

CIVINOMICS PUBLIC ENGAGEMENT SUMMARY - 11.14.14

Agenda Item 4a



Proposal by Jerry Paul, Systems Engineer



The Lochquifer Alternative - Storage

This proposal would use the Santa Margarita and Purisma Aquifers as water storage by diverting up to 6,000 acre feet (1.9 billion gallons) per year of San Lorenzo River and Zayante Creek winter flows. The treated water would first be pumped to Loch Lomond before being dispensed to the aquifers for longterm storage. The vast recharged aquifers would provide robust long-term drought protection to all mid-County, enhance fish habitat, and stay immune to saline incursion.

Estimated Cost: \$52M

[Rate and comment](#)



Proposal by JoeBen Bevirt, Local Entrepreneur, Founder of Joby Energy and four other successful startups in the last 10 years



Build Reservoirs in North Coast Quarries - Storage

Reusing the Liddell and San Vicente limestone quarries as water reservoirs could be a cost effective, environmentally responsible, and aesthetically attractive way to store 3.6 billion gallons and double the water storage capacity of the City of Santa Cruz.

Estimated Cost: \$44M



CONTENTS



1. Results of Exit Interviews
2. Takeaways from Convention
3. Review of Online Ratings
4. Key Takeaways,
Recommended Next Steps

EXIT INTERVIEWS - OVERVIEW

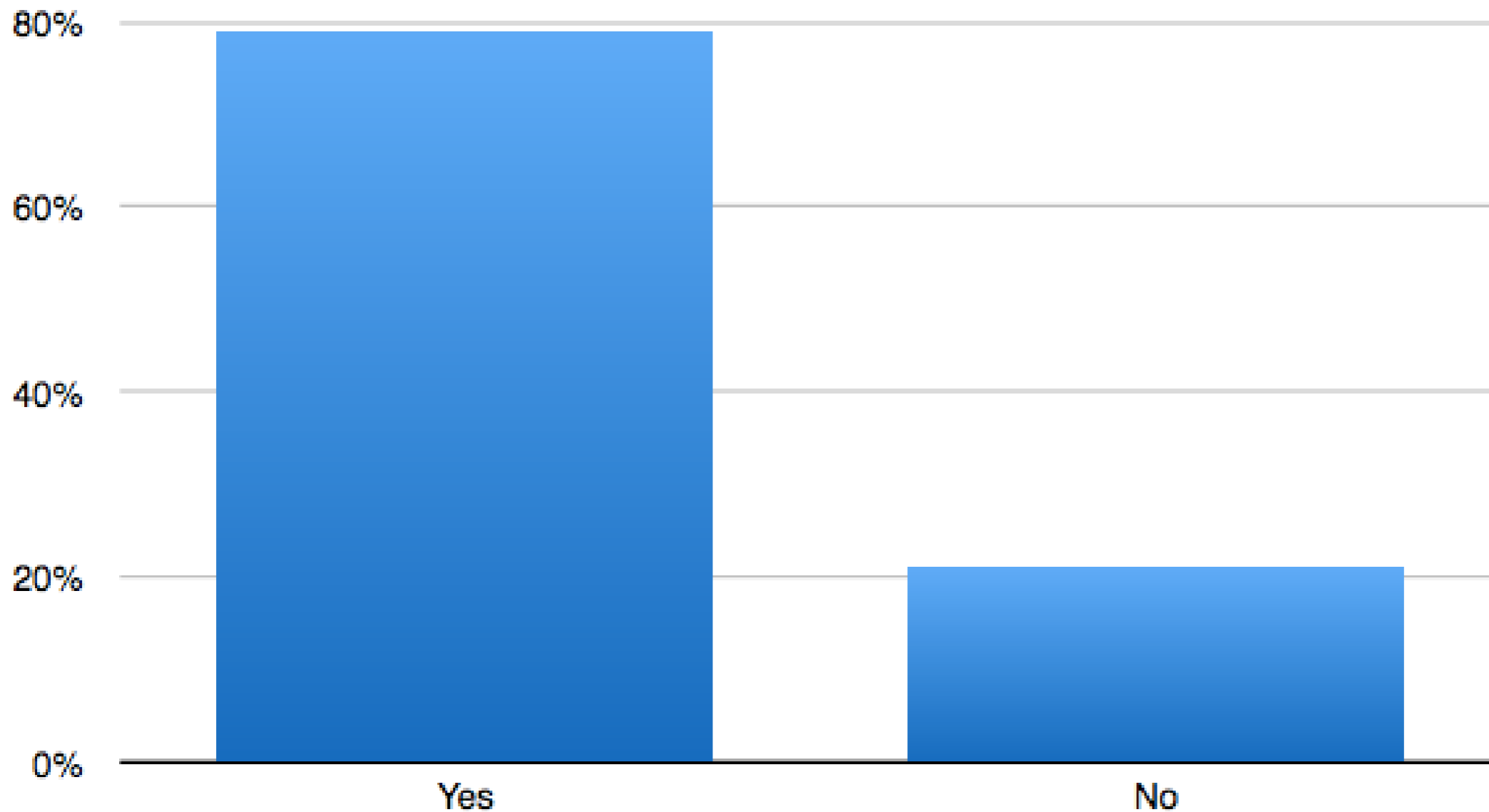


- 117 Exit Interviews Conducted (~ 1 in 4 attendees)
- Event format was 'helpful'
- Most attendees were already engaged in the process
- Event attendees took the event very seriously
- Effectiveness was seen as most important criteria, local economic benefits the least important
- No one proposal was favored significantly over all of the others, but some were clearly more popular
- Desalination seen as most divisive proposal

WHO ATTENDED?

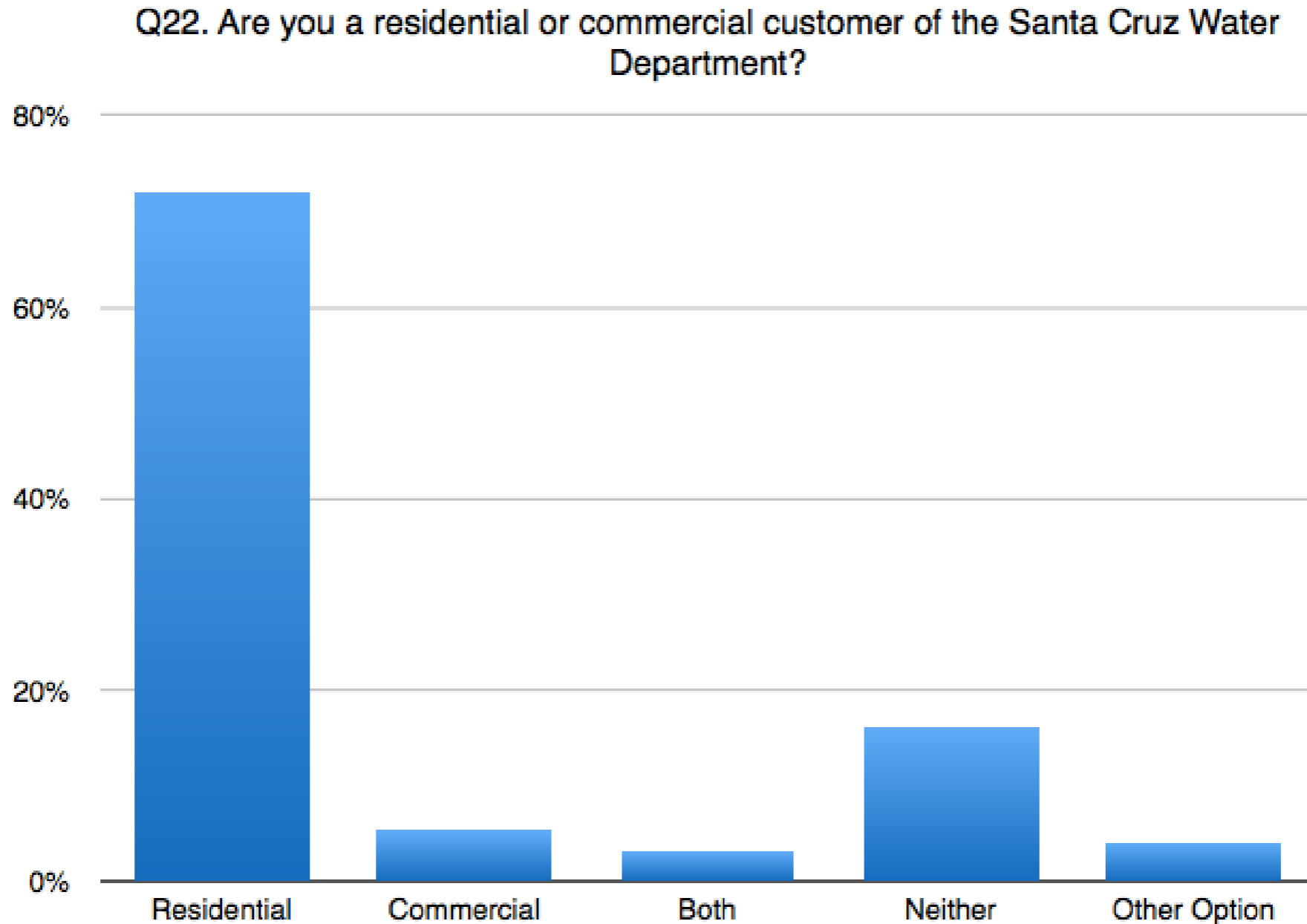


Q1. Do you live in the Santa Cruz Water Department Service Area? (City Limits, Live Oak, Pasatiempo included)



The majority of attendees were Santa Cruz Water Department customers (approx. 80%).

WHO ATTENDED?

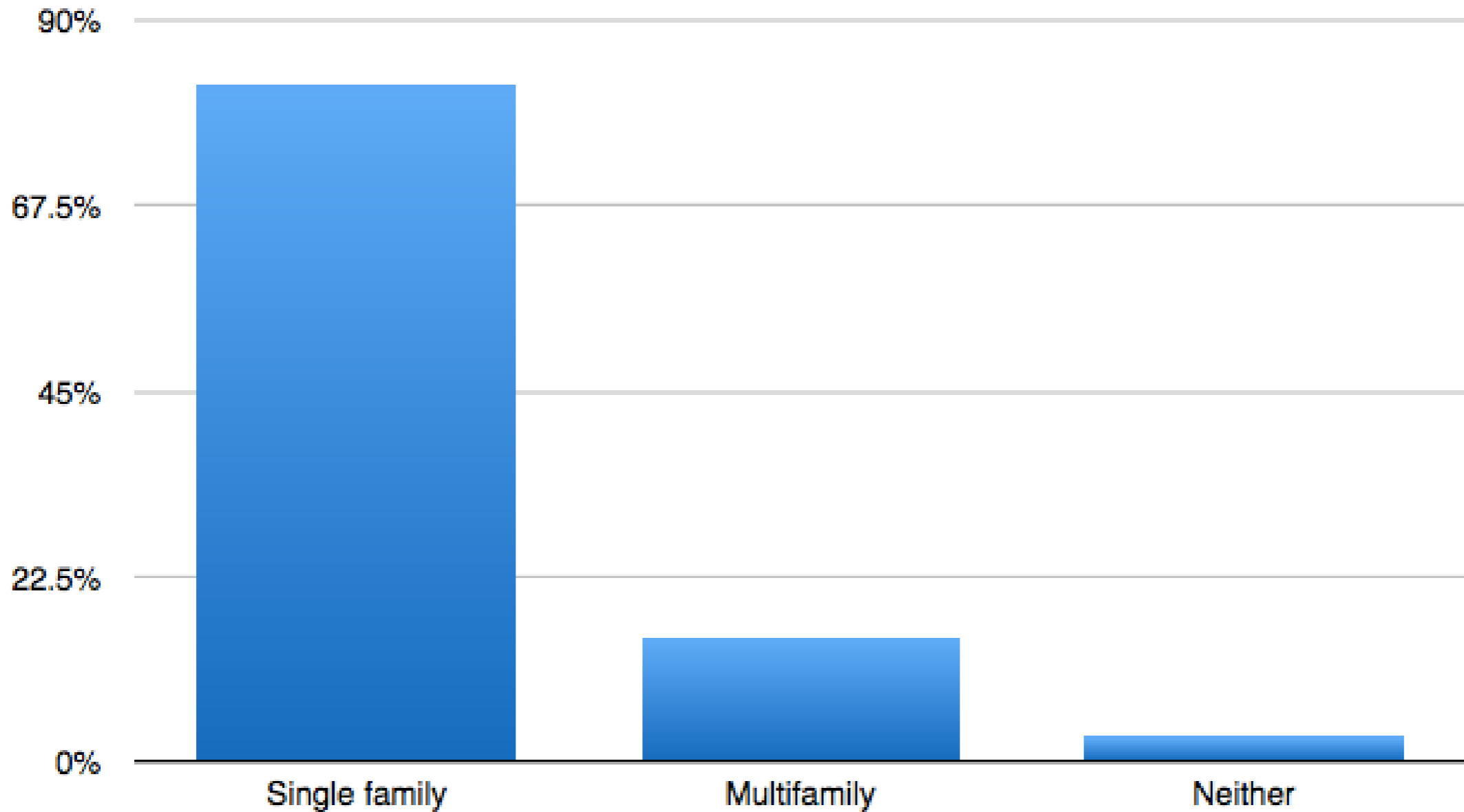


Residential customers matched actual percentage of customers. (88% compared to 88.6% total hookups). 9% of attendees were Commercial or “Both” (compared to 7.6% actual).

WHO ATTENDED?

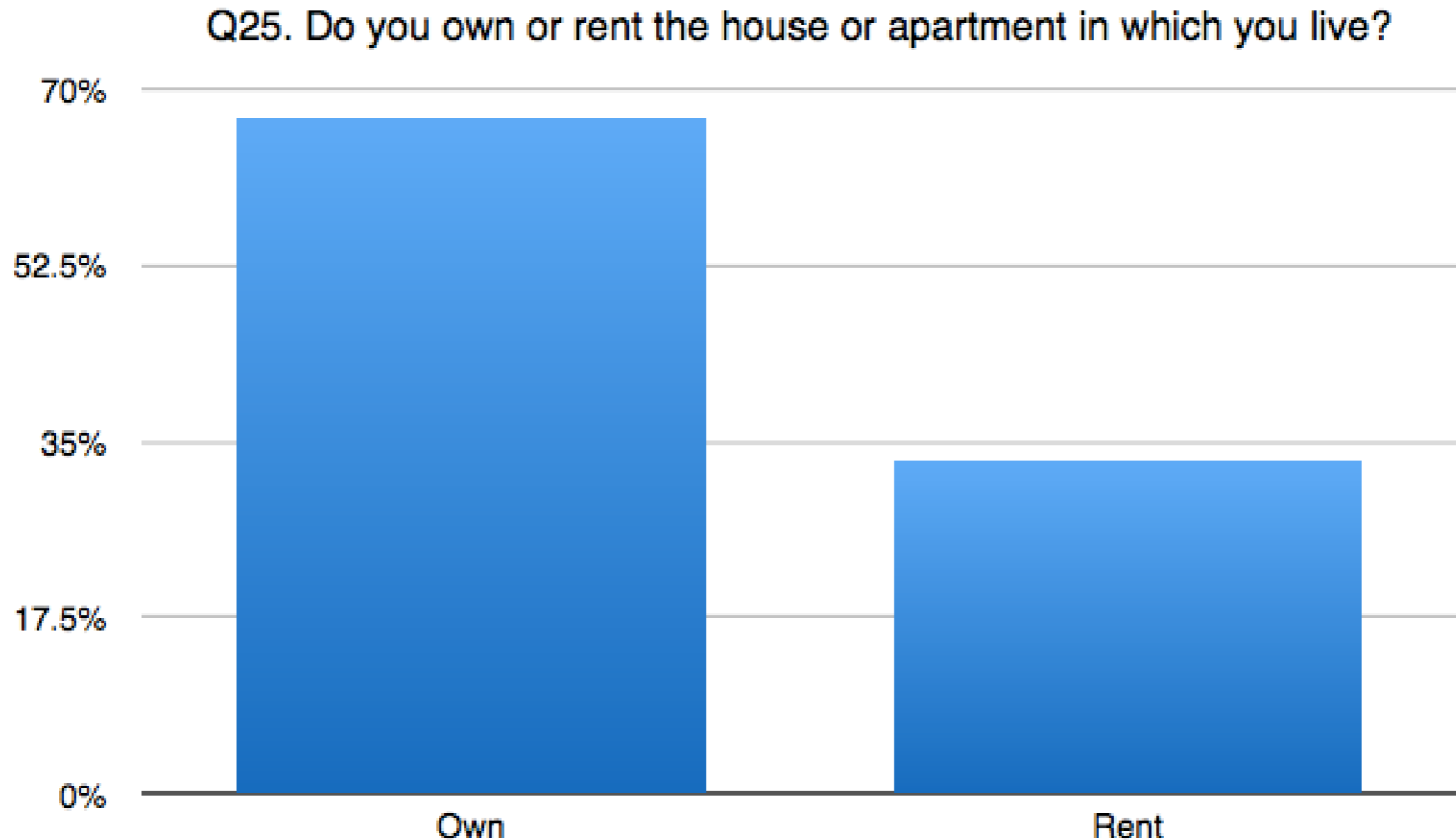


Q23. Do you live in a single family or multifamily home?



Single family residents are currently over-represented in the process. (80% single family compared to 51.4% actual) *
possible discrepancy between respondent definition and zoning definition - e.g. Townhome

WHO ATTENDED?

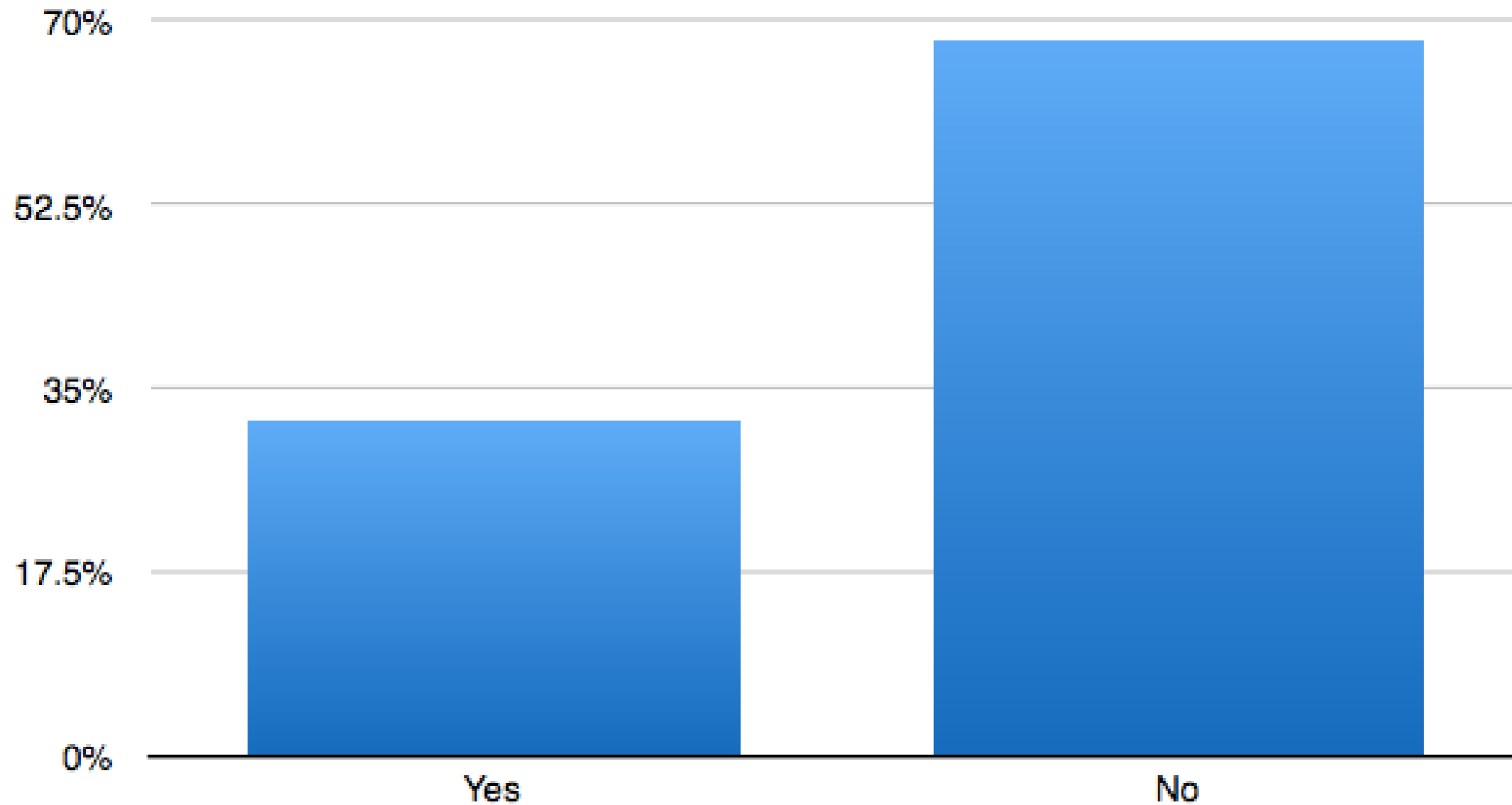


Homeowners are currently over-represented in the process.
(67% homeowners compared to 43.9% actual).

WHO ATTENDED?



Q26. As a renter, do you personally pay your water bill?

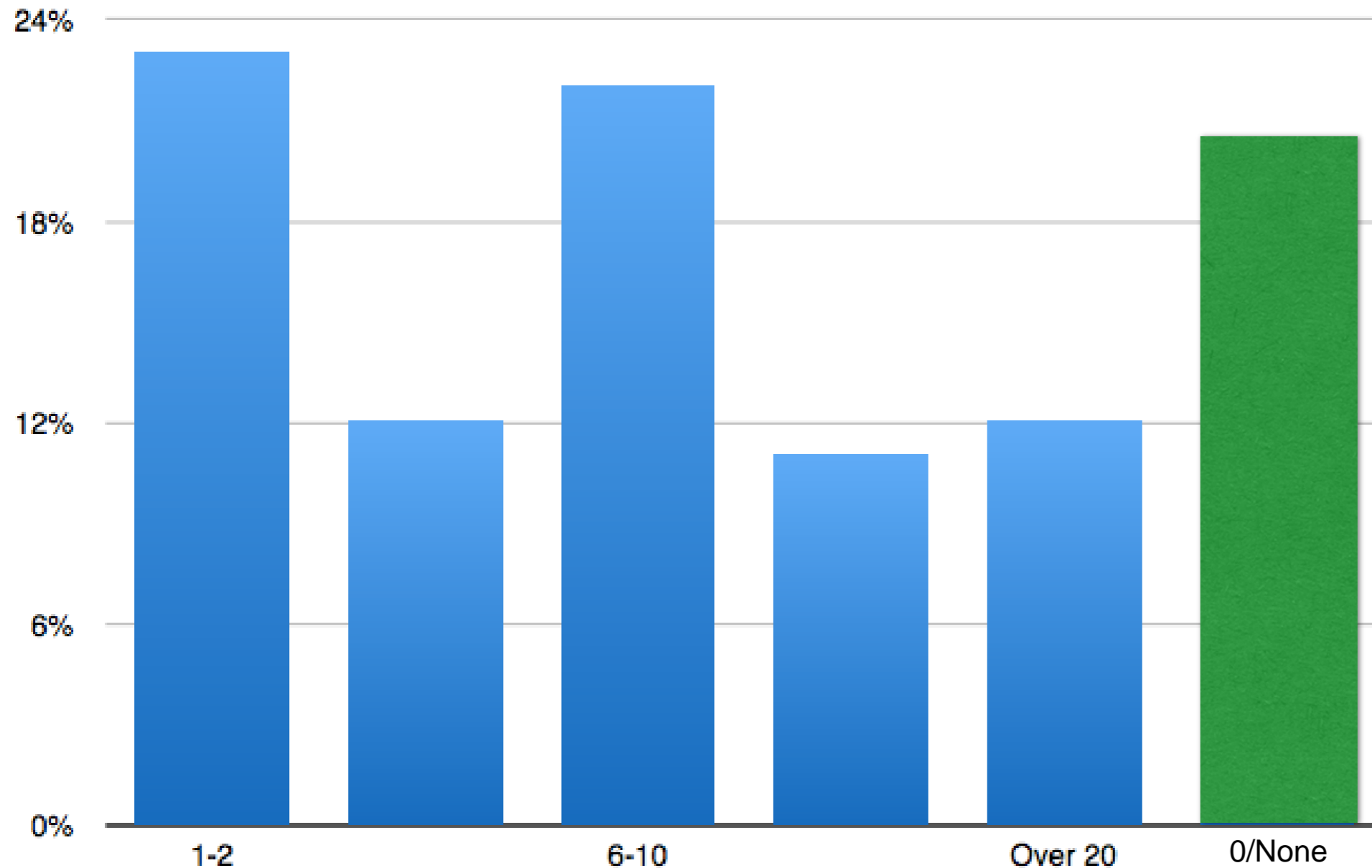


68% of renters don't pay their own water bill.

HOW ENGAGED ARE THEY?



Q20. Estimate how many public meetings you have attended in the past 2 years. This includes City Council meetings, community workshops and public commission meetings.

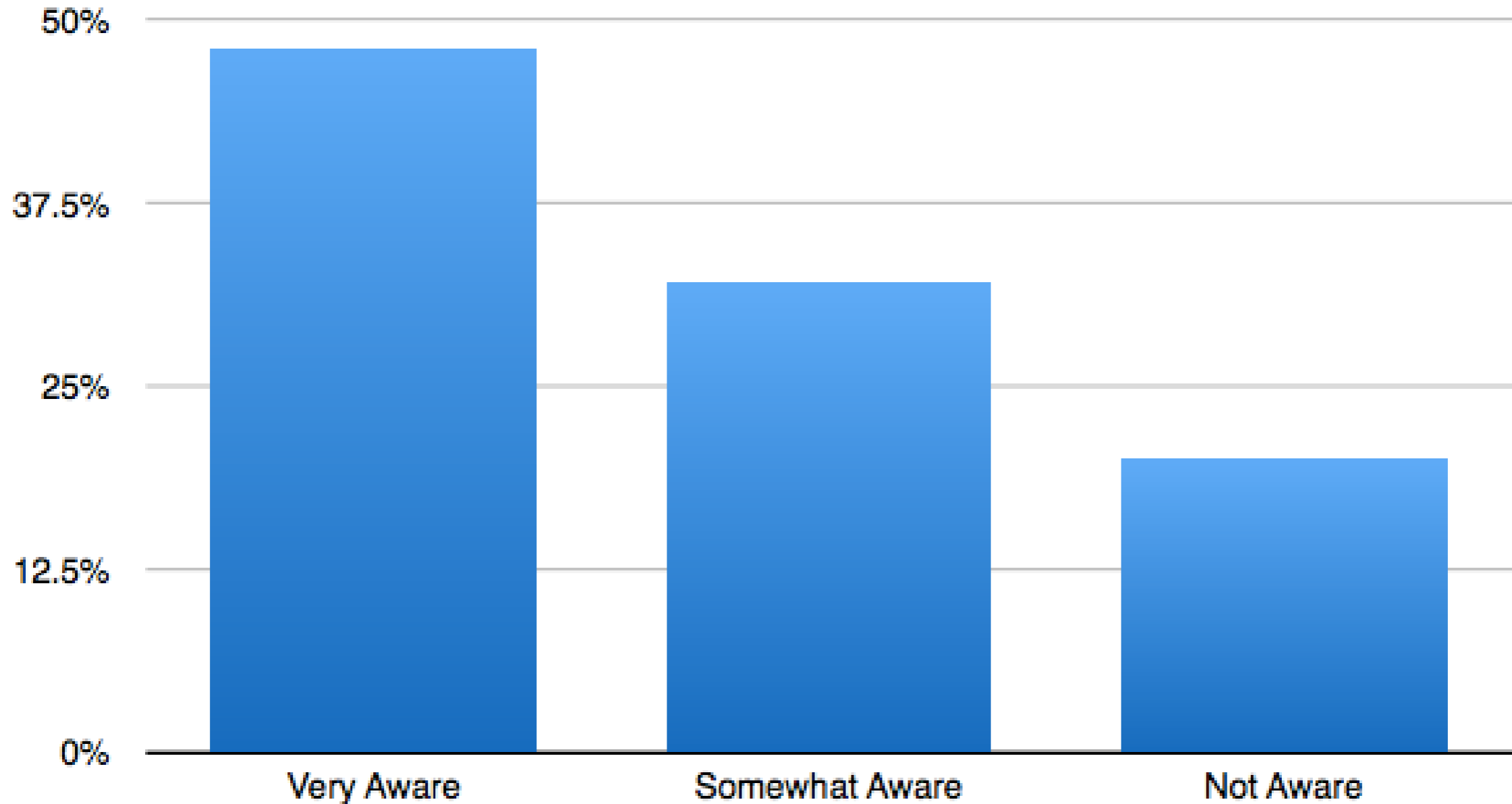


So far, participation has not broadly expanded beyond those who were already engaged. 80% attended a public meeting in the last 2 years.

HOW ENGAGED ARE THEY?



Q18. How aware are you of the Water Supply Committee?

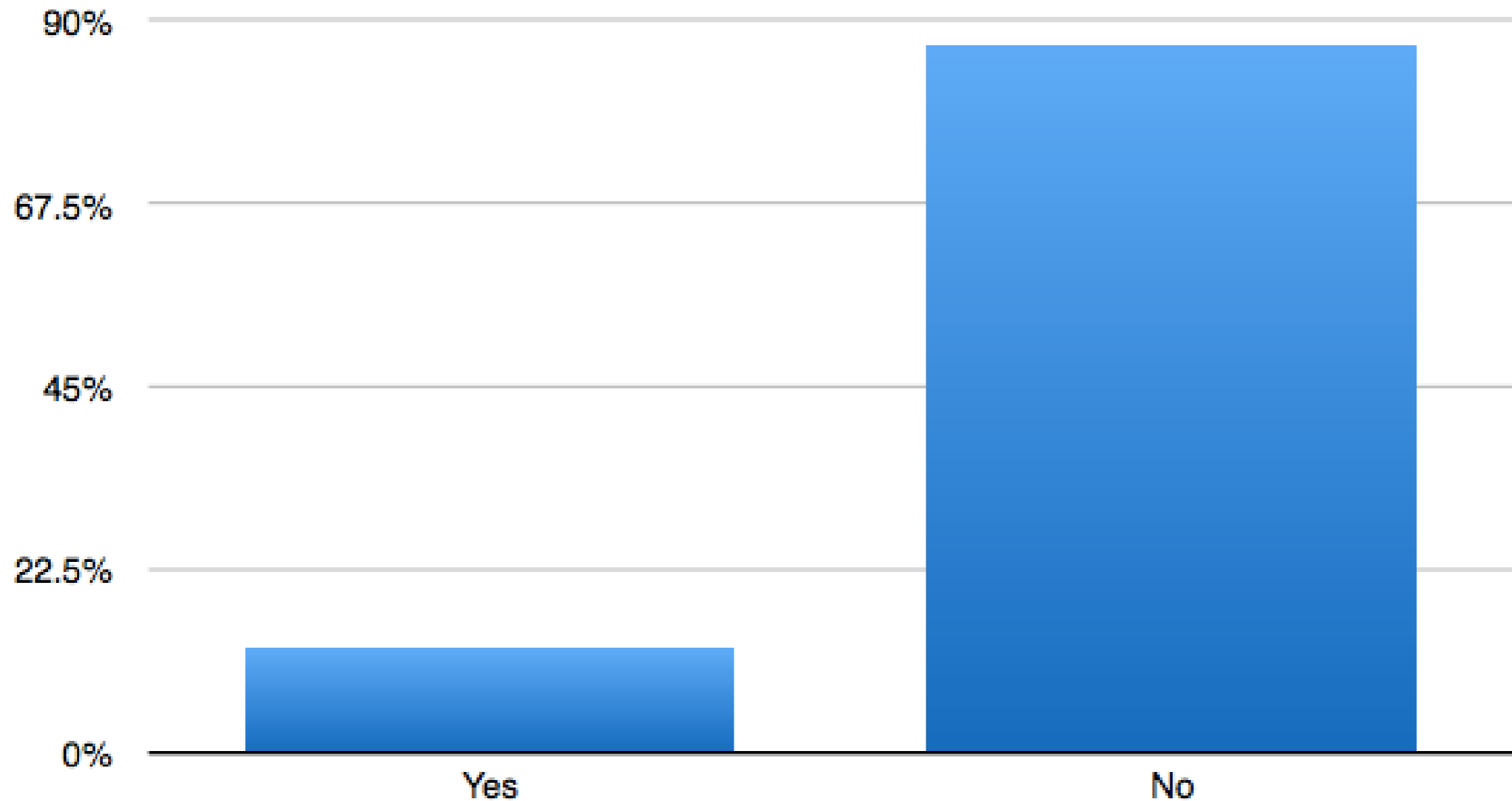


Nearly half (48%) of attendees were already, “Very Aware” of the WSAC.

HOW ENGAGED ARE THEY?

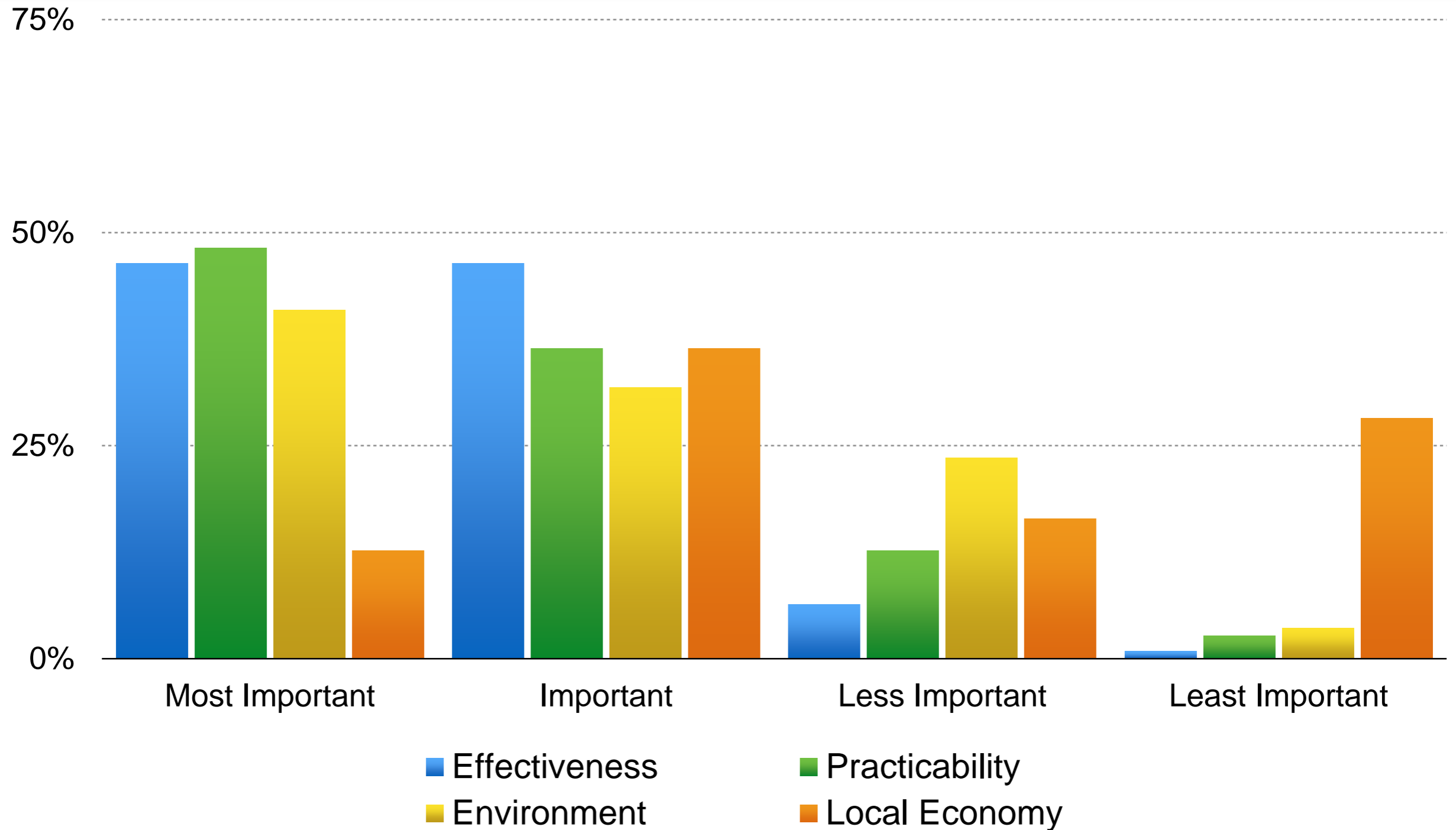


Q19. Have you attended any of the WSAC meetings?



Yet, for approx. 87% of attendees, it was the first time they had attended a WSAC event.

WHAT IS IMPORTANT TO ATTENDEES?



Attendees ranked Effectiveness and Practicability most important and Environment and Local Economy less so.

WHAT IS IMPORTANT TO ATTENDEES?

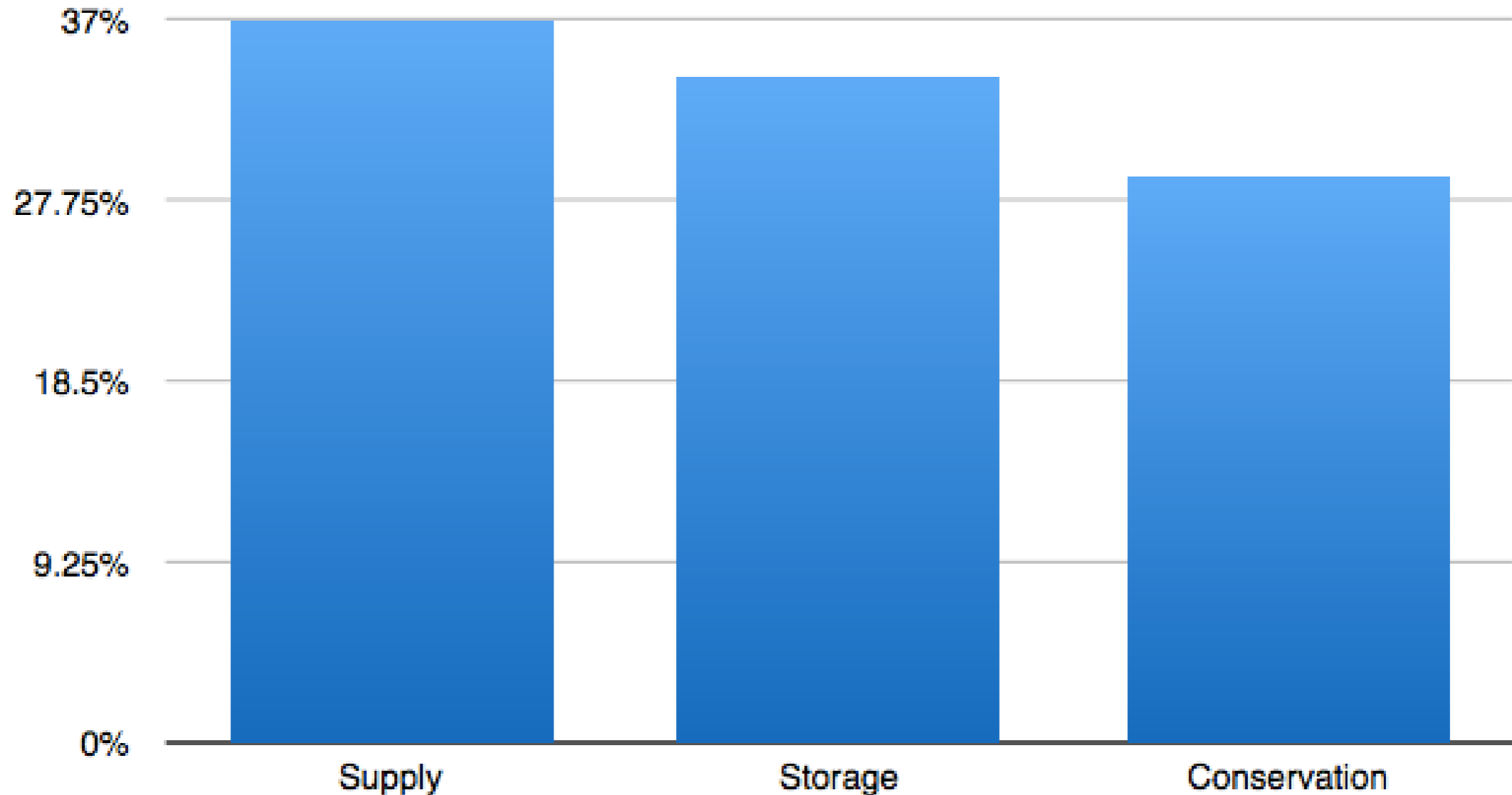


Criteria	Weighted Average
Effectiveness	3.38
Practicability	3.3
Environment	3.1
Local Economy	2.39

WHAT IS IMPORTANT TO ATTENDEES?

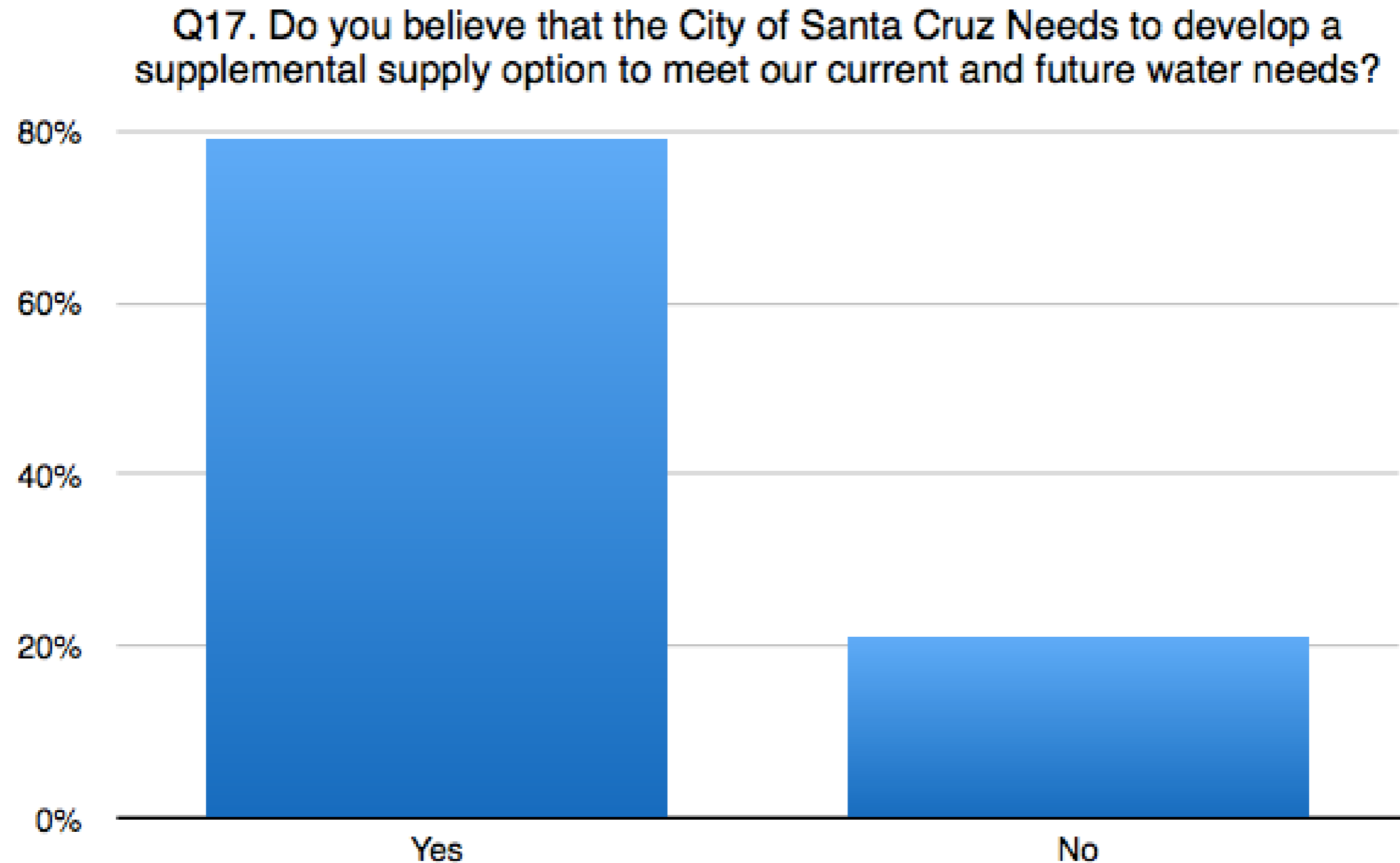


Q11. For the purposes of evaluation, each proposal was categorized based upon the following project type: supply, storage and conservation. In general, which types of projects most appealed to you?



Although there was only 10% variance, Supply projects were seen as most appealing by attendees.

WHAT IS IMPORTANT TO ATTENDEES?

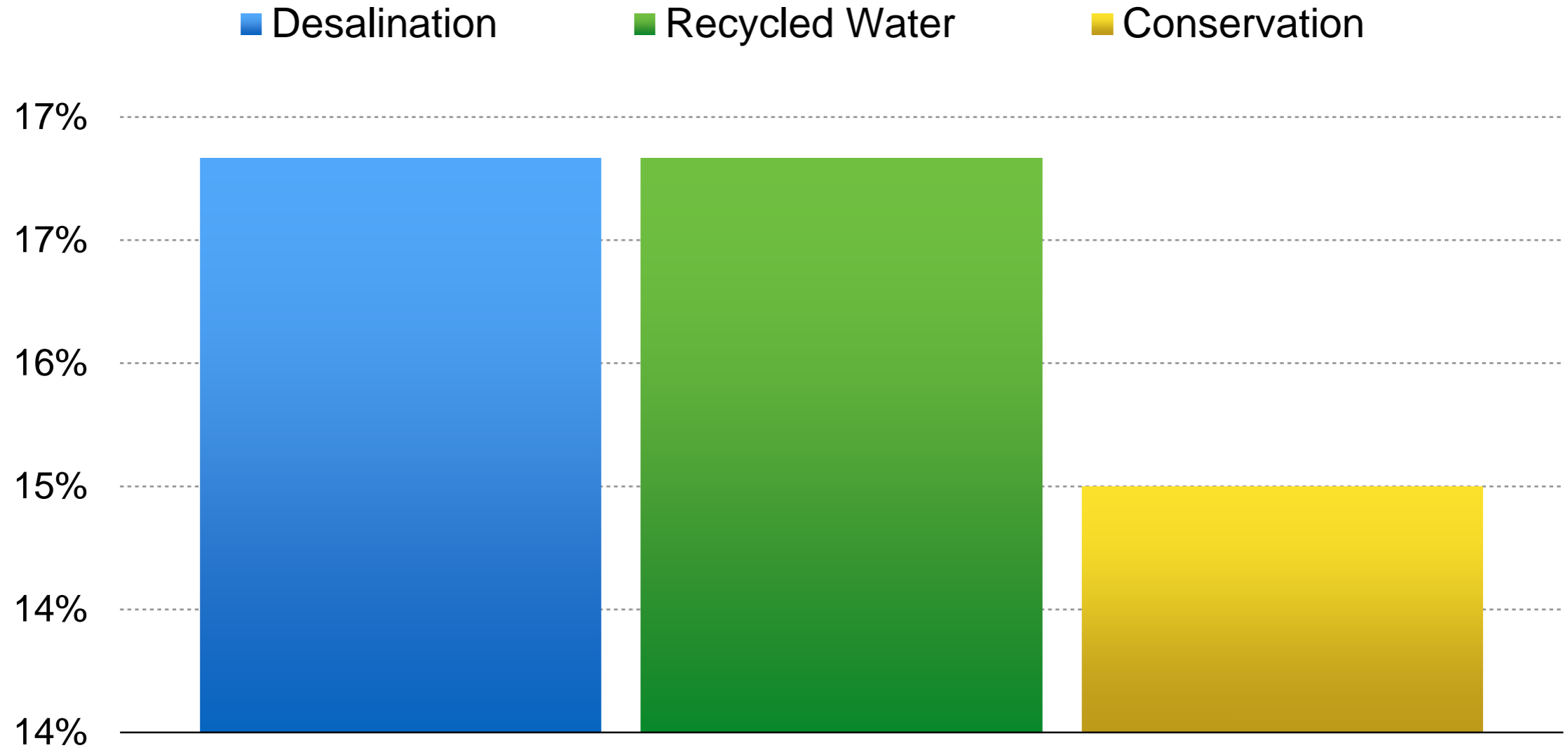


The vast majority of respondents (79%) believe that Santa Cruz needs a new supplemental supply source.

COMMENTARY ON PROPOSALS



Q13. If you had to select a project or multiple projects together, to meet the water supply needs of the city, which project(s) would you choose and why?



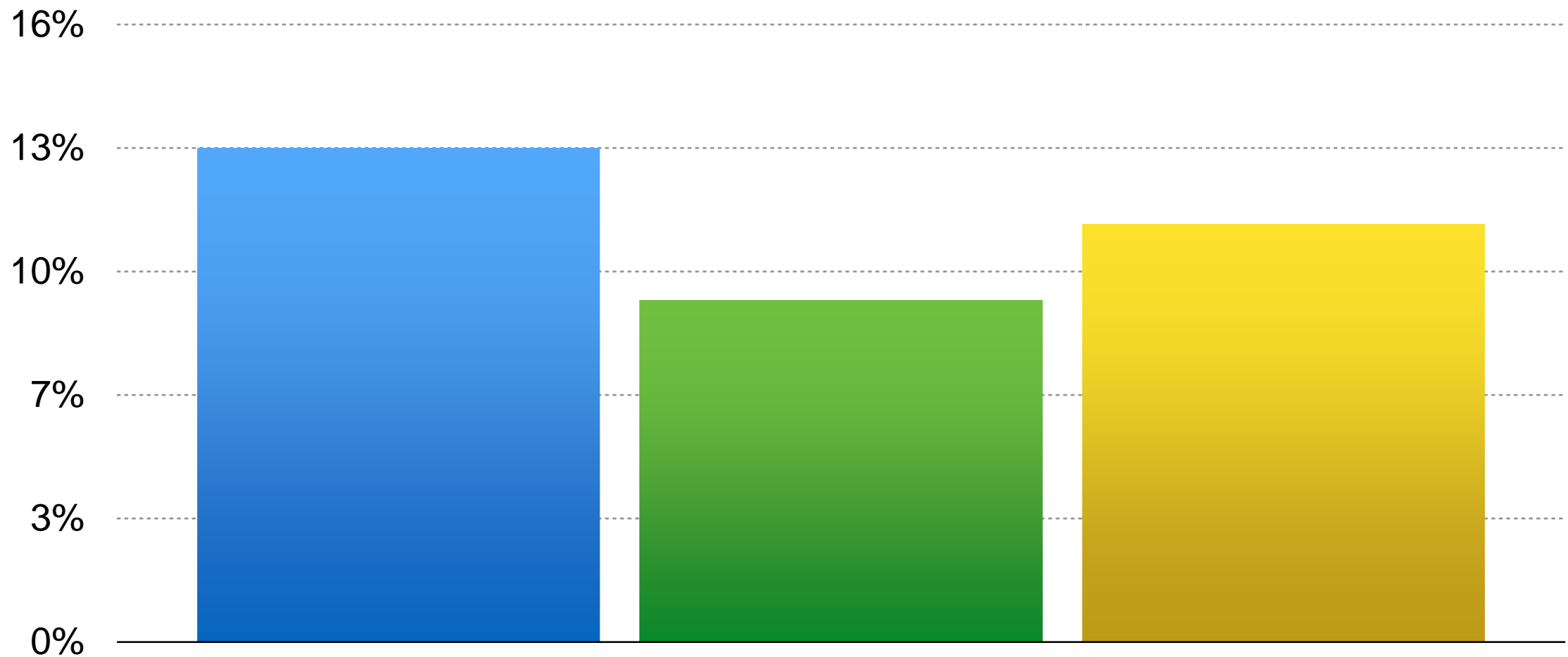
Recycled Water and Desalination were mentioned with equal frequency.

COMMENTARY ON PROPOSALS



Q14. When accounting for all 4 criteria, which proposal would you rate as being the best overall and why?

■ Desalination ■ Recycled Water ■ Desal Alternatives Group of Conservation Options



Conservation was mentioned more frequently when respondents were asked which they liked best overall.

CONVENTION TAKEAWAYS



- Needed to be promoted more
 - More outreach through organizations
- Standardized presentation format
 - Uniformity of metrics
 - Work more closely with authors
 - Combine similar ideas



ONLINE RATINGS

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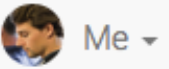
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Santa Cruz Water Supply Convention

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IDEAS
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INITIATIVES
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FINAL RATING
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WINNERS ANNOUNCED
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IMPACT
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Background

Initiatives

Collection of Residential Shower and Bathtub Gray Water for Reuse to Flush Toilets and for Irrigation

The Storm Aquarries Plan (Booth 5)

The Reservoir Plan (Booth 5)

The Recycle Plan (Booth 5)

Water Skate Parks (Booth 5)

Watershed Restoration (Booths 19-22)

Aquifer Restoration via Inter-District Collaboration (Booths 19-22)

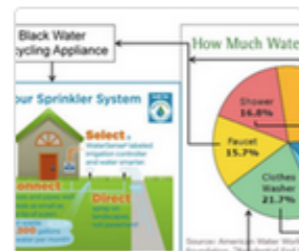
INITIATIVES

The following initiatives are submitted to the Water Supply Advisory Committee by members of the public. Please rate them in terms of the following criteria:

- **Effectiveness:** The expected decrease in demand OR increase in storage or supply related to this proposal.
- **Practicability:** Cost, community and political support, regulatory considerations.
- **Environment:** Environmental consequences, considering energy intensity, and riverine, marine, and terrestrial benefits or impacts.
- **Local Economy:** Potential to create sustainable local jobs in the planning, implementation, and support of the proposal.



zNano in Santa Cruz / Water 6d, 9h ago



Rebates to Unlock Water Efficient Technologies and Retrofits (WET&R) (Booth 24)

Water efficient technologies and retrofits (WET&R) projects could reduce water consumption by >50% and sewer outflows by >90%. Water treatment and distribution systems (WTDS), including desalination and advanced water

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Diversion Alternatives

Upgrade Existing SCWD-
SqCWD Intertie

The Lochquifer Alternative

Beyond Curtailment
(Booths 19-22)

Encourage Climate-
Appropriate Landscaping
(Booths 19-22)

Suggested Water Supply
Sources (Booth 15)

Timely & Adequate Demand
Management in Dry Years
(Booths 19-22)

Regional Cross-District
Groundwater Management,
Restructuring and
Consolidation (Booth 12)

Collection of Residential
Shower and Bathtub Gray
Water for Reuse to Flush
Toilets and for Irrigation

Ranney Collectors

zNano Water Filtration
Systems (Booth 24)



Cowell Railroad Pipeline

Many thanks to Terry McKinney for his outstanding Ranney col ...[more](#)

Infrastructure

Jerry Paul

Rated **Commented** | **Total Ratings (26)** **Total Comments (8)**



Loch-Down Alternatives - Sec. 23 of 27

The Loch-Down Alternatives achieve robust drought protection ...[more](#)

Supply

Jerry Paul

Rated **Comment** | **Total Ratings (26)** **Total Comments (6)**



Private Pumpers

Legislative changes are revolutionizing this arena. Promote ...[more](#)

Policy

Jerry Paul

Rated **Comment** | **Total Ratings (18)** **Total Comments (6)**



SLR Alluvial Plain Wells

The desal dEIR says that Carollo Engineers in about 2001 rep ...[more](#)

Supply

Jerry Paul

Rated **Comment** | **Total Ratings (10)** **Total Comments (1)**

EVOLUTION OF THE SITE

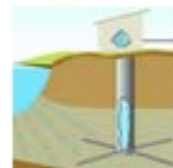


Basics mentioned in the film:

- Santa Cruz needs an additional 900M gallons/ year
- 95,000 acre feet(30,951M gallons) flow through the San Lorenzo Watershed each year. Current total water usage is 16/17% of this total.
- The proposed Desal Plant has an estimated cost of \$115M



Proposals by Terry McKinney, Production Superintendent, Santa Cruz Water Department












Ranney Collectors - Supply

Ranney collectors are essentially shallow wells built in a creek or river bed. Capturing water with a Ranney collector would add another tool for managing the lagoon and create a new water supply. Possible sites to target

MOST POINTS OVERALL



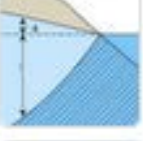


*20 ratings (avg #) required



	Name	Ratings	Total Pts
	Water - Energy Nexus	29	15
	Build Reservoirs in North Coast Quarries	36	14
	Use Available Water to Irrigate Golf Courses	31	14
	Santa Cruz Water Department - 4 Reuse Scenarios	28	14
	Loch-Down Alternatives	25	14
	Aquifer Restoration via Inter-District Collaboration	25	14
	Price Water to Encourage Conservation	24	14
	Timely & Adequate Demand Management in Dry Years	21	14
	Encourage Climate-Appropriate Landscaping	21	14
	Ranney Collectors	34	13

LEAST POINTS/RATINGS OVERALL



	Name	Ratings	Total Pts
	Water Conservation Accounts	16	9
	Aqueous Freshwater Recovery Systems	8	9
	A Low GHG Desalination/ Water Re-use Process	33	8
	The Storm Aquarries Plan	21	8
	The Recycle Plan	20	8
	Regional Water Authority Plan	12	8
	zNano Filtration Systems	8	8
	Water Skate Parks	16	7
	Desalination	39	6
	The Reservoir Plan	13	6



- Process tedious to engage with, even for dedicated participants
- Rating scale challenging to interpret/misused among public: (e.g. Desalination, Effectiveness: 2)
- Need consistent MGD/Cost numbers and summaries

OUTREACH RECOMMENDATIONS



- Work to publicize the results of this round of outreach (info graphics etc.)
 - Option, continue promotion of primary proposals: newspaper, 1 a week for a couple months
- Have a Round 2, simplify engagement requirements
 - Remove duplicate proposals, group small proposals
 - Clarify summary language, cost and MGD/ supply
 - Use cost constrained YES/NO ratings in next iteration of public input - e.g. you have \$120M to spend on water projects, which would you choose?