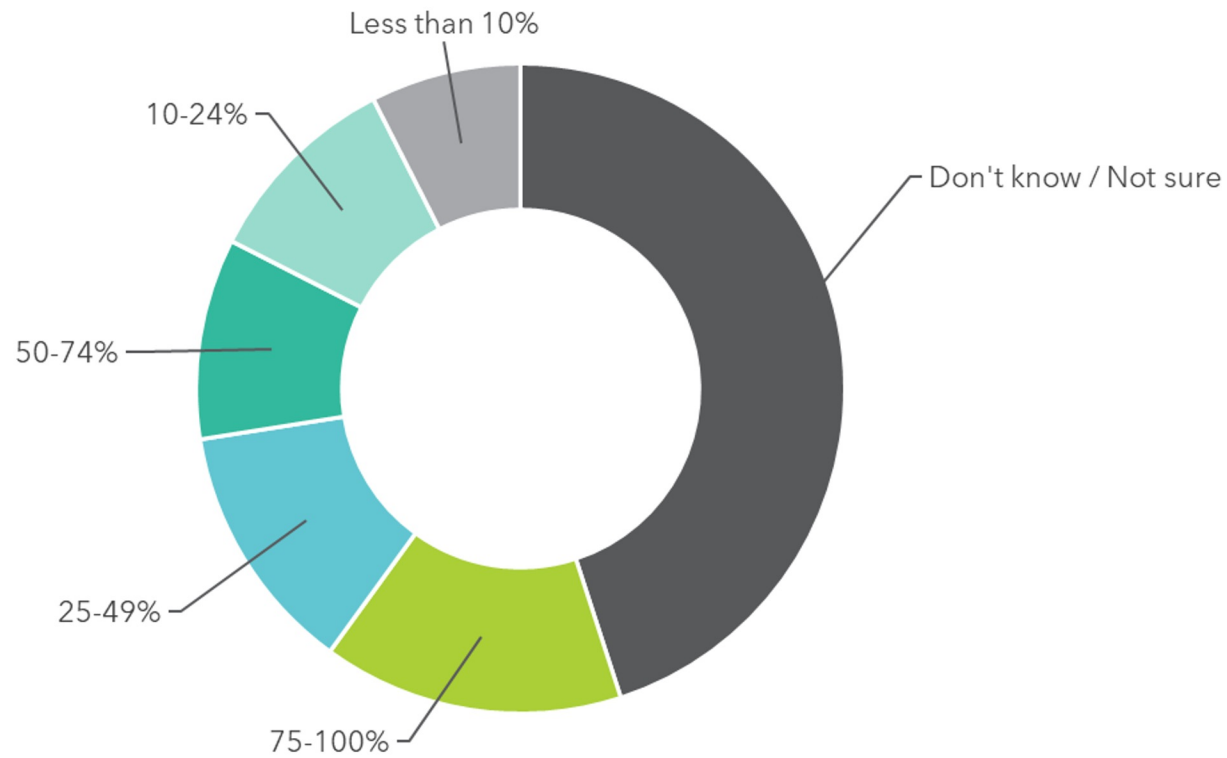


The majority prioritize most factors at least sometimes, however there is **significant work needed** to prioritize all of these factors as a new standard.



45% are **unable to estimate** the portion of their cumulative GSI funding directed to projects in disadvantaged, socially vulnerable, and/or environmentally vulnerable communities.

What Percent of Your GSI Funding is Directed to High Equity Value Communities?



The State of Levers

EFFECTIVENESS OF USED LEVERS TO SCALE GSI

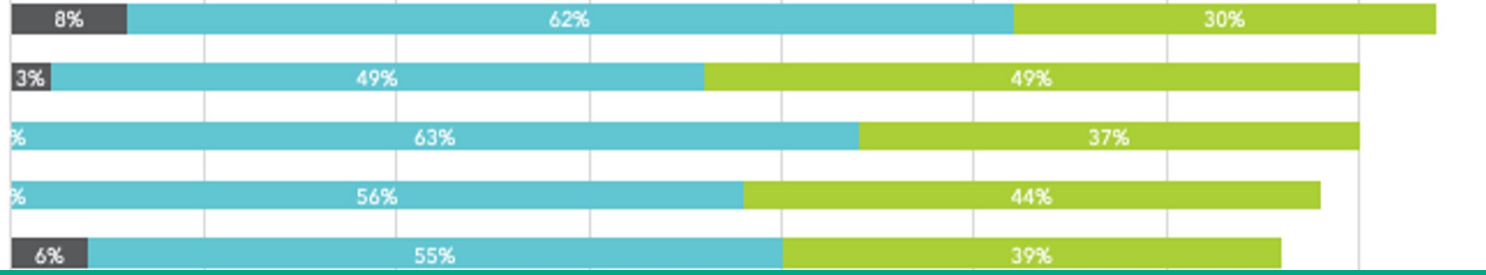
■ Ineffective ■ Somewhat effective ■ Very effective

Count of Responses

0 5 10 15 20 25 30 35 40

1

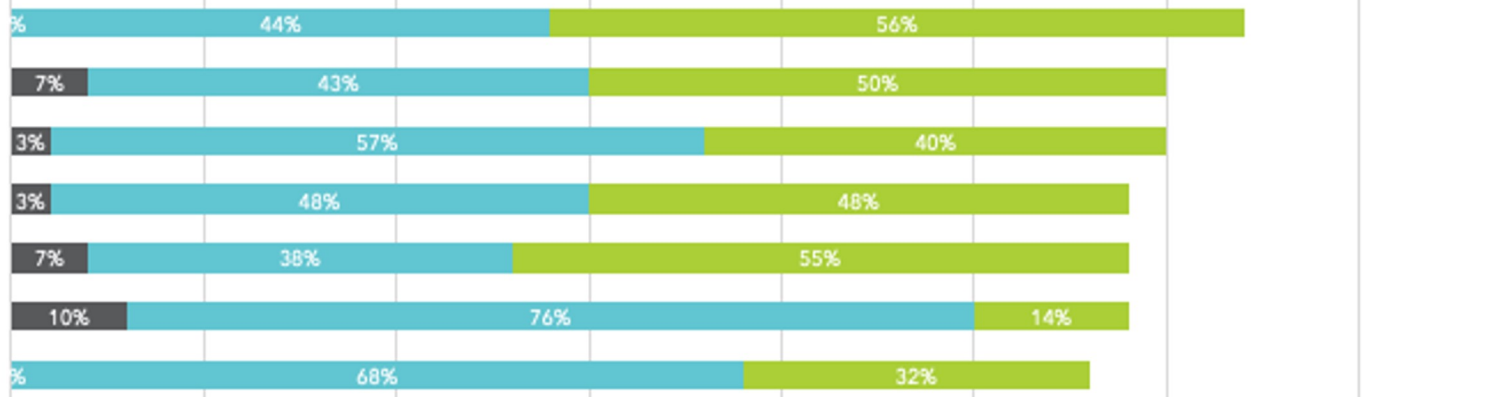
- Supportive elected official(s)
- Strong senior champions for GSI
- Public outreach and/or education about GSI
- GSI demonstration projects
- Cross pollination: departments, agencies, and/or sectors



PEOPLE

2

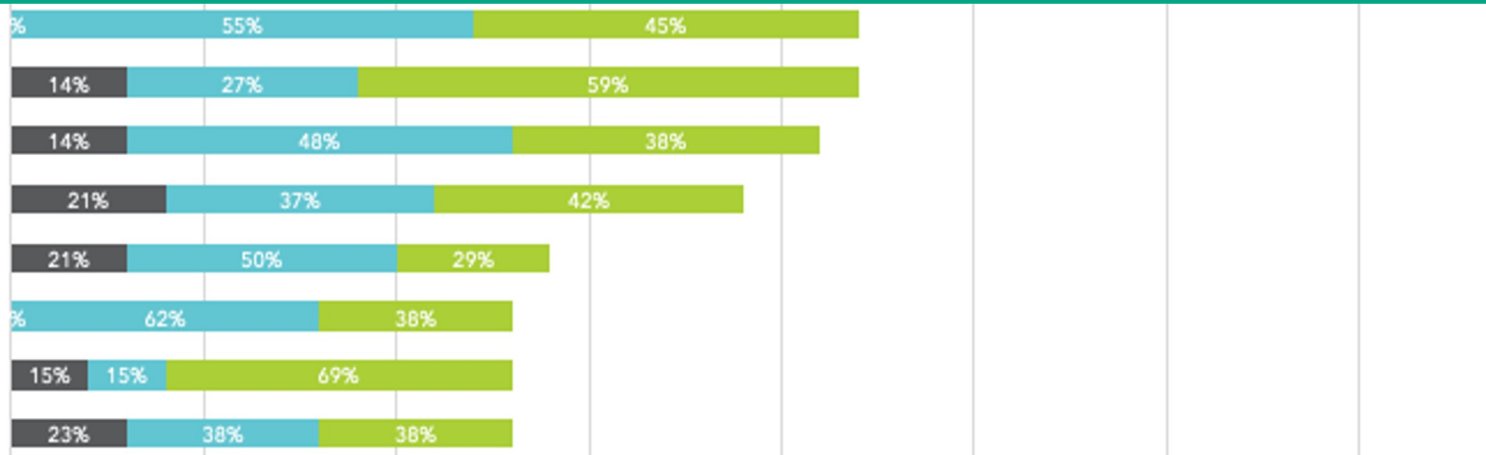
- Requiring GSI on new development / redevelopment
- Funding or supporting short-term maintenance (i.e., vegetative establishment)
- Classifying GSI as capital investments (vs. operating cost)
- Funding or supporting long-term maintenance (i.e., post-establishment)
- Enforcement of local GSI regulations
- Sharing GSI case-making research with decision-makers
- Education and training for internal and contracted staff



POLICIES

3

- Using an asset management system to manage GSI
- Collecting stormwater/drainage fees
- Implementing lower-maintenance design standards
- Residential GSI retrofit incentive program
- Securing federal grants for GSI (e.g., FEMA Building Resilient Infrastructure and Communities - BRIC)
- Workforce development
- Securing State Revolving Fund (SRF) loans for GSI
- Non-residential GSI retrofit incentive program



PRACTICES

Questions?

CONTACT INFORMATION

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REPORT

www.stateofgsi.org

JOIN OUR EMAIL LIST

At the bottom of any page on our website: <https://giexchange.org/>

Navigating Green Infrastructure Maintenance with Capitalized Establishment Costs



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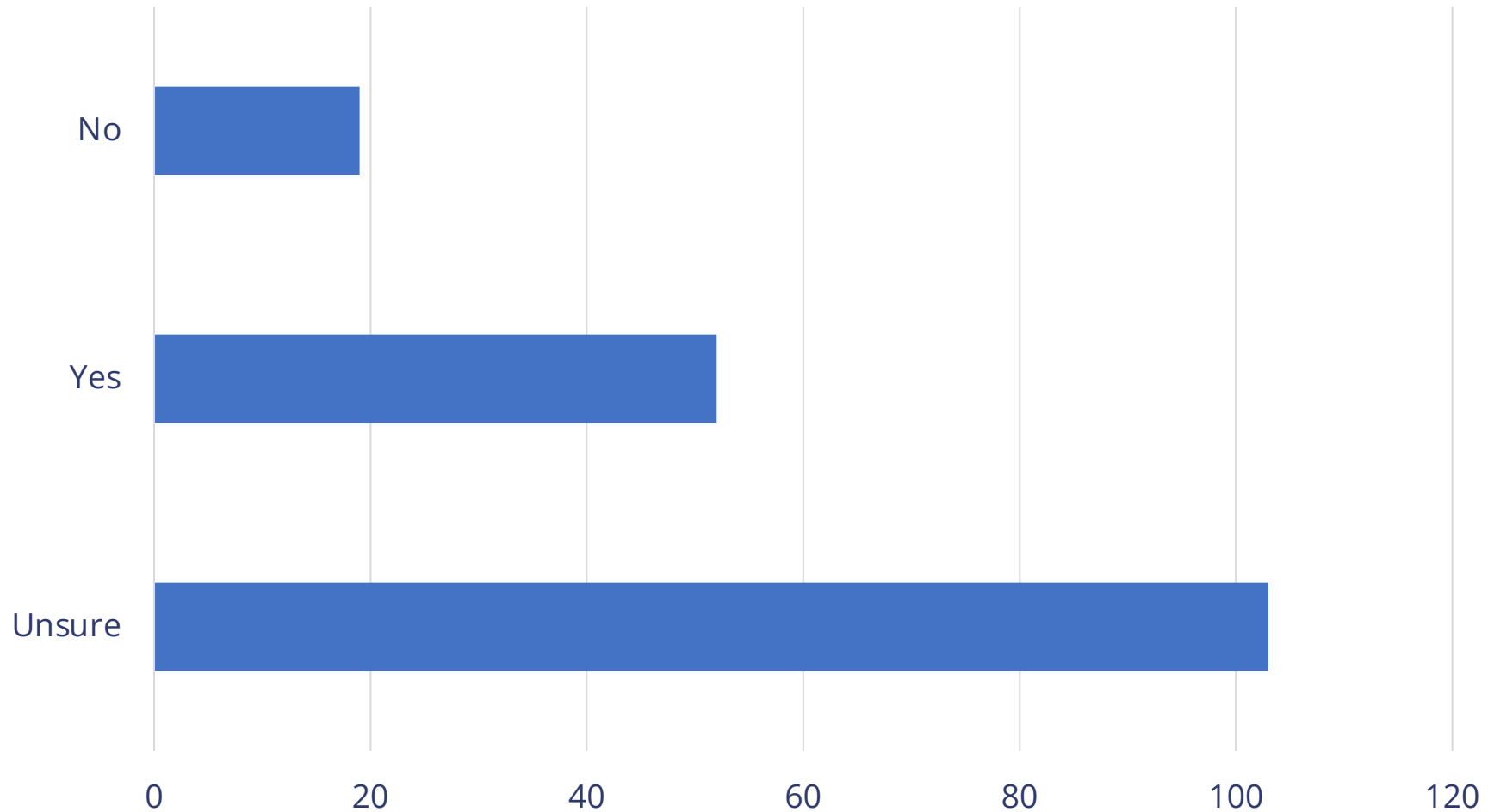
Stephanie Vo, *Environmental Policy Innovation Center*
Caroline Koch, *WaterNow Alliance*



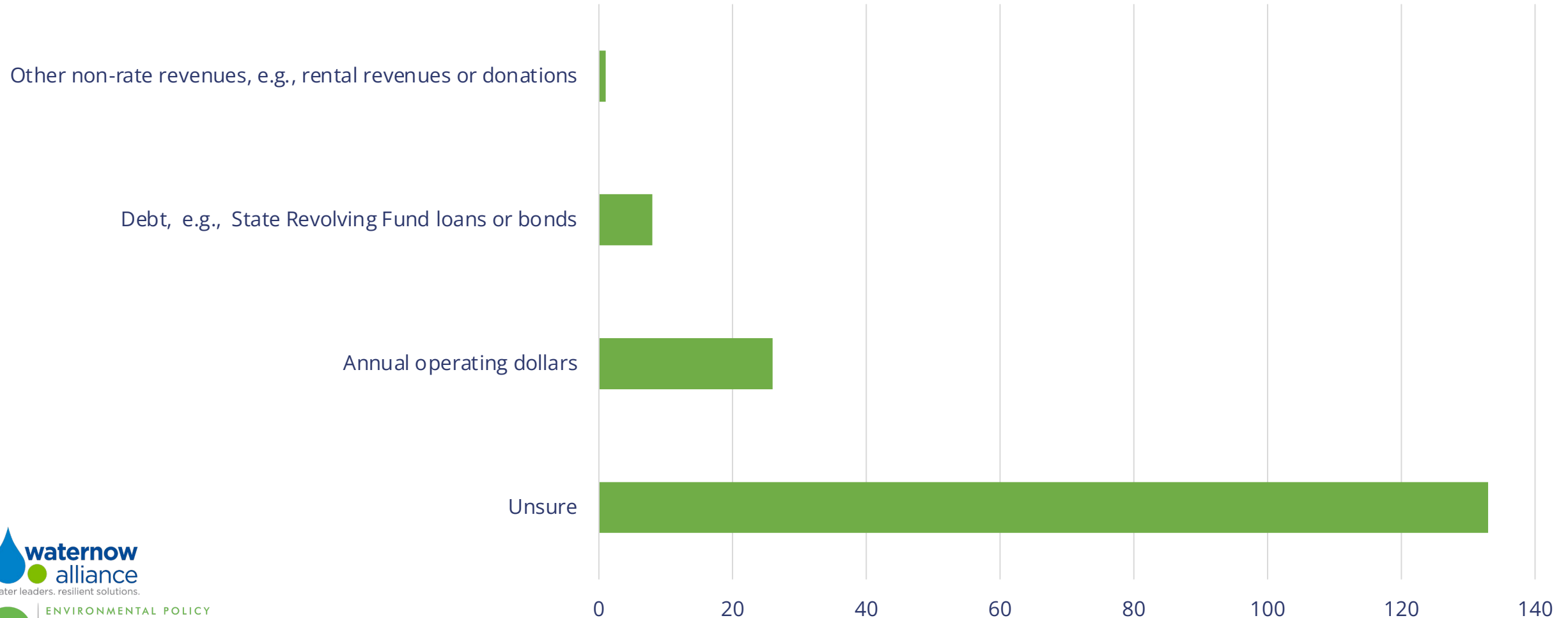
Outline

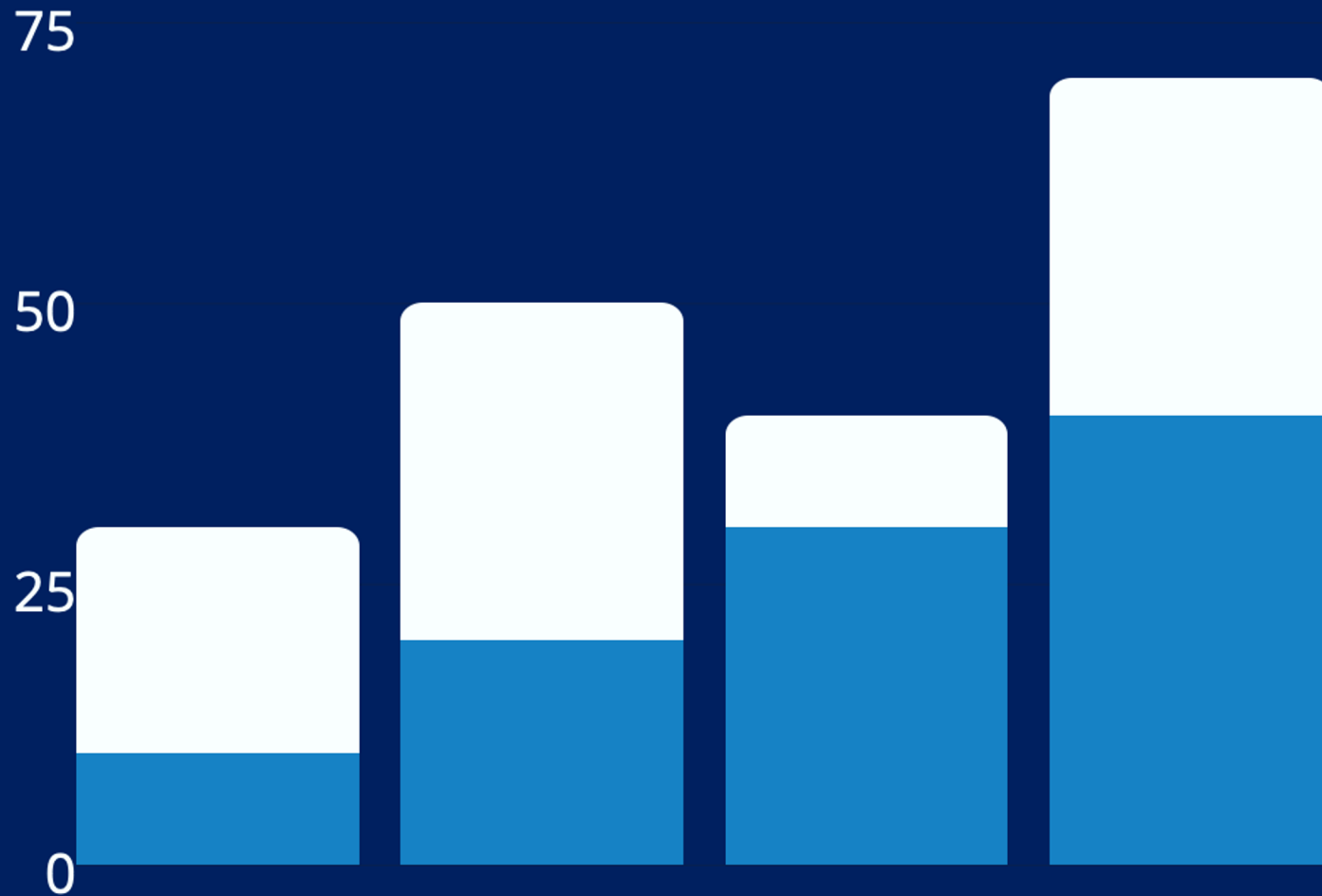
- What are establishment costs?
- How can establishment costs be eligible for financing?
- What benefits do capitalized establishment costs bring to municipalities?

Does Your Utility Have A Green Infrastructure Program?



How Is Your Utility Currently Funding Its Green Infrastructure Program?





One more poll!

Do you categorize GSI establishment costs as capital costs?

- a) Yes
- b) No
- c) I'm not sure
- d) Not applicable

What Are Vegetative Establishment Periods?

3-5 year period during which plants establish their roots into the ground

- Allows GI to function as intended and provide benefits
- Precedes long-term maintenance
- Includes similar activities to long-term maintenance activities, but more frequent & intensive

Every type of infrastructure, gray or green, requires a period of time and money to ensure it works

- Commissioning of treatment facilities is one gray equivalent
- The only difference is that vegetative establishments are longer

Establishment Costs Are Eligible Capital Costs

Capital costs are:

- Fixed, nonrecurring expenditures
- Spending on items expected to provide long-lasting benefits, generally more than one year

Planning & Design

Construction

Establishment/
Assessment

Operations &
Maintenance


CWSRF Eligible Capital Costs

Ineligible Annual
Expenses

CWSRF Can Fund Establishment Costs

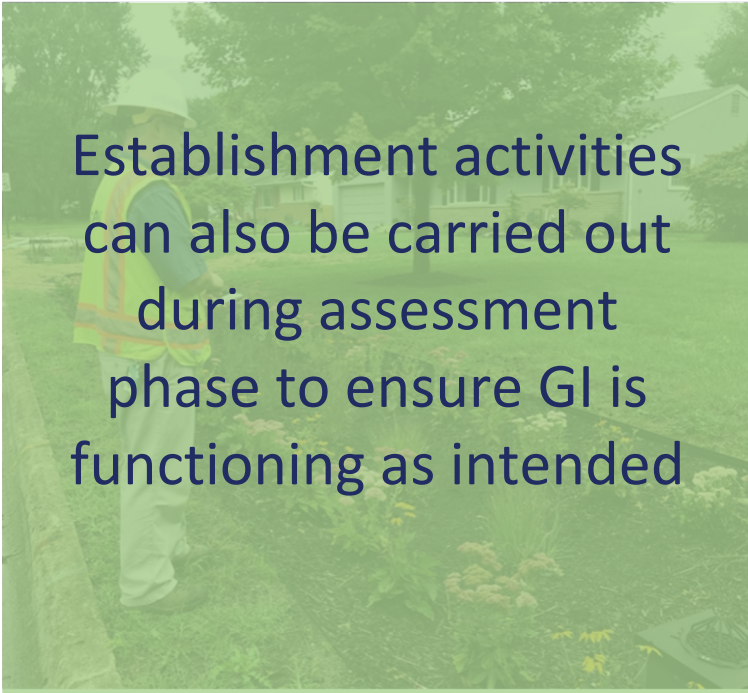
Three Categories of Eligibilities to Consider

Construction

A photograph showing construction workers in safety gear working on a site. One worker is kneeling near a large rock, while others are standing nearby. A white van is visible in the background.


Establishment activities including deep watering, frequent weeding, and mulching are part of green infrastructure construction

Assessment

A photograph of a worker wearing a hard hat and a high-visibility vest, standing in a grassy area with some plants and a house in the background.

Establishment activities can also be carried out during assessment phase to ensure GI is functioning as intended

Warranty

A photograph of a worker in a safety vest and hard hat, kneeling on a grassy area. A green hose is visible on the ground.

Construction warranties can include establishment activities to ensure contractors complete GI installation

Capitalizing Establishment Period Costs Is Beneficial to Municipalities

Recognizing establishment periods as capital costs can:

- Give municipalities time to train maintenance providers/property owners; lowering the hesitancy of property owners to take on GI projects.
- Help municipalities get ahead of the game by shifting establishment costs away from annual budgets. Establishment periods are typically more expensive than yearly maintenance.
- A proper establishment period can reduce the risk of failed infrastructure and the near-term need for more capital investments.



Recommendations

Local Project Managers

- Engage all stakeholders
- Work with SRF administrators

CWSRF Administrators

- Think creatively about incentivizing GI
- Develop GI useful life guidance

Environmental Protection Agency

- Provide states guidance on GI
- Increase Green Project Reserve GI uptake



Thank you!

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Caroline Koch, *WaterNow Alliance*
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ENVIRONMENTAL POLICY
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waternow
alliance

water leaders. resilient solutions.



<http://bit.ly/3JQpxbN>

MMSD's History of GI Funding Programs

GI Partnership Program

\$3M/Year

Public and Private
Projects

Incentivize GI Installation
Reimbursement

Green Solutions

\$5M/Year

Municipal GI
Larger Scale Projects
MS4 and TMDL
Compliance
CIP Project
Enhancements

Outreach

Neighborhood Outreach
Fresh Coast Resource
Center
Workshops

Development of P3 / Community Based GI

- Prove that GI can reduce costs compared to traditional infrastructure
- Provide triple bottom line benefits & generate regional resiliency
- Rapidly increase GI implementation to achieve goals
- Prove GI can be effective in combined area
- Standardization of GI design
- Improve local contractor skills
- Change funding for implementation AND maintenance



From Planning to Implementation of Fresh Coast Green Communities

- RFP for Planning, Design, and Implementation of Community-Based Green Infrastructure (CBGI) released in 2019 for Phase 1
- Phase Two RFP released in 2021
- Contract, program name and development 2022 →
 - Fresh Coast Green Communities with Greenprint Partners
- FCPP is financed on a dollar per gallon basis, \$2.365/gallon (+ maintenance)
- Greenprint pitched new funding model for FCGC, Guaranteed Maximum Price (GMP)

Programs that Include Establishment

Green Highways and FCPP

- 5 years of vegetation establishment includes a plant warranty

FCGC

- 5 years of establishment



FRESH COAST GREEN COMMUNITIES

Project Pipeline Report

Date: July 10, 2023



PROJECT STAGE TABLE

Contacting and Beyond			
Summary	Current Period	Previous Period	Change
Contacting	6	6	0
Engaged	17	17	0
Committed	10	12	-2
Design	5	3	2
Construction	1	1	0
Establishment	0	0	0
TOTAL	39	39	0

PORTFOLIO GOALS TABLE

Engaged and Beyond*				Committed and Beyond**		
Metric	Gallons	% Goal	Projects	Gallons	% Goal	Projects
High Impervious Area	3,199,224	107%	8	3,169,224	106%	7
High SVI + CSSA	3,953,872	132%	25	1,322,372	44%	9
TOTAL	7,153,096	119%	33	4,491,596	75%	16

*Beyond = Committed, Design, Construction, Establishment, Complete

**Beyond = Design, Construction, Establishment, Complete

Prairie Restoration + Bioretention Project: Win Win



This landowner redesigned their prairie restoration project to add 300,000 gallons of storage to access funding for vegetative establishment

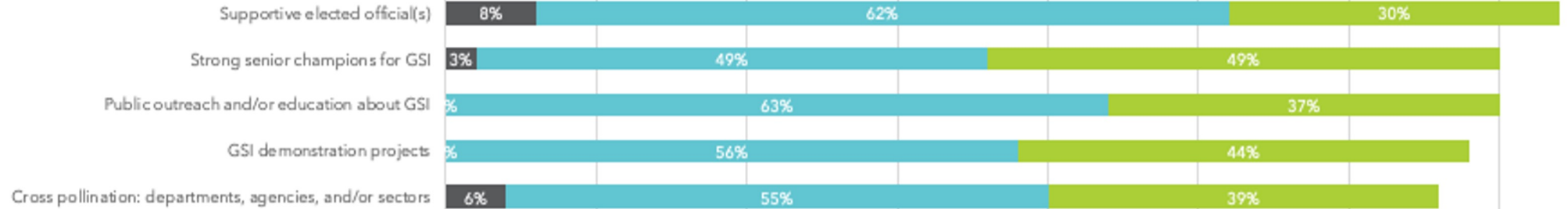
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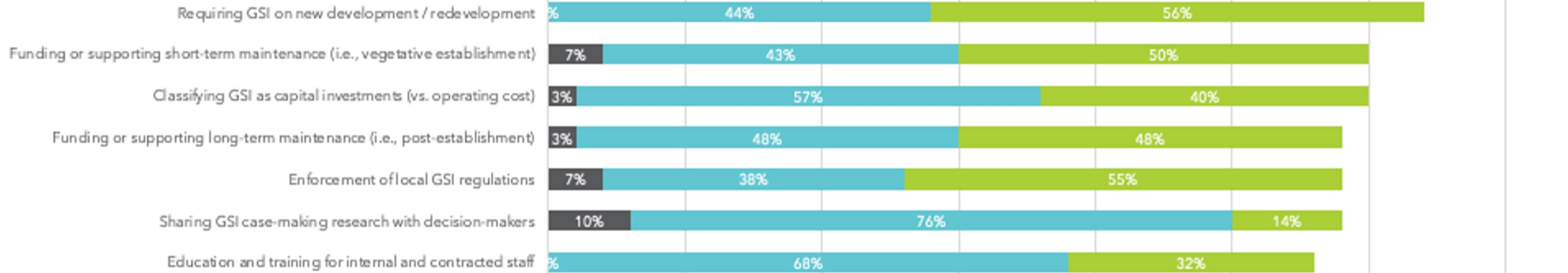
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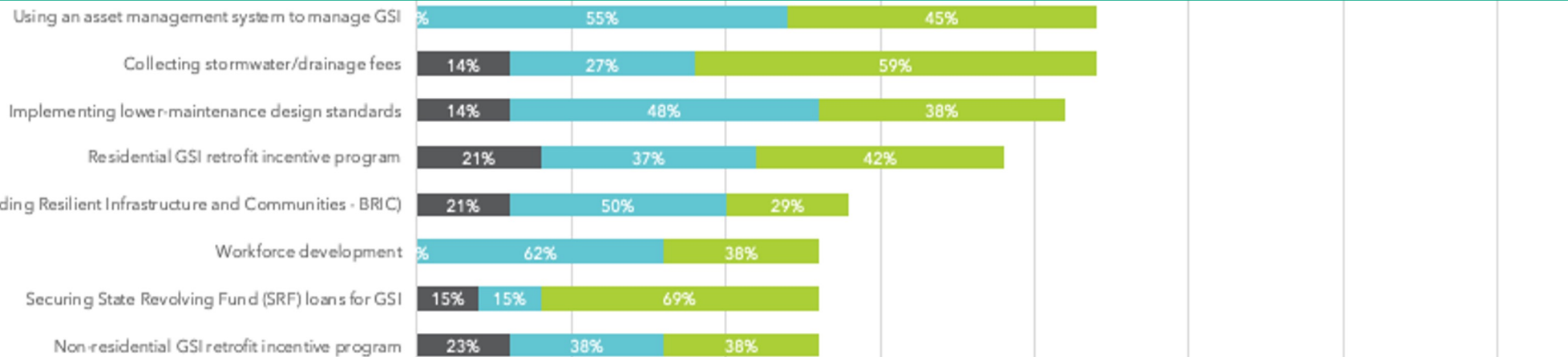
PEOPLE

2



POLICIES

3



PRACTICES



Next Steps “Visioning” Discussion



AUDIENCE Q&A

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THANK YOU

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