



CITY OF PALO ALTO ONE WATER PLAN

Community Stakeholder
Workshop #2

EXPLORING WATER SUPPLY OPTIONS

December 6, 2022
5:30 pm - 7:00 pm

Mitchell Park Community
Center

<https://cityofpaloalto.zoom.us/j/86907772889>

// Introductions – Palo Alto Team

Utilities Department Staff



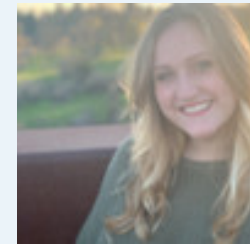
Karla Dailey
Assistant Director



Lisa Bilir
Senior Resource Planner



Linda Grand
Sustainability Programs
Administrator



Rebecca Oliver
Associate Resource
Planner

Public Works Department Staff



Karin North
Assistant Director



Samantha Engelage
Senior Engineer/
Pretreatment Program
Manager



Pam Boyle Rodriguez
Stormwater Compliance
Program Manager



Elise Sbarbori
Environmental Control
Program Manager



**Welcome to City
officials!**

// Introductions – Carollo Team



Inge Wiersema
Project Manager



Rachel Duncan
Project Engineer



Jacquelin Mutter
Technical Advisor



Maddi Rasmus
Staff Engineer

// Agenda

1. Welcome & Opening Remarks (10 min) 5:30 - 5:40 pm
2. One Water Plan Overview (10 min) 5:40 - 5:50 pm
3. Potential Water Supply Options (25 min) 5:50 - 6:15 pm
4. Draft Supply Option Screening & Evaluation Criteria (40 min) 6:15 - 6:55 pm
5. Next Steps & Meeting Close (5 min) 6:55 - 7:00 pm

// Housekeeping

- This meeting will be recorded and posted on the City website
- Please hold your questions until the dedicated Q&A pauses
- In-person Logistics
 - Raise your hand to speak
- Virtual Logistics
 - Participants are muted by default
 - Enter your questions/comments into the chat
 - Indicate whether you would like to go “live” by raising virtual hand or pressing * 9 on your phone
- Cell phone or web browser handy for live polls
- We want to hear from you! Thank you for contributing your comments and ideas during this listening session.



One Water Plan Overview

// One Water Plan Roadmap in Uncertain Future

■ The One Water Plan:

- Is a Key Action in Sustainability and Climate Action Plan
- Is a long-term 20-year (through 2045) Water Supply Plan
- Addresses future uncertainty such as SFPUC supply reliability, droughts, and climate change
- Includes robust and meaningful stakeholder engagement
- Is being completed by an outside consultant Carollo Engineers, a National One Water Thought Leader
- Builds on existing plans/work

■ What the One Water Plan does not directly address:

- Current ongoing drought
- Short-term emergencies such as earthquakes and wildfires – addressed under separate emergency plans



// There are many drivers for the One Water Plan

Increased Housing Needs



Supply Reliability
(multi-year droughts)



Recreational Water Needs
(e.g., Boronda Lake)



Limited Funding



Regulatory Changes



Increased Public Awareness



Decisions about Joining
Regional Efforts

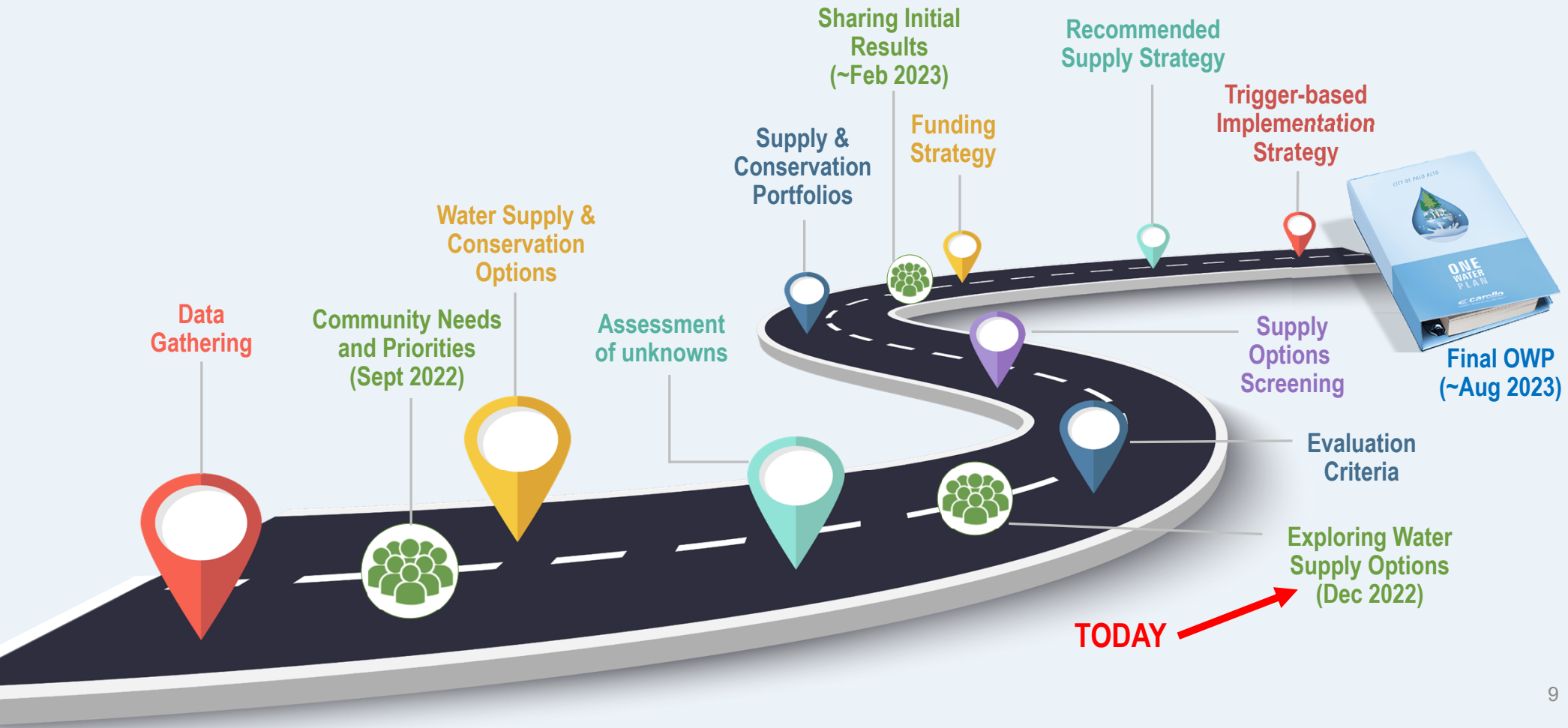


Instream Flows
& Habitat Needs

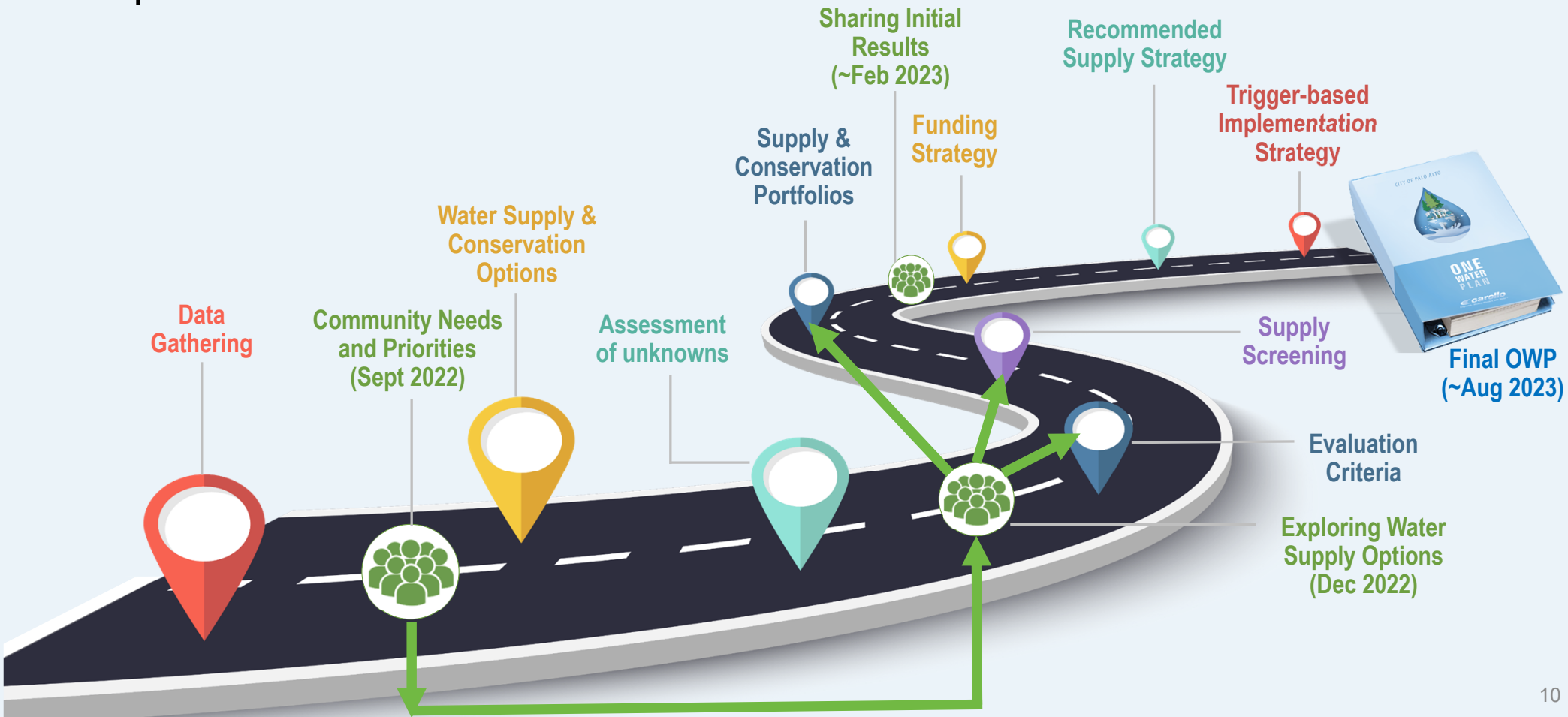


Climate Change

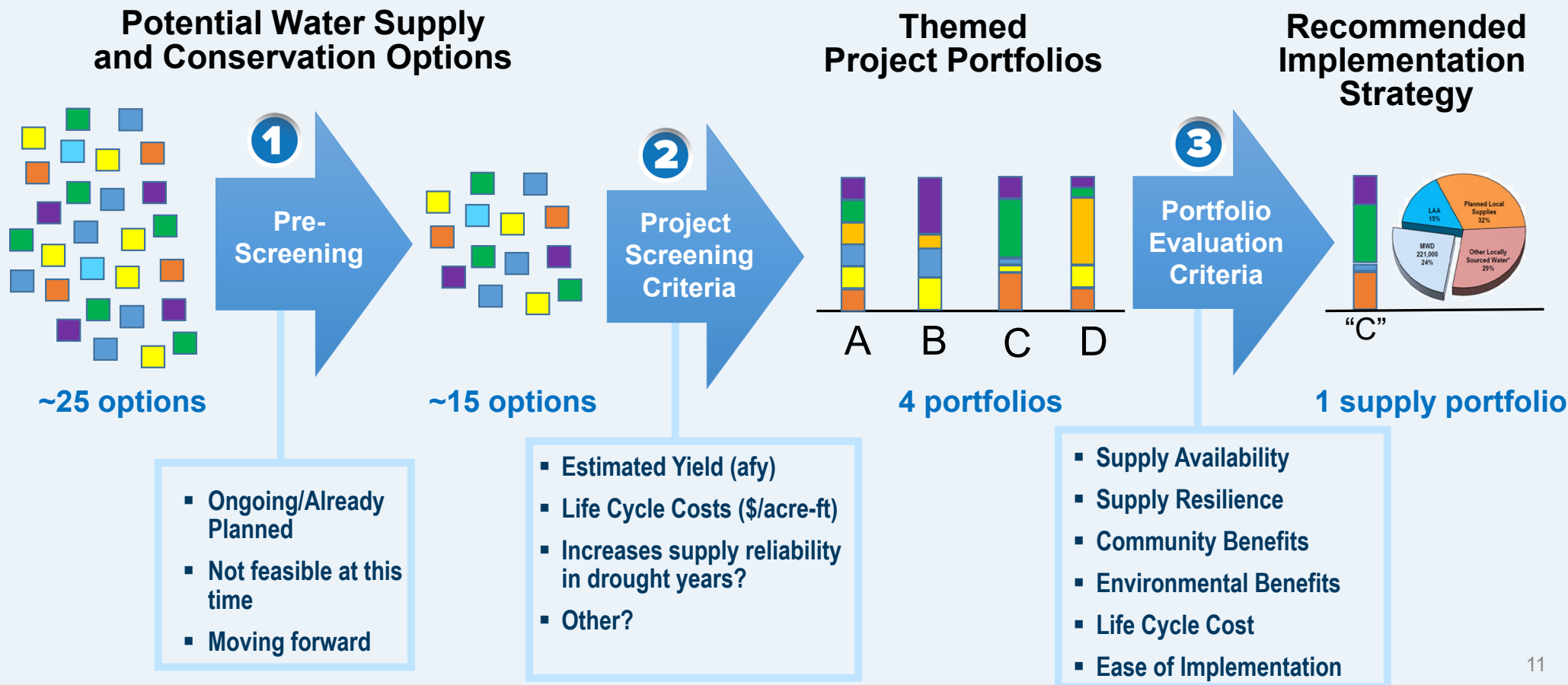
// Roadmap to One Water Plan



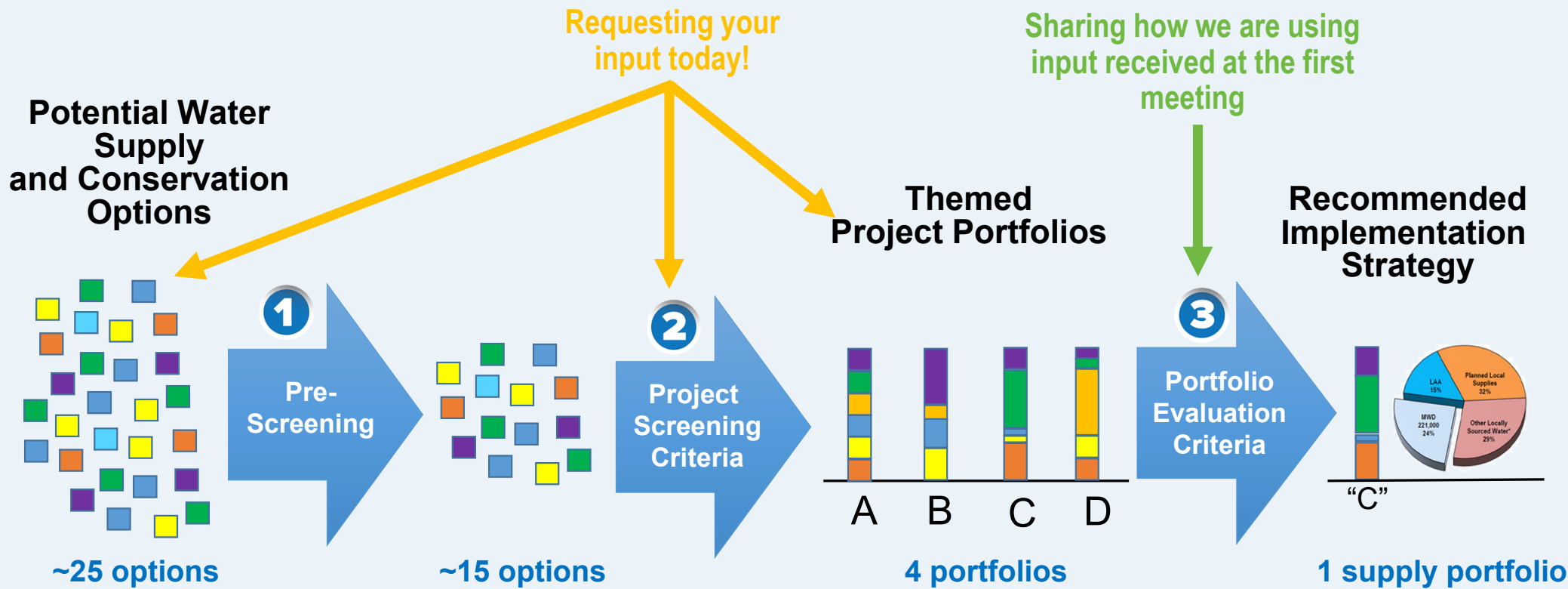
// As you may recall... In September we asked about community priorities for the One Water Plan



// What is the 3-Step Water Supply Evaluation Process?



// What is the 3-Step Water Supply Evaluation Process?

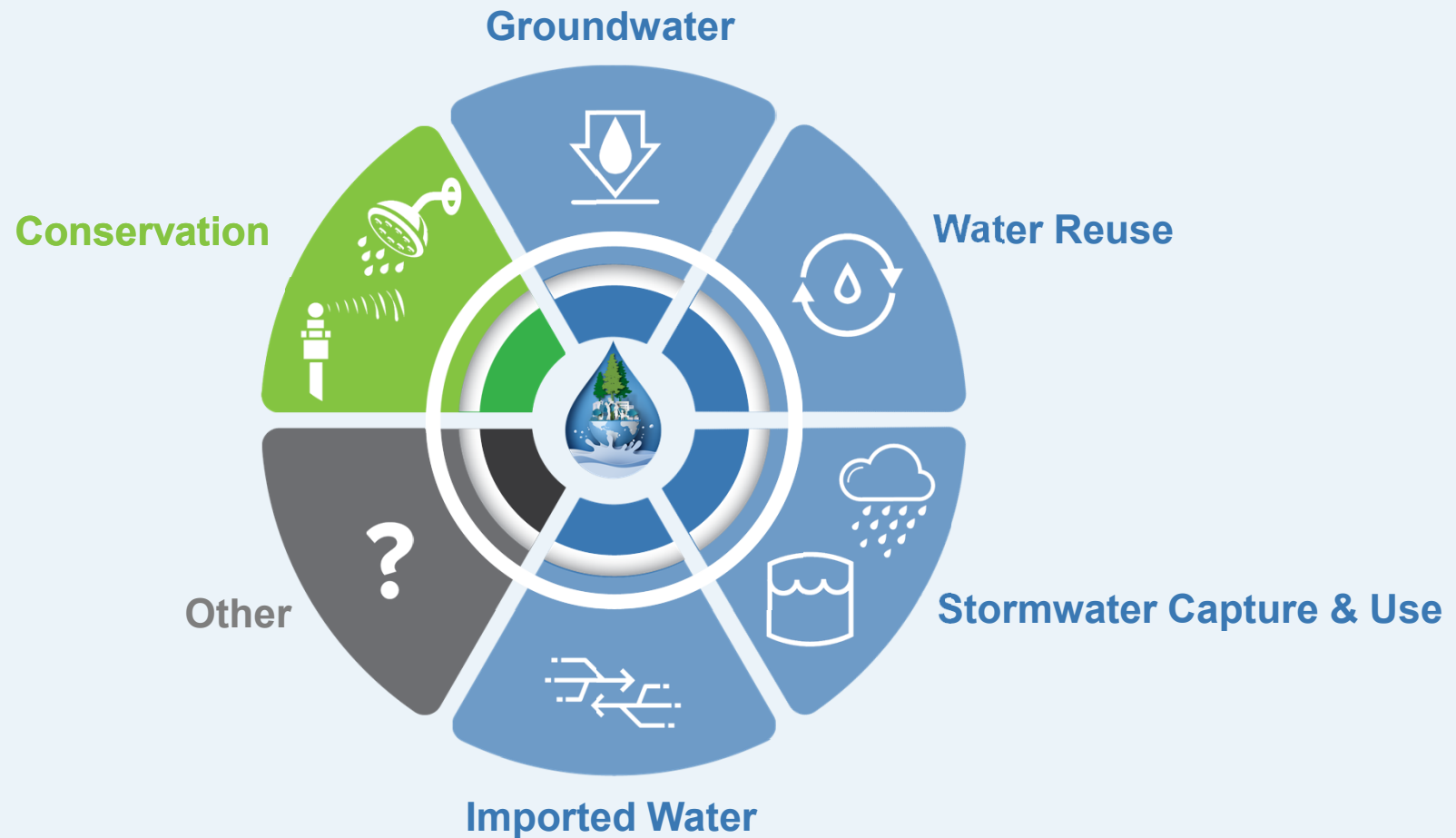


// Supply and Conservation Option Evaluation Process Q&A



Potential Water Supply & Conservation Options

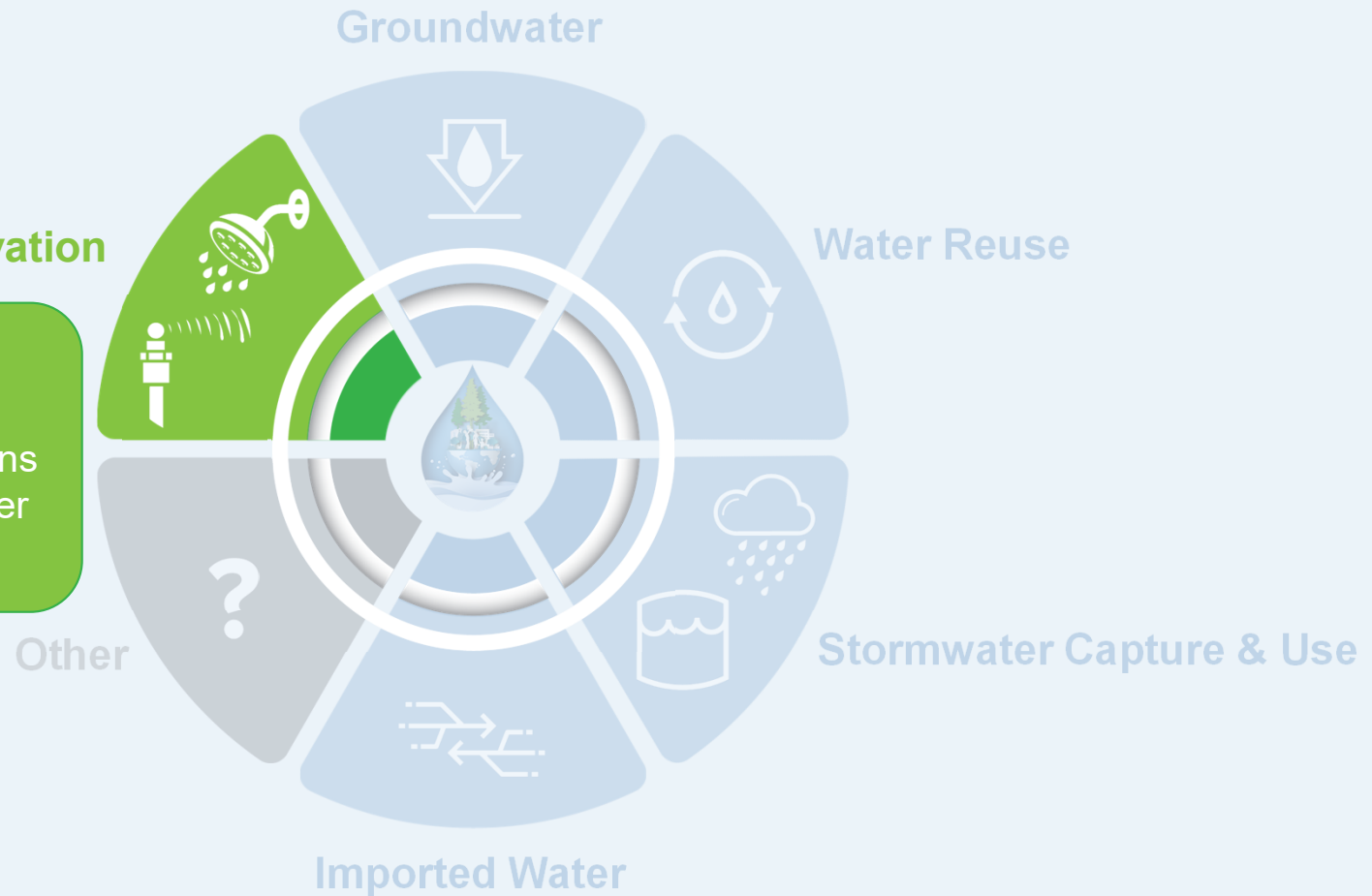
// Supply and conservation options categories that this project will assess



// Supply and conservation options category: Water Conservation

Conservation

- Planned/ongoing conservation
- New conservation actions
 - Customer side water loss reduction



// Planned and ongoing City of Palo Alto water conservation programs

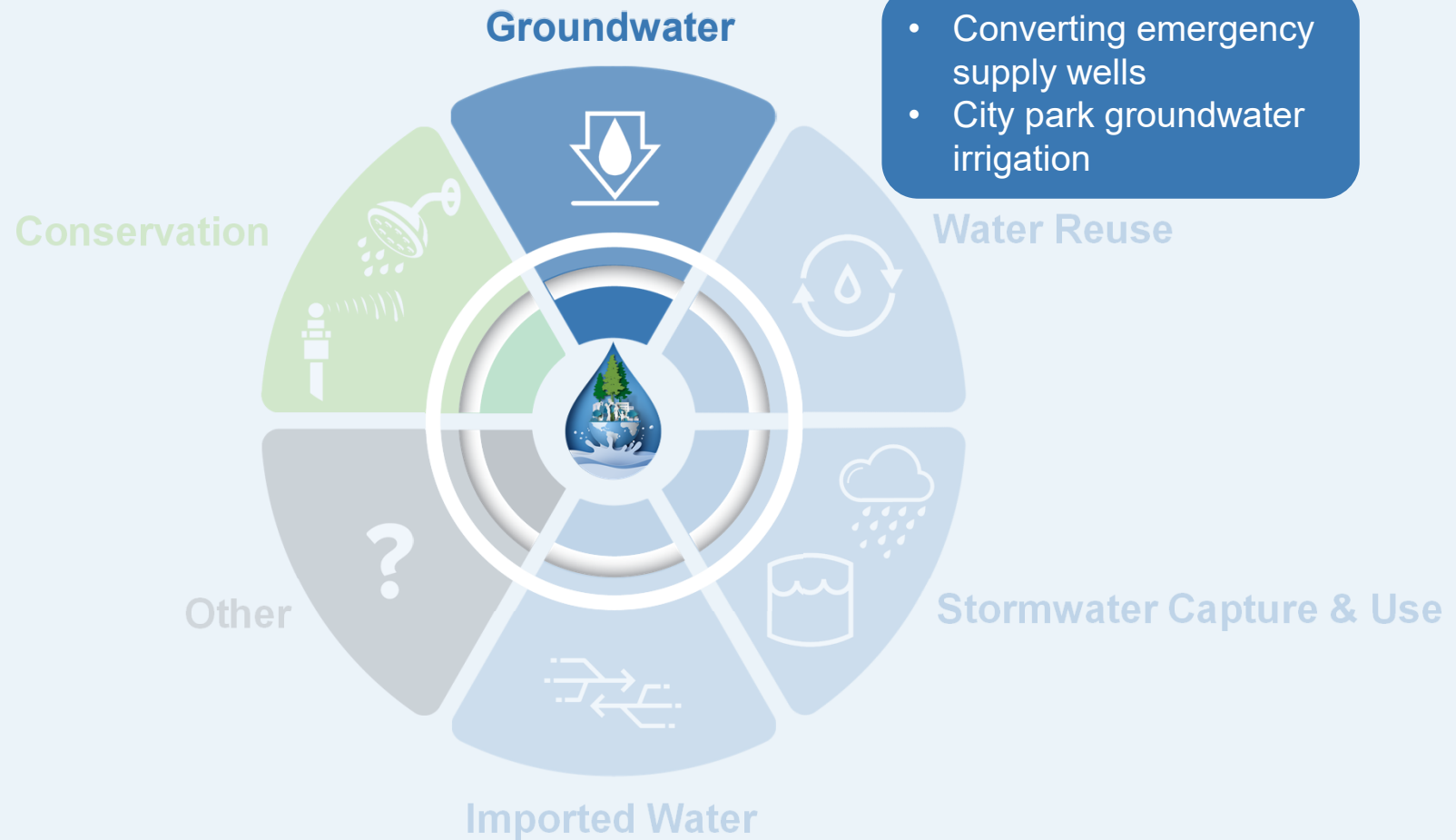
- **Water Conservation Tools and Resources:**
 - WaterSmart customer web portal
 - Waterfluence large landscape irrigation budget program
 - Seasonal landscape workshops
- **Landscape efficiency rebates in partnership with Valley Water:**
 - Landscape Conversion
 - Graywater Laundry to Landscape
 - Irrigation Upgrades
 - Stormwater Rebates
- **Advanced metering program**
- **Distribution system water loss reduction**

Conservation

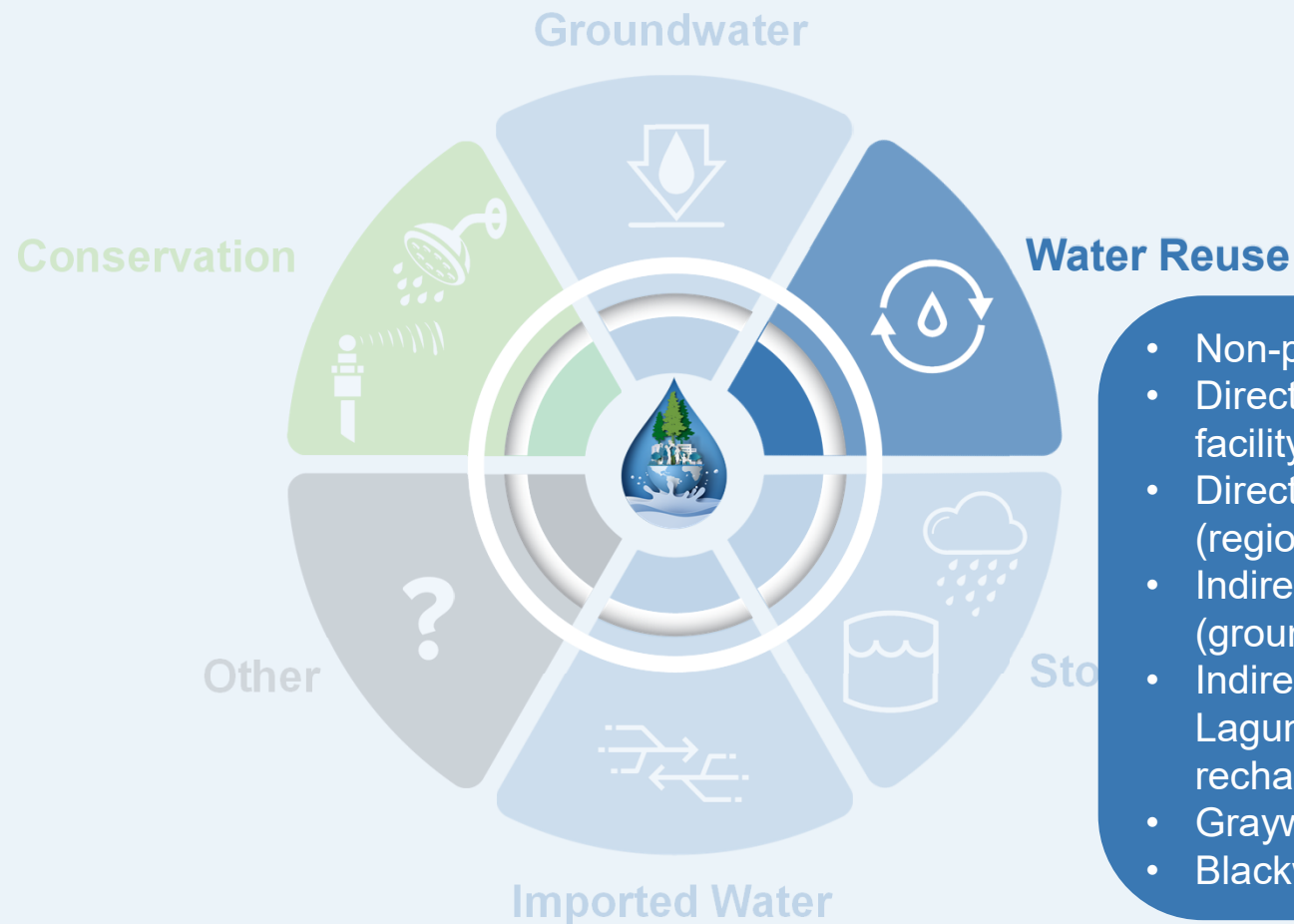


Learn more at [Cityofpaloalto.org/waystosave](https://www.cityofpaloalto.org/waystosave)

// Supply and conservation options category: Groundwater

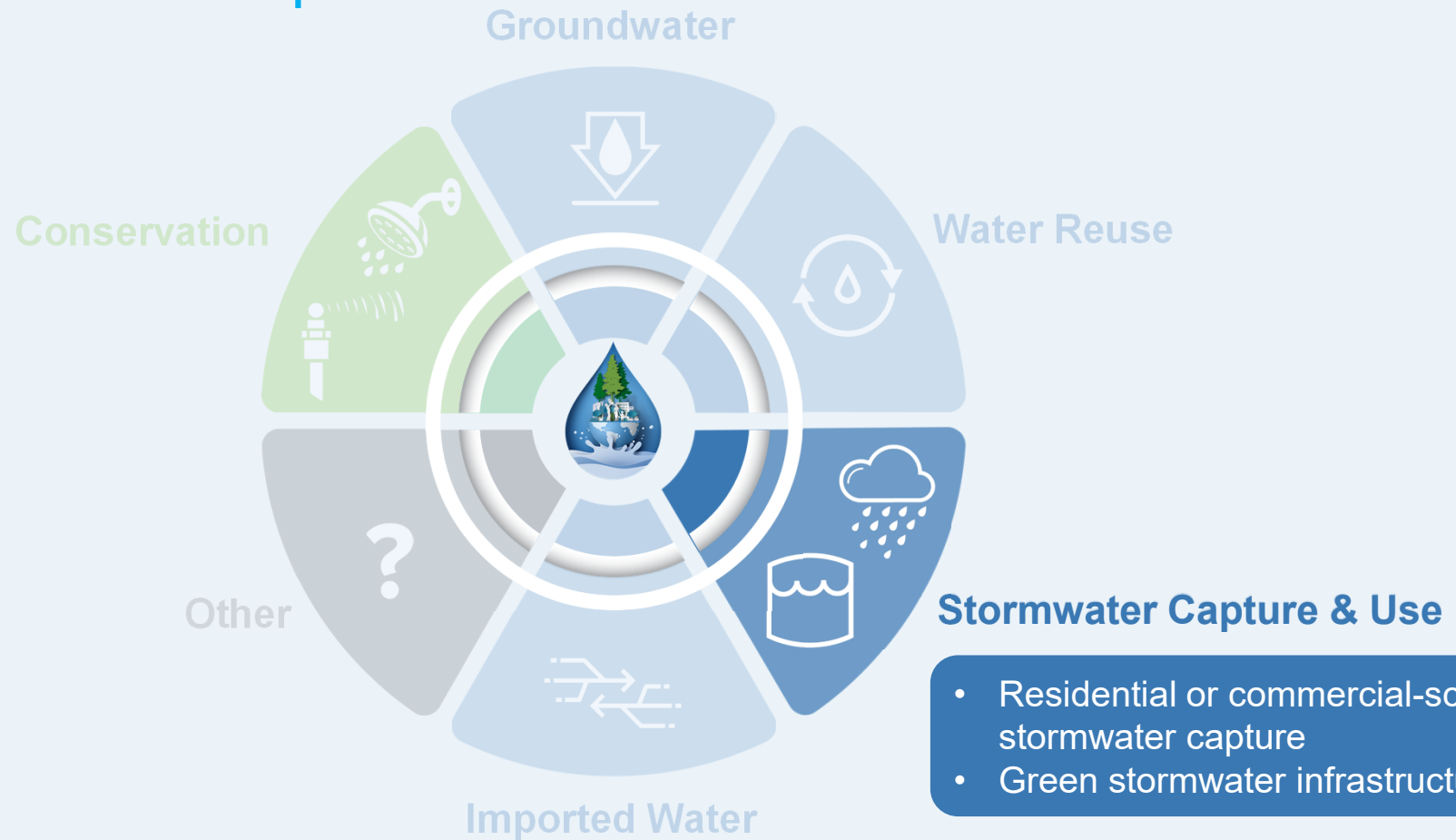


// Supply and conservation options category: Water Reuse

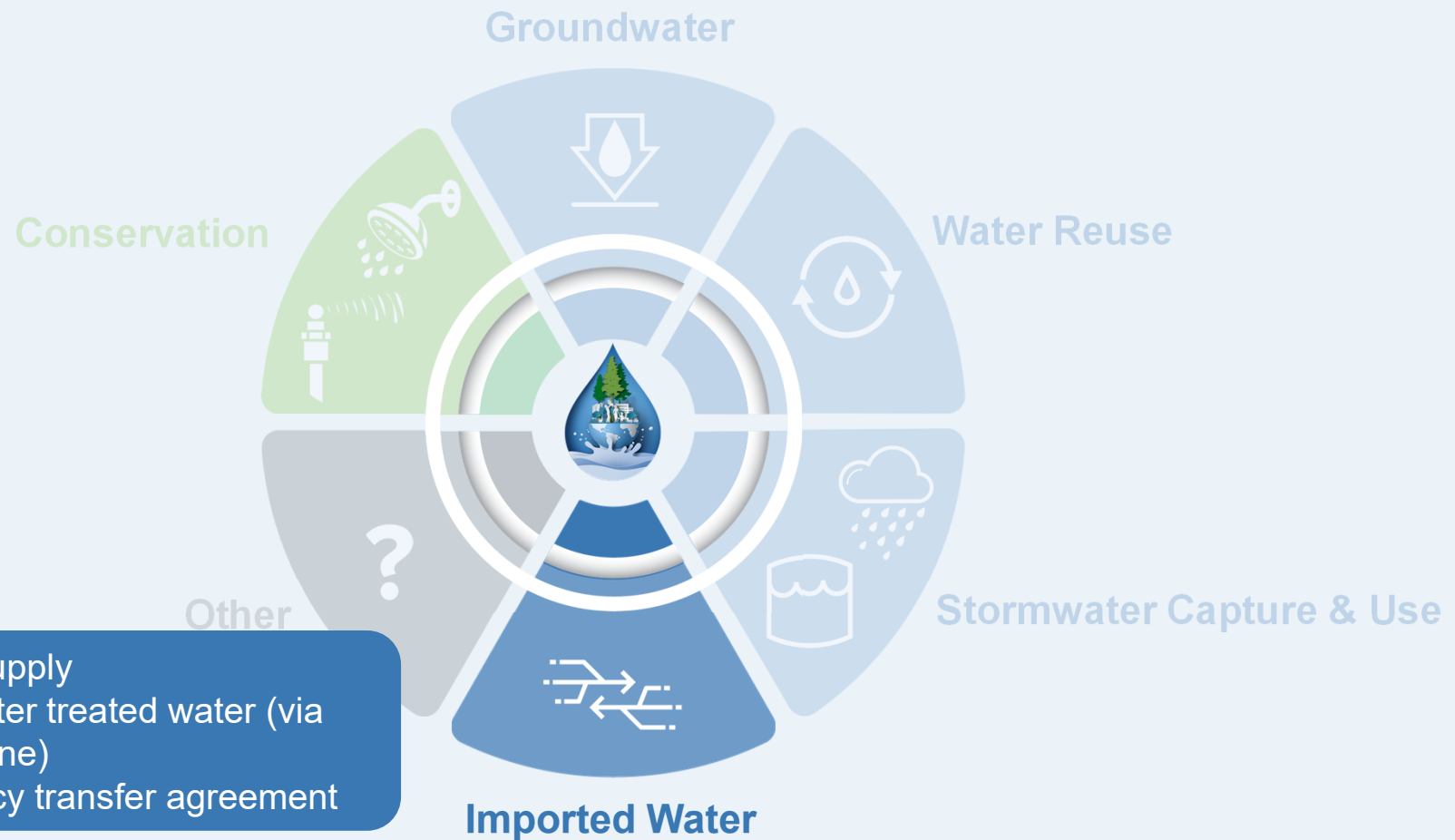


- Non-potable reuse
- Direct potable reuse (City facility)
- Direct potable reuse (regional facility)
- Indirect potable reuse (groundwater injection)
- Indirect potable reuse (Lake Lagunita groundwater recharge)
- Graywater capture & reuse
- Blackwater capture & reuse

// Supply and conservation options category: Stormwater Capture and Use

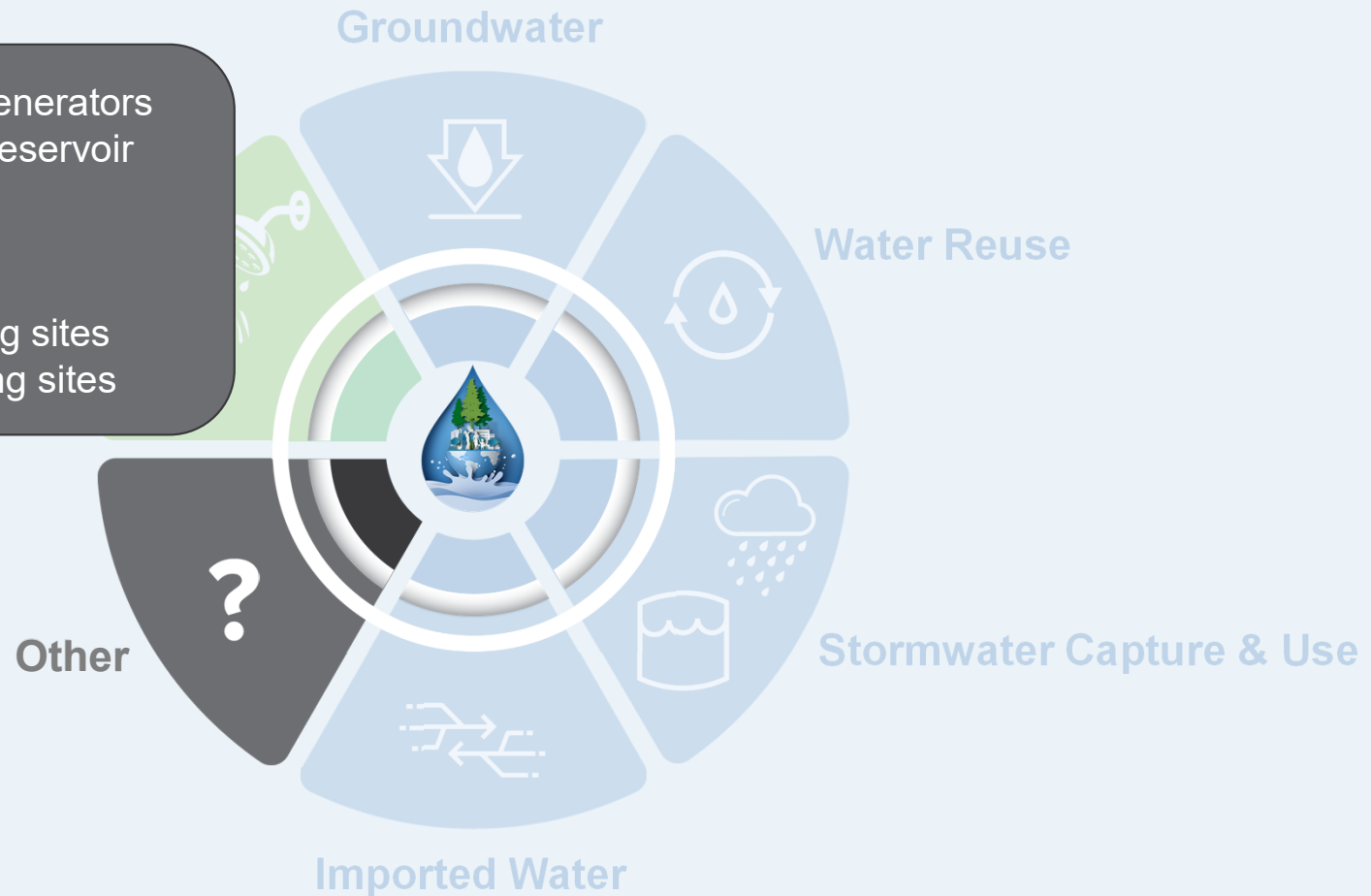


// Supply and conservation options category: Imported Water



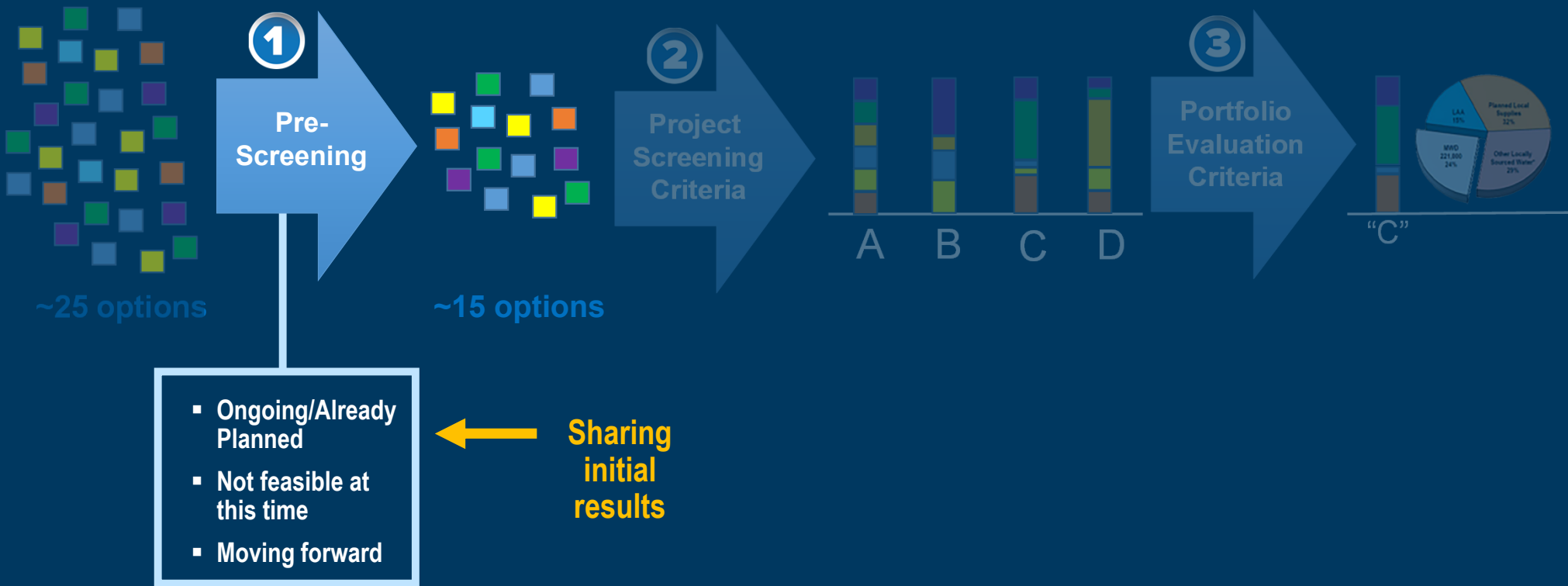
// Supply and conservation options category: Other

- Atmospheric water generators
- Local surface water reservoir
- Regional storage
- Multi-source storage
- Desalination
- Temporary dewatering sites
- Permanent dewatering sites



Draft Supply Option Screening & Evaluation Criteria

// Step 1: Pre-Screening



// Initial Pre-screening of Supply and Conservation Options

3 Preliminary Screening Categories



// Initial Pre-screening of Supply and Conservation Options: Ongoing or already planned



- Planned/ongoing conservation
- Advanced metering program
- Distribution system water loss reduction
- Non-potable reuse
- SFPUC imported water supply

// Initial Pre-screening of Supply and Conservation Options: Not feasible at this time



- Deemed Infeasible in Previous Studies
 - Temporary dewatering sites
 - Interagency transfer agreement
- Excessive Cost or Complexity
 - Blackwater capture and reuse
 - Atmospheric water generators
 - Local surface water reservoir
 - Valley Water treated water (via new pipeline)
- Outside of City Control
 - Indirect potable reuse at Lake Lagunita (groundwater recharge)
 - Regional storage

// Initial Pre-screening of Supply and Conservation Options: Moving forward



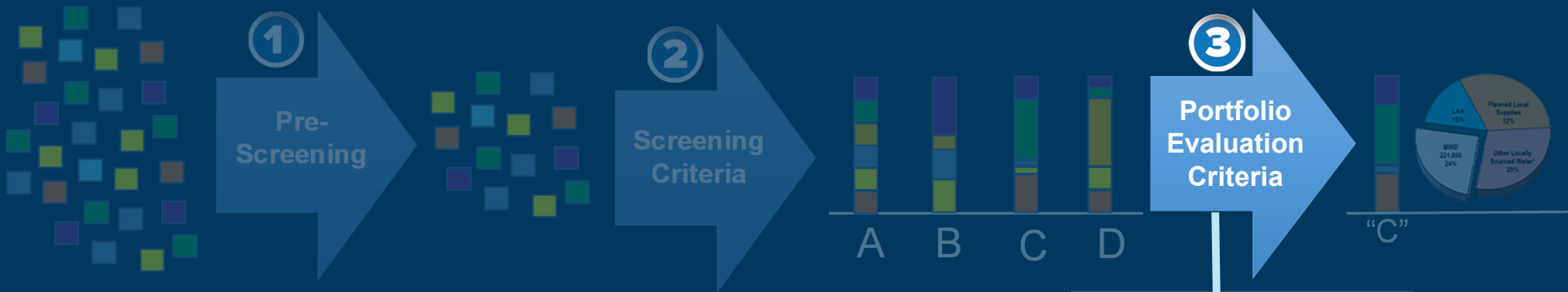
- New conservation actions
- Converting emergency supply wells
- City park groundwater irrigation
- Direct potable reuse (via regional facility or City facility)
- Indirect potable reuse via groundwater injection
- Expanded non-potable reuse
- Permanent dewatering (as part of reuse options)
- Graywater capture and reuse
- Stormwater capture (residential/commercial-scale or GSI)
- Multi-source below-ground storage (e.g. stormwater detention)
- Desalination
- **Other ideas from today:** _____

// Initial Pre-Screening Results Feedback and Q&A



// Step 3: Draft Portfolio Evaluation Criteria

Sharing how we are using input received at the first meeting... and requesting your input on importance



- Supply Availability
- Supply Resilience
- Community Benefits
- Environmental Benefits
- Life Cycle Cost
- Ease of Implementation

// Asking for your feedback!

Upcoming Mentimeter exercise to rank these criteria

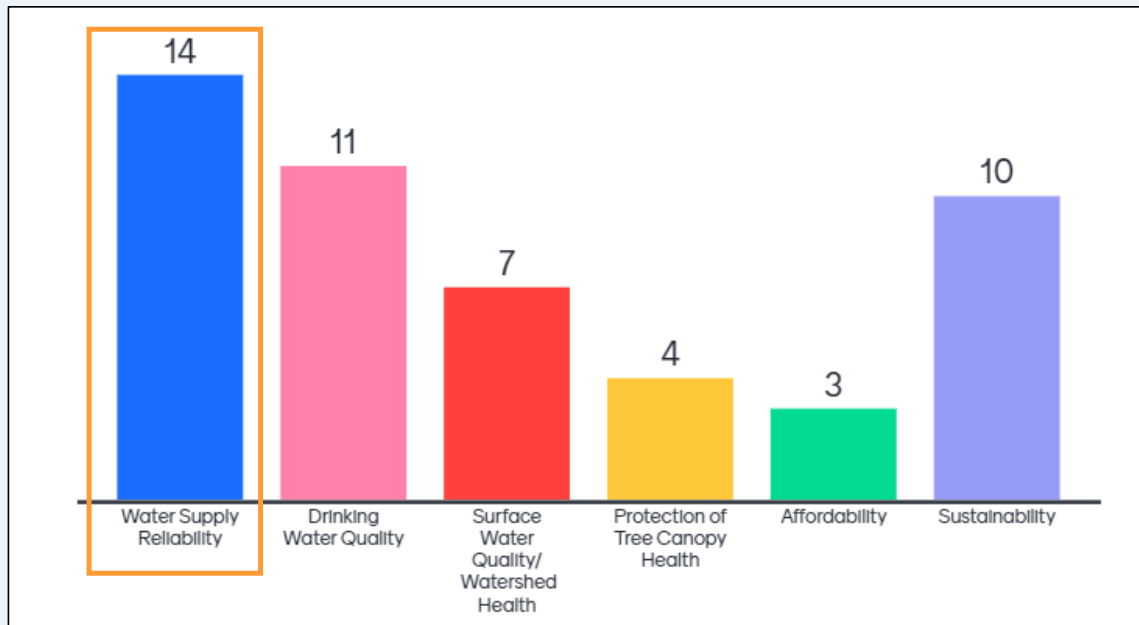
Scale these criteria based on relative importance.



// Evaluation Criteria – *Supply Availability and Resilience*

Community Priorities:

Which of the following best reflect your top 3 water management priorities?



Evaluation Criteria:

Supply Availability

- Normal year reliability
- Dry year reliability

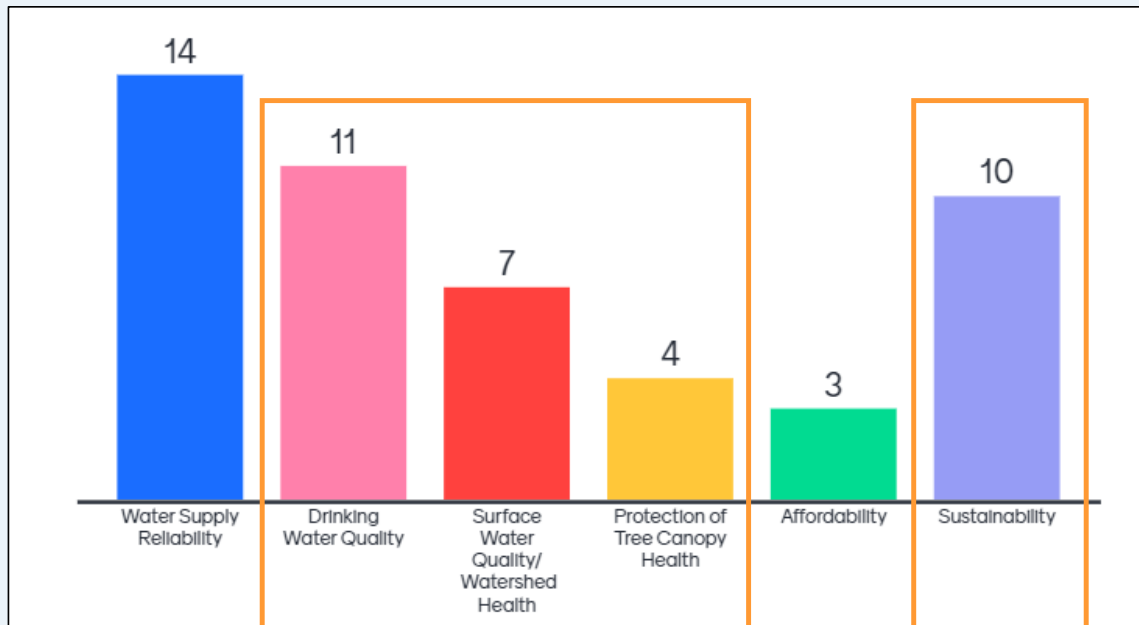
Supply Resilience

- Vulnerability risk score (resilience to uncertainties)

// Evaluation Criteria – *Community Benefits and Environmental Benefits*

Community Priorities:

Which of the following best reflect your top 3 water management priorities?



Evaluation Criteria:

Community Benefits

- Water quality
- Water equity

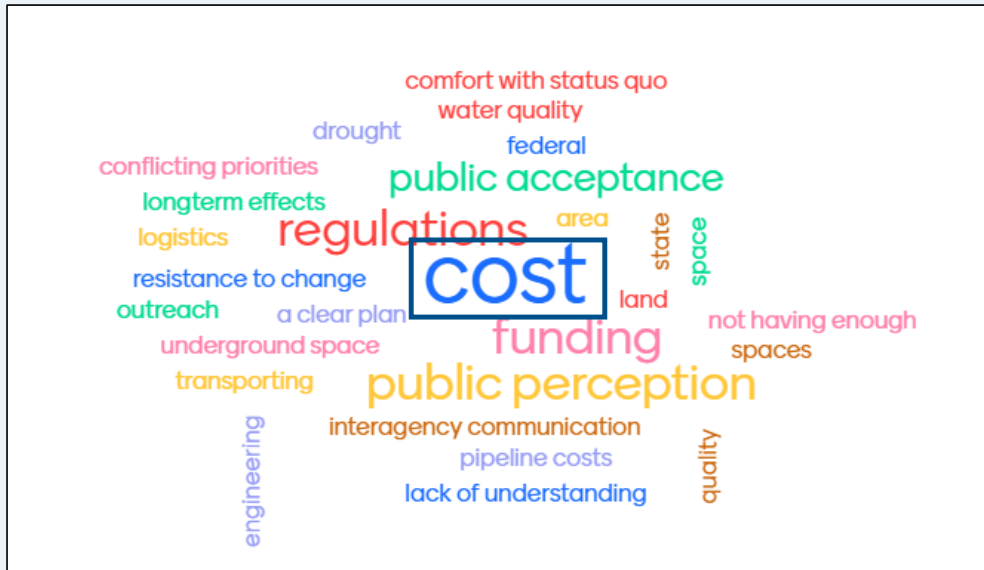
Environmental Benefits

- Tree canopy health
- Sustainable water supplies
- Watershed health

// Evaluation Criteria – *Life Cycle Cost*

Community Priorities:

What do you think are the barriers to the use of more water sources?



Evaluation Criteria:

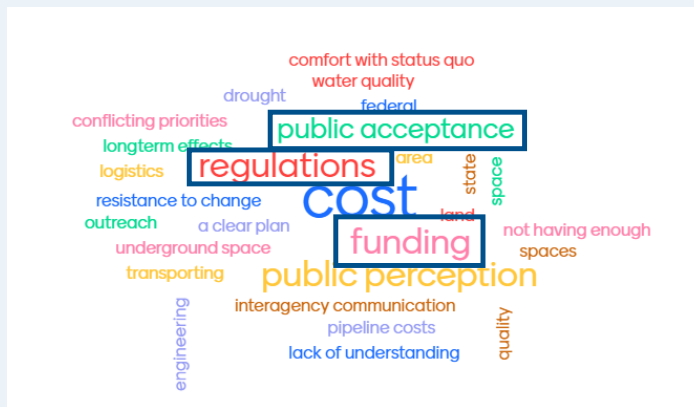
Life Cycle Cost

- \$/acre-foot cost of each portfolio

// Evaluation Criteria – *Ease of Implementation*

Community Priorities:

What do you think are the barriers to the use of more water sources?



What do you think is the key to One Water success?



Evaluation Criteria:

Ease of Implementation

- Implementation timeline
- Operational complexity
- Alignment with other efforts
- Public acceptance
- Regulatory complexity
- Funding opportunities

// Please share your thoughts!

Go to www.menti.com and use the code 5710 6119



// Summary of Evaluation Criteria

Supply Availability

- Normal year reliability
- Dry year reliability

Supply Resilience

- Vulnerability risk score (resilience to uncertainties)

Life Cycle Cost

- \$/acre-foot cost of each portfolio

Community Benefits

- Water quality
- Water equity

Environmental Benefits

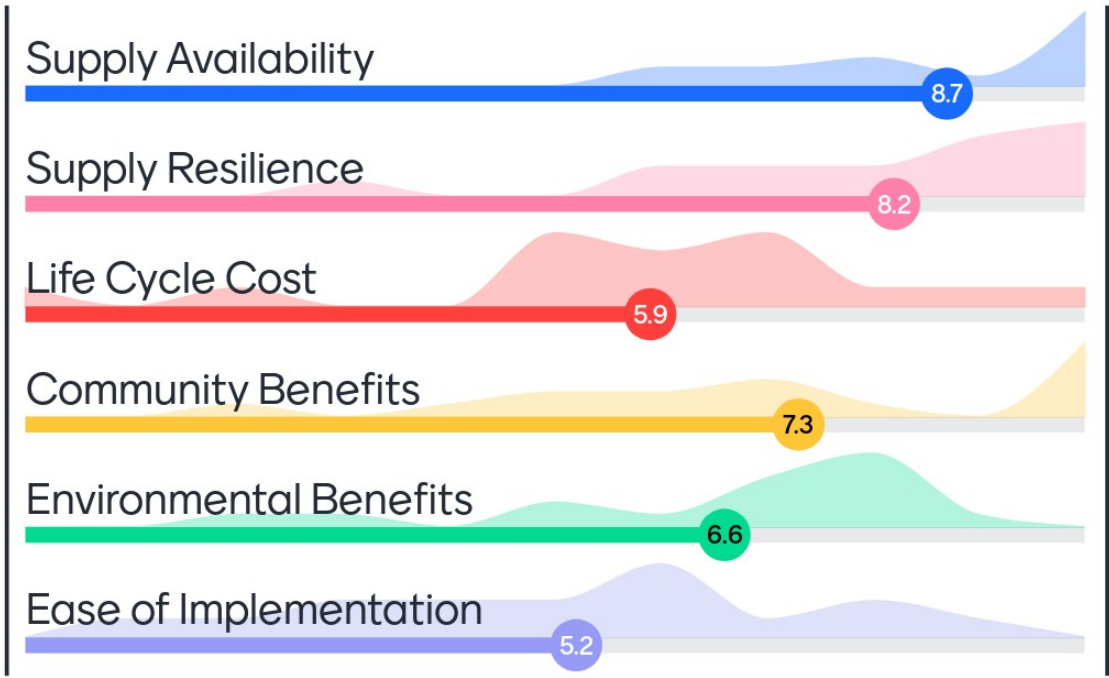
- Tree canopy health
- Sustainable water supplies
- Watershed health

Ease of Implementation

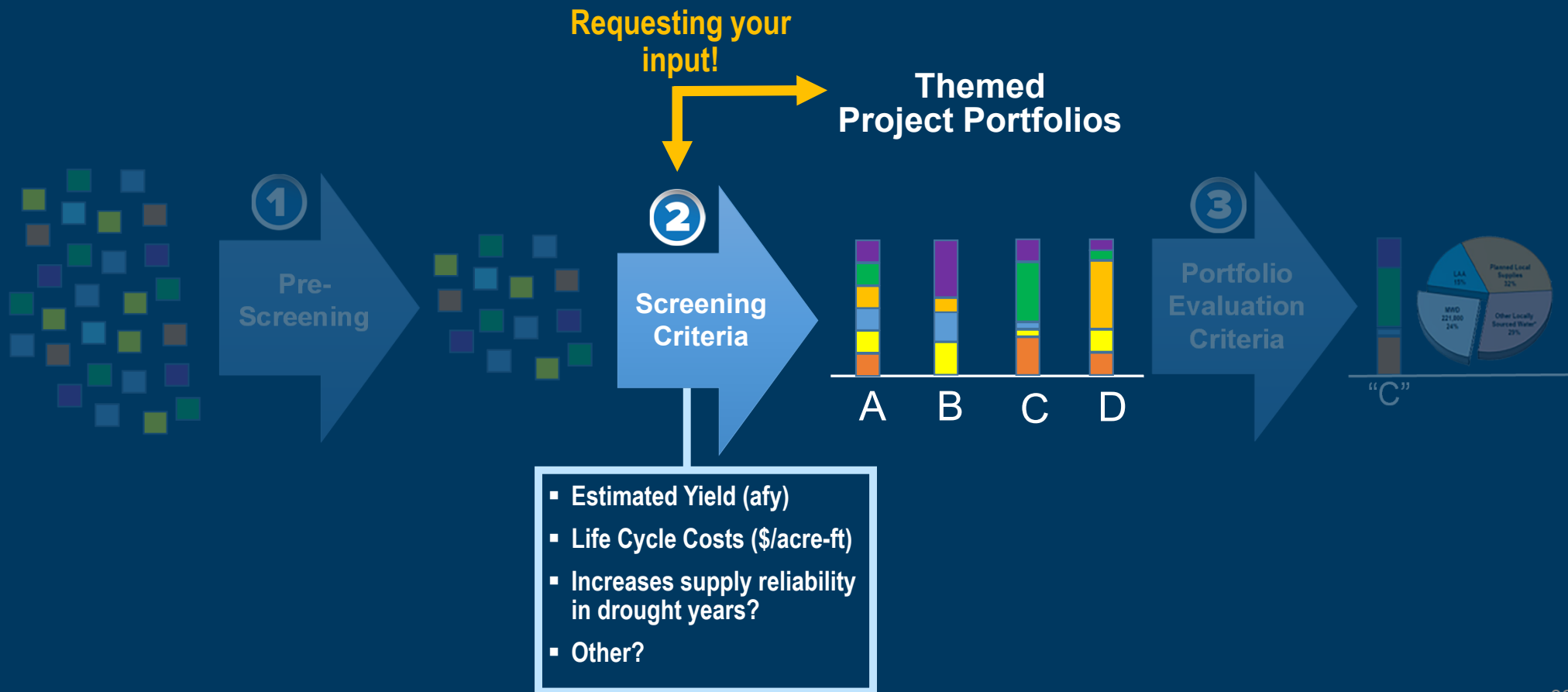
- Implementation timeline
- Operational complexity
- Alignment with other efforts
- Public acceptance
- Regulatory complexity
- Funding opportunities



Scale these criteria on relative importance.




// Step 2: Draft Screening Criteria and Portfolio Themes



// Supply and Conservation Options Draft Screening Criteria

Initial ideas and input discussion

Draft Screening Criteria	Metric/Unit	Potential Range
Estimated Supply Yield	acre-foot per year (afy)	High: 2,000+ afy Medium: 100-2,000 afy Low: 0-100 afy
Life Cycle Cost	dollar per acre-foot (\$/acre-ft)	\$: <\$2,000/acre-ft \$\$: \$2,000-\$4,000/acre-ft \$\$\$: >\$4,000/acre-ft
Increases supply reliability in drought years?	qualitative	Yes Neutral No
Other Criteria 		

// Portfolio Theme Ideas

Requesting your input!

Required

Baseline Portfolio

Business as usual, only implementing already planned projects and programs.
Baseline for Portfolio comparison

Minimize Cost

What mix of options will have the lowest combined supply cost?

Maximize Local Supplies

What mix of options further increase the City's local water supplies the most?

Maximize Drought Resilience

What mix of options enable the City to best mitigate the impact of droughts?

Sustainable Water Supplies

What mix of options are renewable, equitable, and protect the environment the most?

Other Themes



Next Steps

// Thank you for your input today!



// We need to hear your voice!

Please join us for the next community meeting:

- **Meeting #1:** Community Needs & Priorities
- **Meeting #2:** Exploring Water Supply Options
- **Meeting #3:** Sharing the Initial Results (~Feb 2023)
- We will share out to our distribution list/email/website/social media the link to the Draft One Water Plan (~June 2023)

Subscribe to the One Water email
distribution list to receive updates
<https://bit.ly/3qDWcXY>



// Other Upcoming Events

- **Dec. 16 – 17th, Lawn Busters DIY Workshop:** discover the facets of drought-tolerant gardening, species selection, spacing, and general care and maintenance
 - 12/16 - 6:00pm - 7:00pm, virtual
 - 12/17 - 9:30am-12:30 pm, in-person

Register and learn more at ourcityforest.org/diylawnbust

Meeting Close



CITY OF PALO ALTO
ONE WATER PLAN

THANK YOU!

ADDITIONAL INFORMATION,
PLEASE CONTACT:
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P: (650) 329-2543