Santa Clara Valley Water District
Water Conservation and Demand Management Committee Meeting

HQ Boardroom
5700 Almaden Expressway
San Jose CA 95118

REGULAR MEETING AGENDA

Monday, June 25, 2018
10:00 AM

District Mission: Provide Silicon Valley safe, clean water for a healthy life, environment and economy.

WATER CONSERVATION AND DEMAND MANAGEMENT COMMITTEE

Nai Hsueh - District 5
Linda J. LeZottee - District 4, Committee Vice Chair
Richard Santos - District 3, Committee Chair

All public records relating to an item on this agenda, which are not exempt from disclosure pursuant to the California Public Records Act, that are distributed to a majority of the legislative body will be available for public inspection at the Office of the Clerk of the Board at the Santa Clara Valley Water District Headquarters Building, 5700 Almaden Expressway, San Jose, CA 95118, at the same time that the public records are distributed or made available to the legislative body. Santa Clara Valley Water District will make reasonable efforts to accommodate persons with disabilities wishing to attend Board of Directors' meeting. Please advise the Clerk of the Board Office of any special needs by calling (408) 265-2600.

Note: The finalized Board Agenda, exception items and supplemental items will be posted prior to the meeting in accordance with the Brown

Santa Clara Valley Water District
Water Conservation and Demand Management

REGULAR MEETING
AGENDA

Monday, June 25, 2018 | **10:00 AM** | **HQ Boardroom**

1. CALL TO ORDER:

1.1. Roll Call.

2. Time Open for Public Comment on any Item not on the Agenda:

Notice to the public: This item is reserved for persons desiring to address the Committee on any matter not on this agenda. Members of the public who wish to address the Committee on any item not listed on the agenda should complete a Speaker Form and present it to the Committee Clerk. The Committee Chair will call individuals in turn. Speakers comments should be limited to two minutes or as set by the Chair. The law does not permit Committee action on, or extended discussion of, any item not on the agenda except under special circumstances. If Committee action is requested, the matter may be placed on a future agenda. All comments that require a response will be referred to staff for a reply in writing. The Committee may take action on any item of business appearing on the posted agenda.

3. APPROVAL OF MINUTES:

3.1. Approval of Minutes. 18-0489

Recommendation: Approve the April 30, 2018, Meeting Minutes.

Manager: Michele King, 408-630-2711

Attachments: Attachment 1: 043018 Wtr Con Dem Mgmt Comm Draft Mins

Est. Staff Time: 5 Minutes

4. ACTION ITEMS:

4.1. Water Supply Reliability Level of Service Goal. 18-0456

Recommendation: This is a discussion item and the Committee may provide comments. However, no action is required.

Manager: Garth Hall, 408-630-2750

Attachments: Attachment 1: SCVWD Drought Survey
Attachment 2: 2018 Stakeholder Workshops Summ

Est. Staff Time: 10 Minutes

4.2. Climate Smart San Jose Plan. 18-0458

Recommendation: This is a discussion item and the Committee may provide comments. However, no action is required.

Manager: Garth Hall, 408-630-2750

Attachments: Attachment 1: ClimateSmart

Est. Staff Time: 30 Minutes

4.3. Review of Water Conservation and Demand Management Committee Work Plan, the Outcomes of Board Action of Committee Requests and the Committee's Next Meeting Agenda. 18-0460

Recommendation: Review the Committee Work Plan and Planning Calendar to guide the Committee's discussions regarding policy alternatives and implications for Board deliberation.

Manager: Michele King, 408-630-2711

Attachments: Attachment 1: WCDM 2018 Work Plan
Attachment 2: WCDM August 2018 Draft Agenda

Est. Staff Time: 5 Minutes

5. INFORMATION ITEMS:

5.1. Shallow Groundwater. 18-0457

Recommendation: This is an information only item and no action is required.

Manager: Garth Hall, 408-630-2750

Attachments: Attachment 1: Map of Subbasin
Attachment 2: Groundwater Elevations
Attachment 3: Generalized Map

Est. Staff Time: 10 Minutes

5.2. Water Conservation Programs for the Landscape Sector. 18-0459

Recommendation: This is an information only item and no action is required.

Manager: Garth Hall, 408-630-2750

Est. Staff Time: 5 Minutes

6. Clerk Review and Clarification of Committee Requests.

This is an opportunity for the Clerk to review and obtain clarification on any formally moved, seconded, and approved requests and recommendations made by the Committee during the meeting.

7. ADJOURN:

7.1. Adjourn to Regular Meeting at 10:00 a.m., on August 2018, in the Santa Clara Valley Water District Headquarters Building Boardroom, 5700 Almaden Expressway, San Jose, California 95118.

File No.: 18-0489

Agenda Date: 6/25/2018
Item No.: 3.1.

COMMITTEE AGENDA MEMORANDUM

Water Conservation and Demand Management

SUBJECT:
Approval of Minutes.

RECOMMENDATION:
Approve the April 30, 2018, Meeting Minutes.

SUMMARY:
A summary of Committee discussions, and details of all actions taken by the Committee, during all open and public Committee meetings, is transcribed and submitted for review and approval.

Upon Committee approval, minutes transcripts are finalized and entered into the District's historical records archives and serve as historical records of the Committee's meetings.

ATTACHMENTS:
Attachment 1: 043018 Draft Meeting Minutes.

UNCLASSIFIED MANAGER:
Michele King, 408-630-2711

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WATER CONSERVATION AND DEMAND MANAGEMENT COMMITTEE MEETING

DRAFT MINUTES

MONDAY, APRIL 30, 2018
10:00 AM

(Paragraph numbers coincide with agenda item numbers)

A regularly scheduled meeting of the Water Conservation and Demand Management Committee was held on April 30, 2018, in the Headquarters Building Boardroom at the Santa Clara Valley Water District, 5700 Almaden Expressway, San Jose, California.

1. CALL TO ORDER/ROLL CALL

Committee Chair, Director Richard P. Santos called the meeting to order at 10:02 a.m.

Board Members in attendance were: Director Nai Hsueh (District 5), Director Linda J. LeZotte (District 4), and Director Richard P. Santos (District 3).

Staff members in attendance were: Jennifer Abadilla, Neeta Bijoor, Glenna Brambill, Vanessa De La Piedra, Marty Grimes, Garth Hall, Tracy Hemmeter, Karen Koppett, Michael Martin, Anthony Mendiola and Kirsten Struve.

Guests in attendance were: Brian Boyer (Cinnabar Hills Golf Club), Sherry Bryan (Ecology Action), Rhonda Berry and Edgar Echevarra (Our City Forest) Anthony Eulo (City of Morgan Hill), and Doug Muirhead (Resident of Morgan Hill).

2. TIME OPEN FOR PUBLIC COMMENT ON ANY ITEM NOT ON AGENDA

Mr. Doug Muirhead, a Resident of the City of Morgan Hill requested staff to share any updates on direct potable reuse regarding treatment plants or reservoirs.

3. APPROVAL OF MINUTES

3.1 APPROVAL OF MINUTES

It was moved by Director Nai Hsueh, seconded by Director Richard P. Santos and unanimously carried, to approve the minutes of the February 28, 2018, Water Conservation and Demand Management Committee meeting as presented.

4. ACTION ITEMS

4.1 WATER CONSERVATION OPTIONS FOR AGRICULTURE

Ms. Tracy Hemmeter reviewed the materials as outlined in the agenda item.

Director Nai Hsueh, Mr. Dhruv Khanna, Mr. Anthony Eulo, Director Richard P. Santos, and Director Linda J. LeZotte, had questions on agriculture, water conservation, open space credit, the Mobile Lab Program, historical agricultural water usage, farmers as customers, decrease in agricultural acreage and conversion of land, South County issues, agricultural water subsidy and open space credit being unsustainable.

Ms. Sherry Bryan of Ecology Action spoke about agricultural businesses and services and Mr. Doug Muirhead spoke on a county-wide task force.

No action was taken.

4.2 WATER SUPPLY RELIABILITY LEVEL OF SERVICE GOAL

Mr. Michael Martin reviewed the materials as outlined in the agenda items.

Mr. Doug Muirhead spoke on the level of service goal.

Director Linda J. LeZotte, had questions on messaging about water and maintaining our natural reservoirs. Director Nai Hsueh and Mr. Dhruv Khanna had questions on Doug's comment of level of service, a need to discuss the Water Supply Master Plan and groundwater table information during drought.

Mr. Garth Hall, Ms. Vanessa De La Piedra and Ms. Tracy Hemmeter were available to answer questions Answers: Groundwater information is relied on what well owners provide and that 80% level of reliability is consistent of what the state is doing.

No action was taken.

4.3 WATER SUPPLY MASTER PLAN "NO REGRETS" PROGRAMS

Ms. Neeta Bijoor reviewed the materials as outlined in the agenda items.

Mr. Anthony Eulo, Director Nai Hsueh commented on the Water Supply Master Plan No Regrets Programs; the AMI is a great tool and the long and short terms of this program.

Mr. Garth Hall, Ms. Tracy Hemmeter and Ms. Karen Koppett were available to answer questions. Answers: No water agencies participating as of today, past costs, Water Smart cost-sharing already in place.

Ms. Sherry Bryan of Ecology Action responded to the AMI program they offer and that a Water Smart provider comes out to do the repairs.

Director Linda J. LeZotte asked that staff return to the Committee with more up-to-date information for discussion on this tool (program) and Director Nai Hsueh asked for cost-sharing and installation information.

Mr. Doug Muirhead and Ms. Rhonda Berry from Our City Forest spoke on this agenda item.

Further discussion on this agenda item by Mr. Dhruv Khanna, Director Nai Hsueh, Ms. Sherry Bryan and Mr. Anthony Eulo.

No action taken.

4.4 CURRENT WATER CONSERVATION PROGRAMS AND RESOURCES

Ms. Karen Koppett reviewed the materials as outlined in the agenda items.

Ms. Rhonda Berry and Mr. Edgar Echevarra of Our City Forest were introduced and summarized the projects they have completed and the associated costs.

Directors Linda J. LeZotte and Richard P. Santos, Mr. Dhruv Khanna, Ms. Sherry Bryan, Mr. Marty Grimes, Director Nai Hsueh and Mr. Anthony Eulo spoke on the many issues and concerns with water conservation programs, conservation a new of life for Californians and available resources.

No action taken.

4.5 REVIEW OF WATER CONSERVATION AND DEMAND MANAGEMENT COMMITTEE WORK PLAN, THE OUTCOMES OF BOARD ACTION OF COMMITTEE REQUESTS AND THE COMMITTEE'S NEXT MEETING AGENDA

Ms. Glenna Brambill reviewed the materials as outlined in the agenda items.

It was determined that the next meeting would be scheduled for Monday, June 25, 2018, 10:00 a.m.

No action taken.

5. CLERK REVIEW AND CLARIFICATION OF COMMITTEE'S REQUESTS

Ms. Glenna Brambill stated there were no action items for Board consideration.

6. ADJOURNMENT

Chair Santos adjourned at 11:59 a.m. to the next regularly scheduled to the next scheduled meeting on Monday, June 25, 2018, at 10:00 a.m., in the Santa Clara Valley Water District Headquarters Building Boardroom.

Glenna Brambill
Board Committee Liaison
Office of the Clerk of the Board

Approved:

File No.: 18-0456

Agenda Date: 6/25/2018
Item No.: 4.1.

COMMITTEE AGENDA MEMORANDUM

Water Conservation and Demand Management

SUBJECT:
Water Supply Reliability Level of Service Goal.

RECOMMENDATION:
This is a discussion item and the Committee may provide comments. However, no action is required.

SUMMARY:
The Water Conservation and Demand Management Committee received and discussed information on the costs associated with different water supply reliability levels of service and stakeholder input on April 30, 2018. At that meeting, the Committee concurred with a level of service goal of meeting 100 percent of demands in non-drought years and 80 percent of demands in drought years, for the purposes of long-term water supply planning. This goal strikes a balance between providing a high level of reliability, with the costs of providing that level of reliability. This item describes how staff plans to present the level of service goal recommendation to the full Board so that the Committee may provide comments and/or additional direction if desired.

BACKGROUND:

The Water Supply Master Plan is the District's strategy for providing a reliable and sustainable water supply in a cost-effective manner. It describes the new water supply investments the District is planning to make, the anticipated schedule of those investments, and the associated costs and benefits of the investments. The level of service goal is important because it guides the level of new investment that the District will need. The current level of service goal, which was approved by the Board in June 2012, is to develop water supplies designed to meet 100 percent of average annual water demand identified in the District's Urban Water Management Plan during non-drought years and at least 90 percent of average annual water demand in drought years. Staff is recommending a water supply reliability level of service goal, for long-term planning purposes, of developing supplies to meet 100 percent of demands identified in the Water Supply Master Plan in non-drought years and 80 percent of demands in drought years.

Staff recommends using demand projections in the Water Supply Master Plan because they are closer to historic trends than the Urban Water Management Plan projections and can be reviewed and updated annually as part of Water Supply Master Plan monitoring. Staff recommends updating the level of service goal during droughts to 80 percent of demands because it strikes a balance

between minimizing shortages and the steep costs associated with a very high level of service. This recommendation is consistent with the following:

- **April 2017 Telephone Survey of Santa Clara County Voters re: Water Conservation**: The survey results (Attachment 1) indicate that voters see the need to invest in a more reliable water supply and the majority are open to small rate increases but oppose large increases.
- **Stakeholder Input**: Staff conducted two stakeholder workshops in January 2018 (Attachment 2). During the workshops, staff discussed an interim level of service goal of meeting 85 percent of demands in drought years. Some stakeholders were interested in a lower level of service goal with mandatory water use restrictions to force more efficient water use. Others expressed interest in lower level of service goal to reduce costs. Others thought interim level of service goal was about right. Stakeholders were concerned about overinvesting and impacts on water rates and affordability.
- **Incremental Costs**: The incremental costs of increasing the level of service from meeting 80 percent of demands in drought years to meeting 90 percent of demands in drought years exceed the value of benefits achieved by the increase. The cost of additional projects that are needed to realize this increased the level of service ranges from about $40 million to over $450 million. However, the value of the benefit of fewer shortages ranges from $0 to about $60 million. In other words, few projects provide incremental benefits that are worth the cost of the project.
- **Frequency of Shortage**: Modeling indicates that most scenarios that achieve the recommended level of service goal of 80 percent of demands have shortages in less than 10 percent of years. Scenarios that meet 90 percent of demands in droughts years typically have shortages in less than five percent of years, which is a very high level of water supply reliability
- **Planning for Uncertainty:** The water supply planning model evaluates water supply conditions under a variety of scenarios, but it cannot anticipate every potential scenario and there is inherent uncertainty in projections. For example, staff is using a demand projection that's based on current water use trends and growth projections. Current efforts to "make conservation a way of California life" or initiatives like Climate Smart San Jose could drive water use lower. On the other hand, climate change could result in more extended droughts, which continue to be our greatest water supply challenge. The recommended level of services strikes a balance between overinvesting in new supplies that many not be needed and underinvesting in supplies needed to manage future extreme conditions. In addition, uncertainty will be managed through annual review of the Water Supply Master Plan and its assumptions and periodic updates to reflect changed conditions.

The recommended level of service goal is intended to be used for long-term planning purposes and guiding associated long-term investments. While long-term planning considers a range of hydrologic conditions, uncertainties, and risks, the actual level of service in a particular year will depend on actual conditions and could be affected by hydrologic conditions, short-term outages, and extreme conditions.

Staff plans to present the recommended level of service goal to the full Board in August 2018. Staff will also discuss how the projects the Board has approved for planning (No Regrets package of water conservation and stormwater projects, potable reuse of up to 24,000 acre-feet per year, and

California WaterFix) may be one way to achieve the recommended level of service goal and are consistent with the 2012 Water Supply and Infrastructure Master Plan's "Ensure Sustainability" strategy. Lastly, staff will provide a detailed monitoring and contingency plan for Water Supply Master Plan implementation.

ATTACHMENTS:
Attachment 1: 2017 Survey Results
Attachment 2: 2018 Stakeholder Workshops Summary

UNCLASSIFIED MANAGER:
Garth Hall, 408-630-2750

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Santa Clara Valley Water District SM

Telephone Survey of Santa Clara County Voters Re: Water Conservation

Conducted for: Santa Clara Valley Water District

April 2017

Methodology

- Telephone survey of registered voters in Santa Clara County
- Conducted by trained, professional interviewers from March 23 – 28, 2017
- 400 completed interviews
- Margin of error: ± 4.9 percentage points
- Interviews conducted in English, Spanish, Chinese, and Vietnamese

Please note that due to rounding, some percentages may not add up to exactly 100%.

Key Findings

- In spite of the wet winter and potential end to the drought, voters in the Santa Clara Valley Water District still see the need to prepare for the future and invest in a more reliable water supply.
- They do not recall cutting back their water use during the drought as having been much of a challenge.
- A majority are open to a small rate increase of $5-10 per month, but many oppose a larger $20-30 increase.
- Framing the investment as something that would ensure a more reliable water supply is sufficient—adding information on the corresponding use reductions could introduce confusion.
- Specific investments in recycled water for irrigation and industrial uses, storm water capture, and updating aging infrastructure generate the most enthusiasm.

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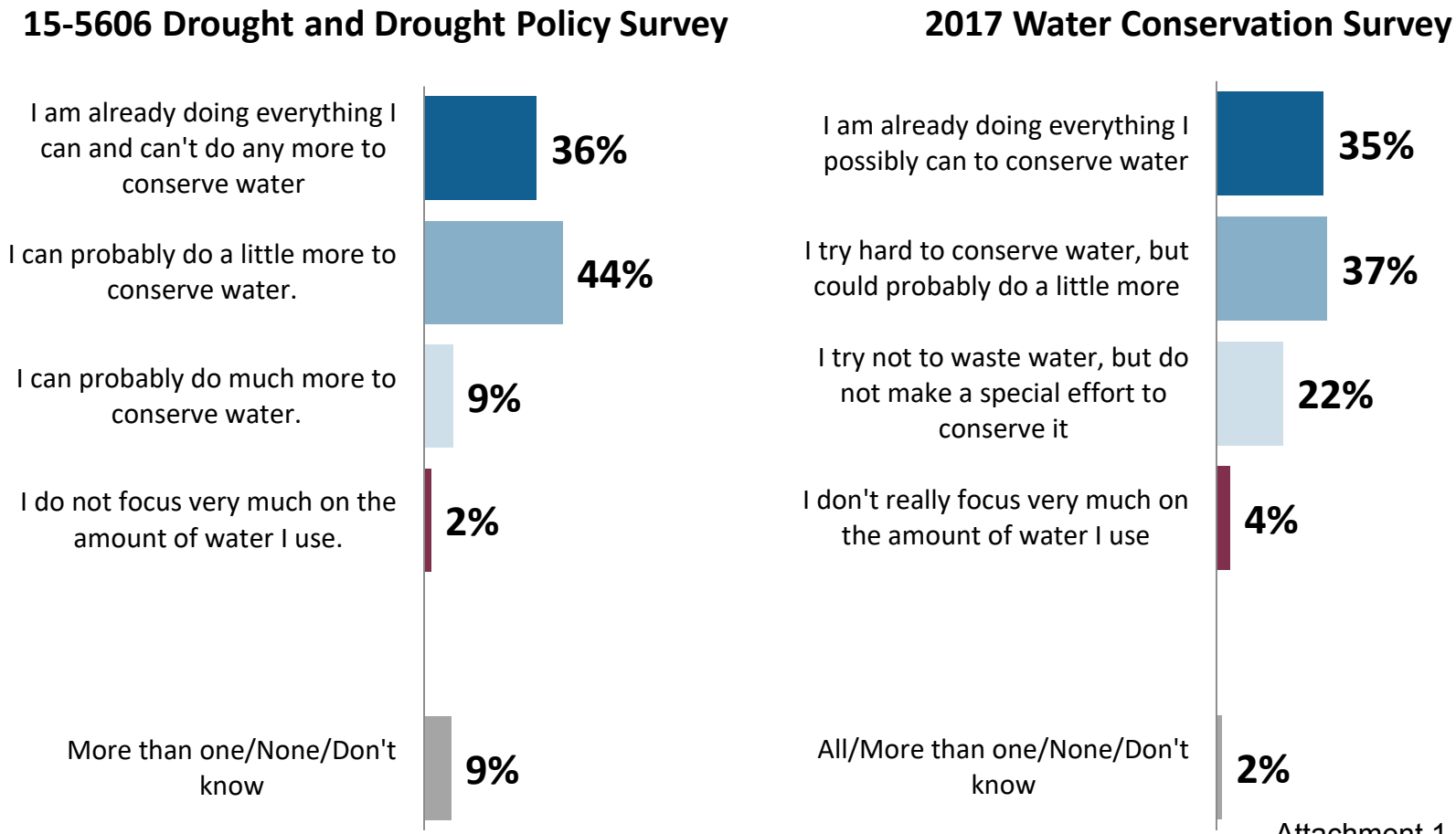
Water Use Reductions

Efforts to Reduce Water Use

Most report they are still making an effort to conserve water, although the majority could do more. The number who say they're doing everything they can to conserve has not changed since a similar question in 2015.

Which of the following statements best describes your current efforts to reduce your water use?

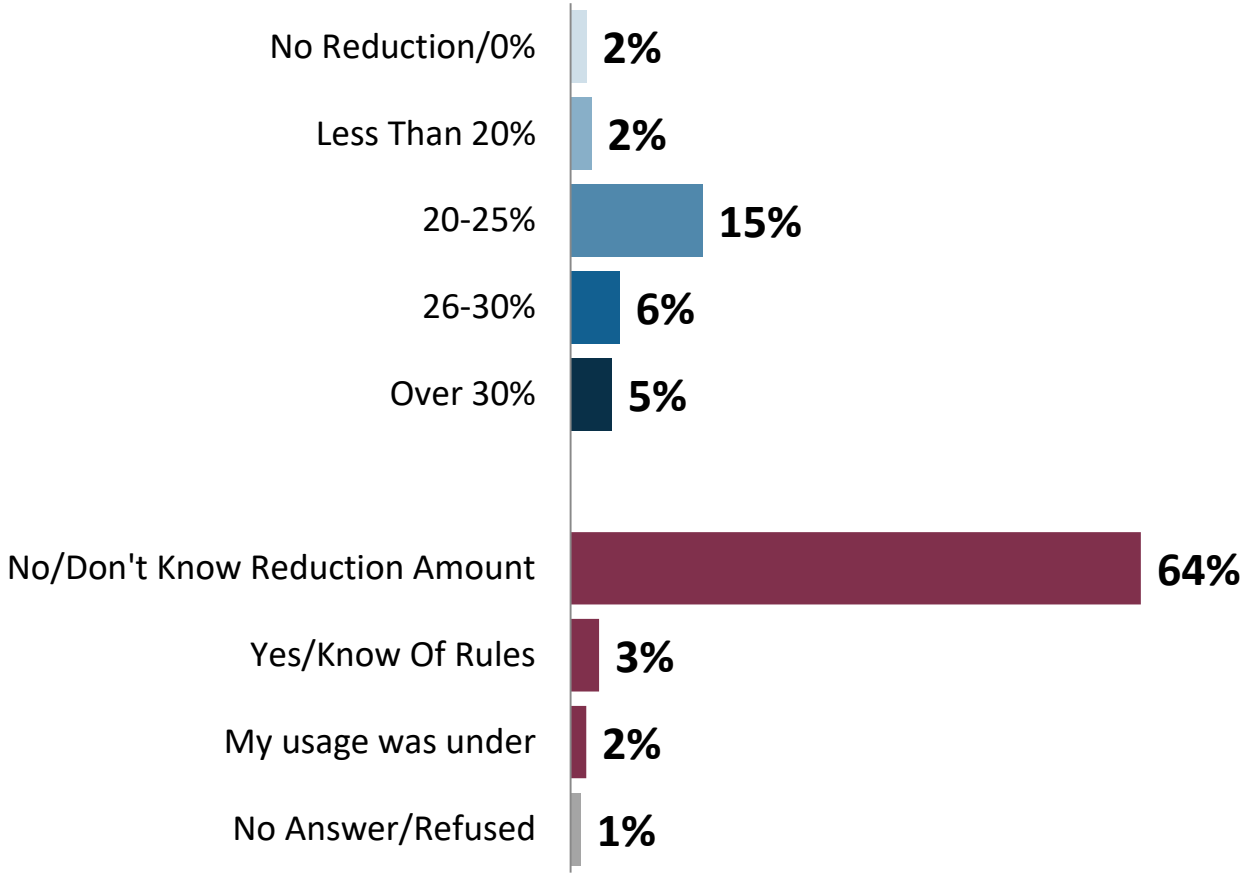


Q3.

Knowledge of Water Use Reduction

Few recall how large of a reduction in water use was called for last summer.

Do you happen to know how much of a reduction in water use your local water agency was calling for last summer during the statewide drought?

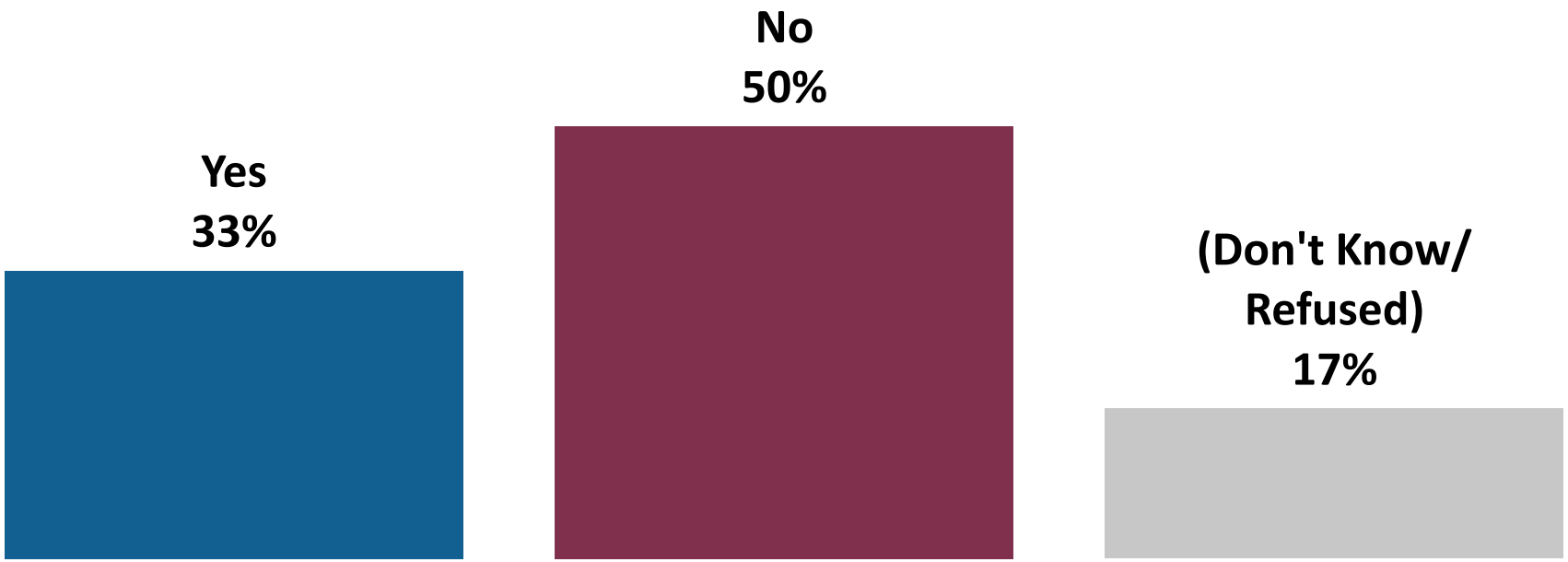


Q4.

Knowledge of Fines

Only a third report that their local agency imposed fines during the drought.

As far as you know, did your local water agency impose any fines or surcharges for using too much water during the statewide drought?

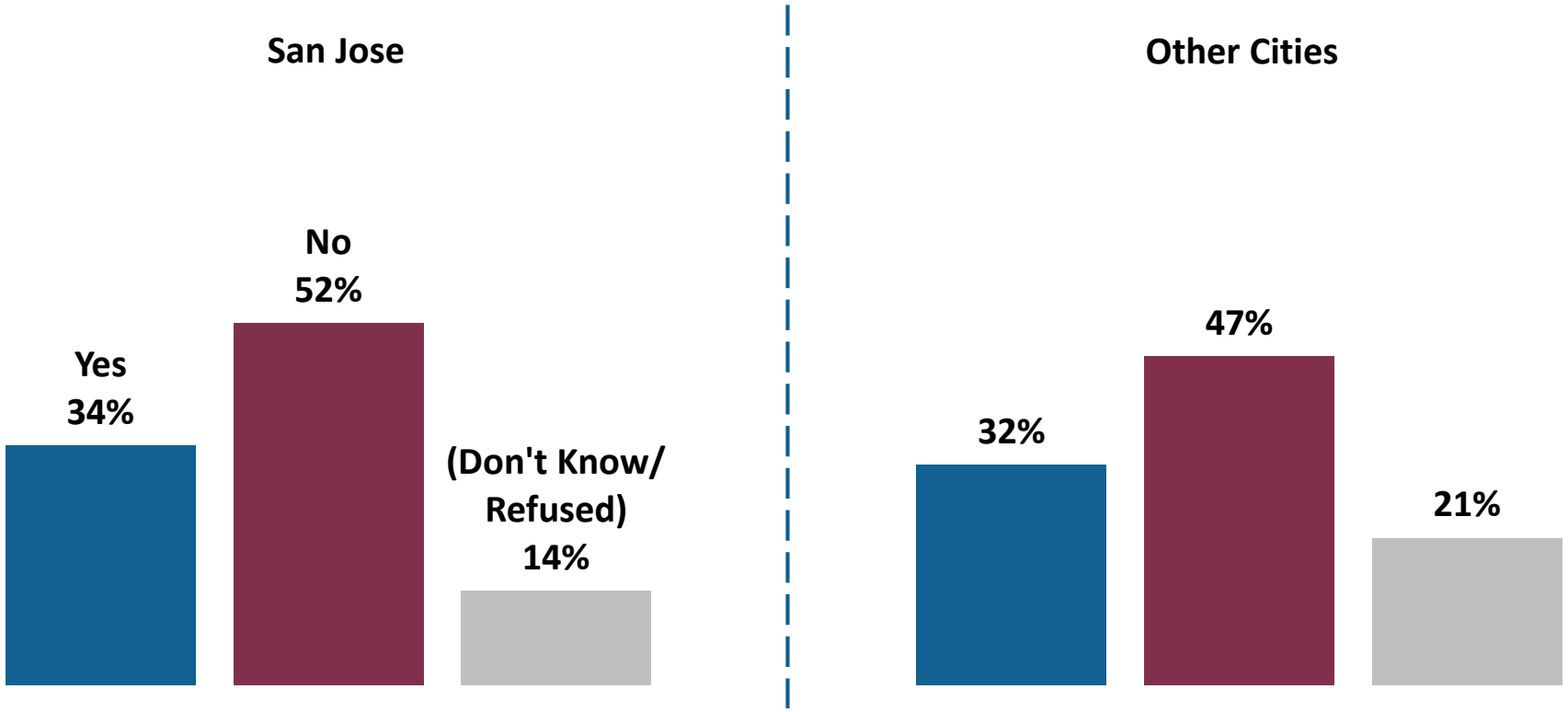


Q5.

Knowledge of Fines by City

Recollection of fines or surcharges is similar in San Jose and other cities.

As far as you know, did your local water agency impose any fines or surcharges for using too much water during the statewide drought?

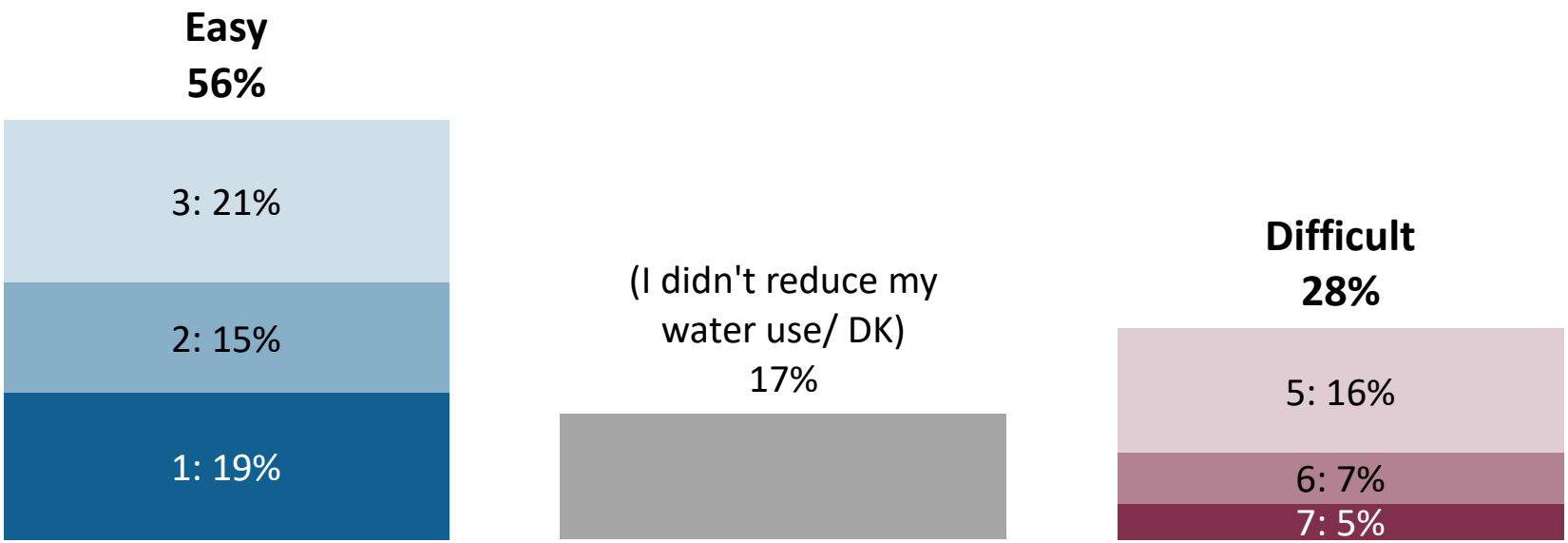


Q5.

Reducing Water Use During the Drought

A majority felt that reducing their water use during the drought was relatively easy.

Thinking about a scale where 1 is very easy and 7 is very difficult, how easy or difficult was it for you to reduce your water use during the drought?



Q6.

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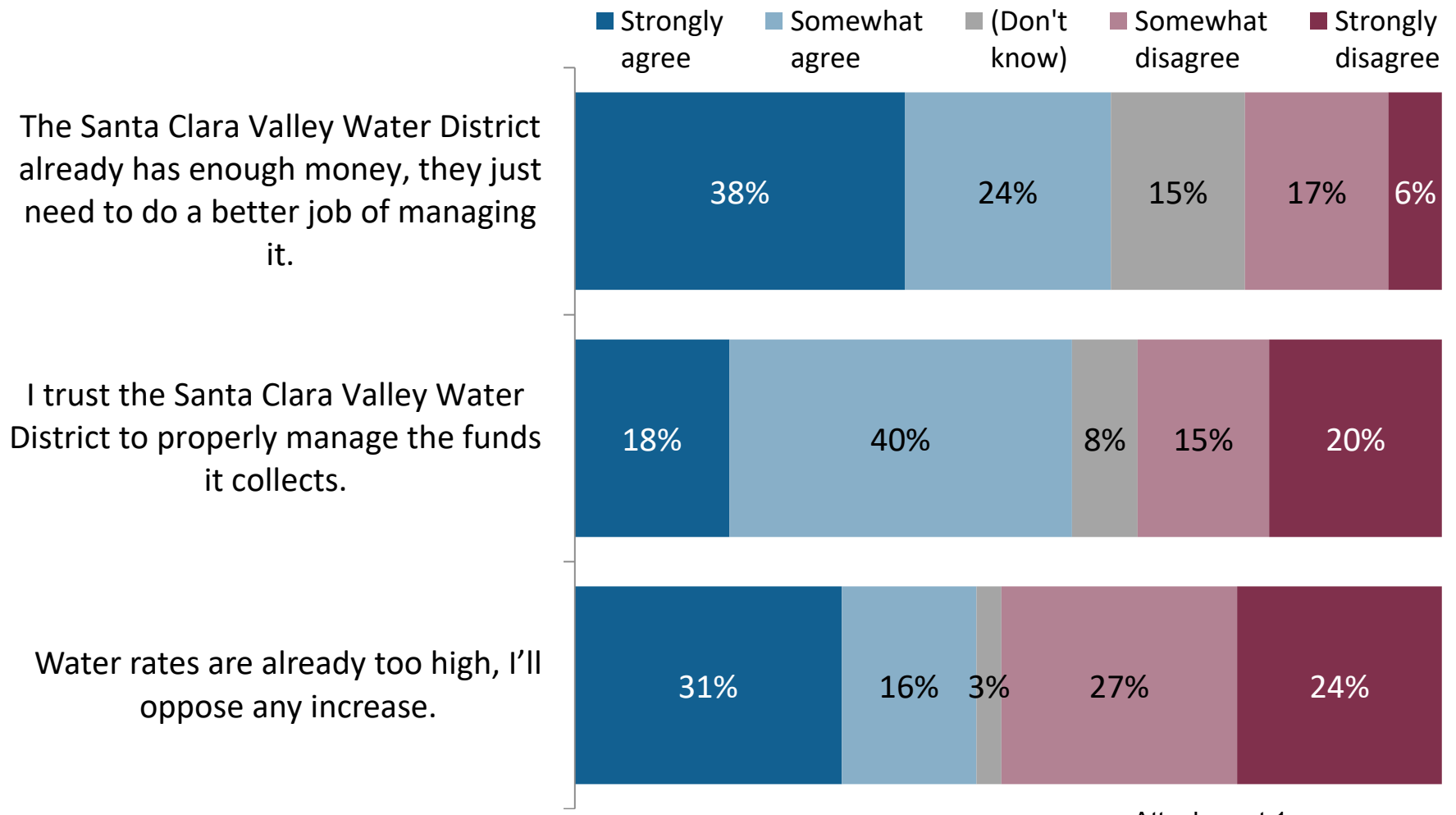
Support for Increased Water Rates

Water Attitudes

While there is widespread agreement that SCVWD already has enough money, most voters also trust the District to spend funds properly and less than a third are strongly opposed to rate increases.

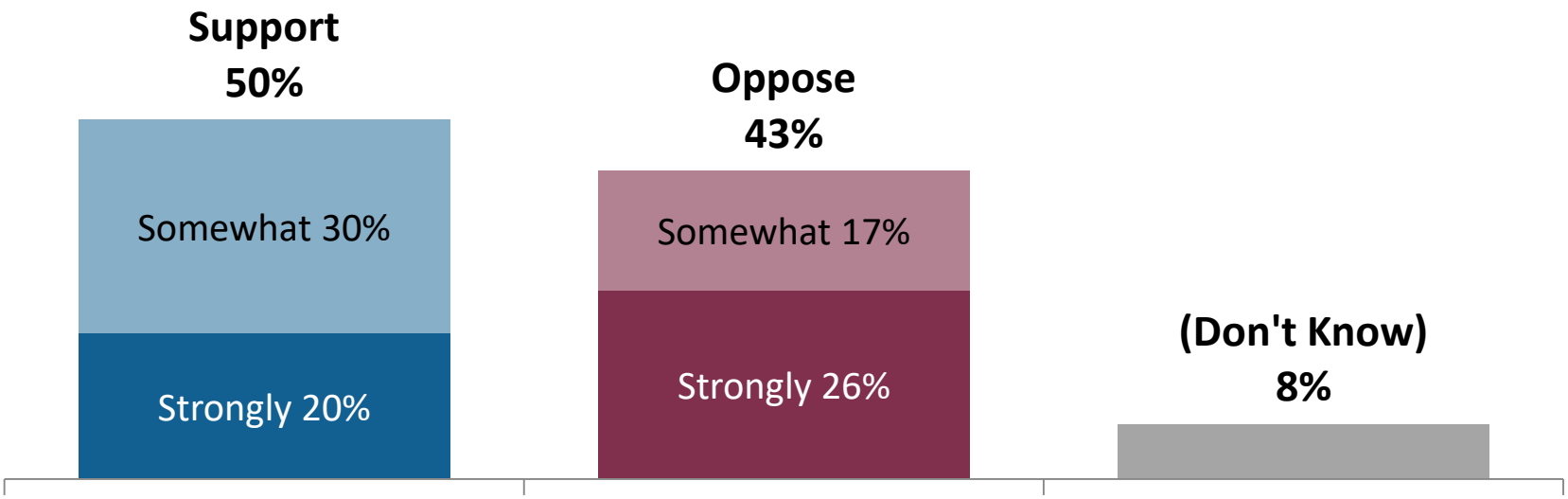


Q12-14. Please tell me whether you strongly agree, somewhat agree, somewhat disagree, or strongly disagree with each of the following statements.

Initial Support for Increase

Before hearing any details, half at least somewhat support increasing water rates to ensure a more reliable supply of water.

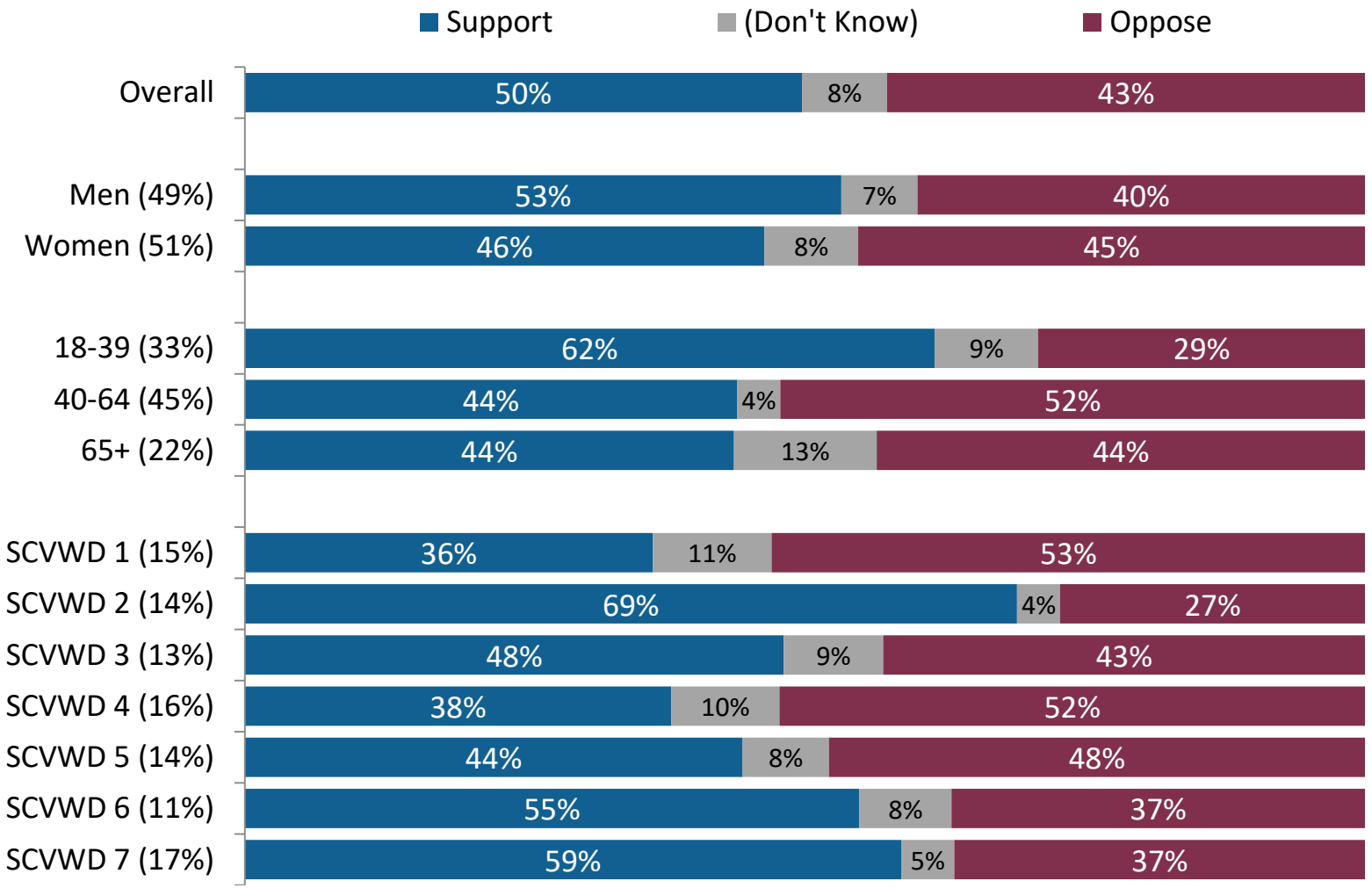
In general, would you say you support or oppose modest increases in water rates to ensure a more reliable supply of water for our future?



Q7.

Initial Support by Subgroup

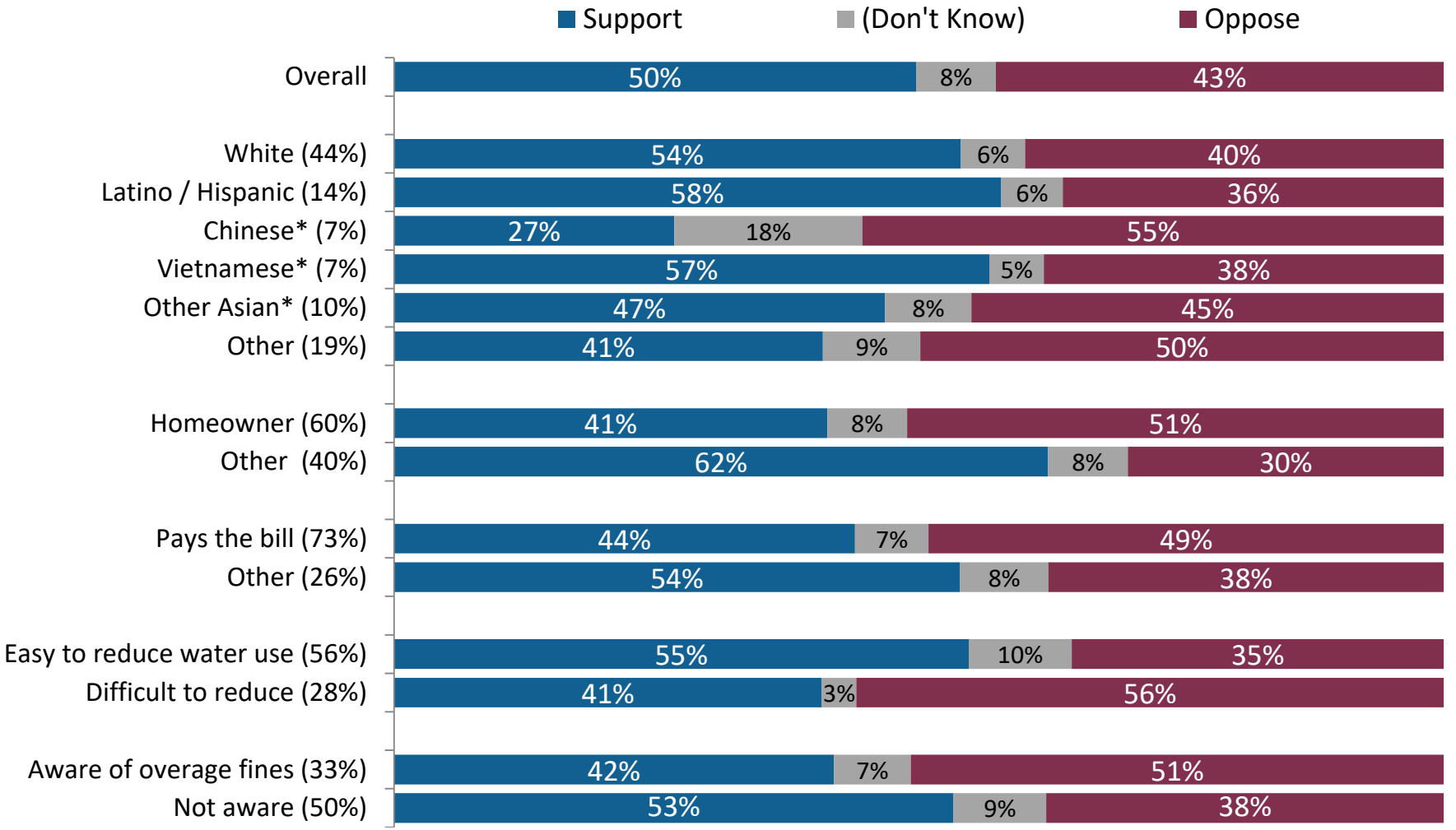
Younger voters are likely to support increased rates to ensure a more reliable supply of water. Support varies considerably by geography.



Q7. In general, would you say you support or oppose modest increases in water rates to ensure a more reliable supply of water for our future?

Initial Support by Subgroup

Homeowners and water bill-payers are more likely to oppose modest rate increases, as are those wo found it harder to reduce their water use during the drought.



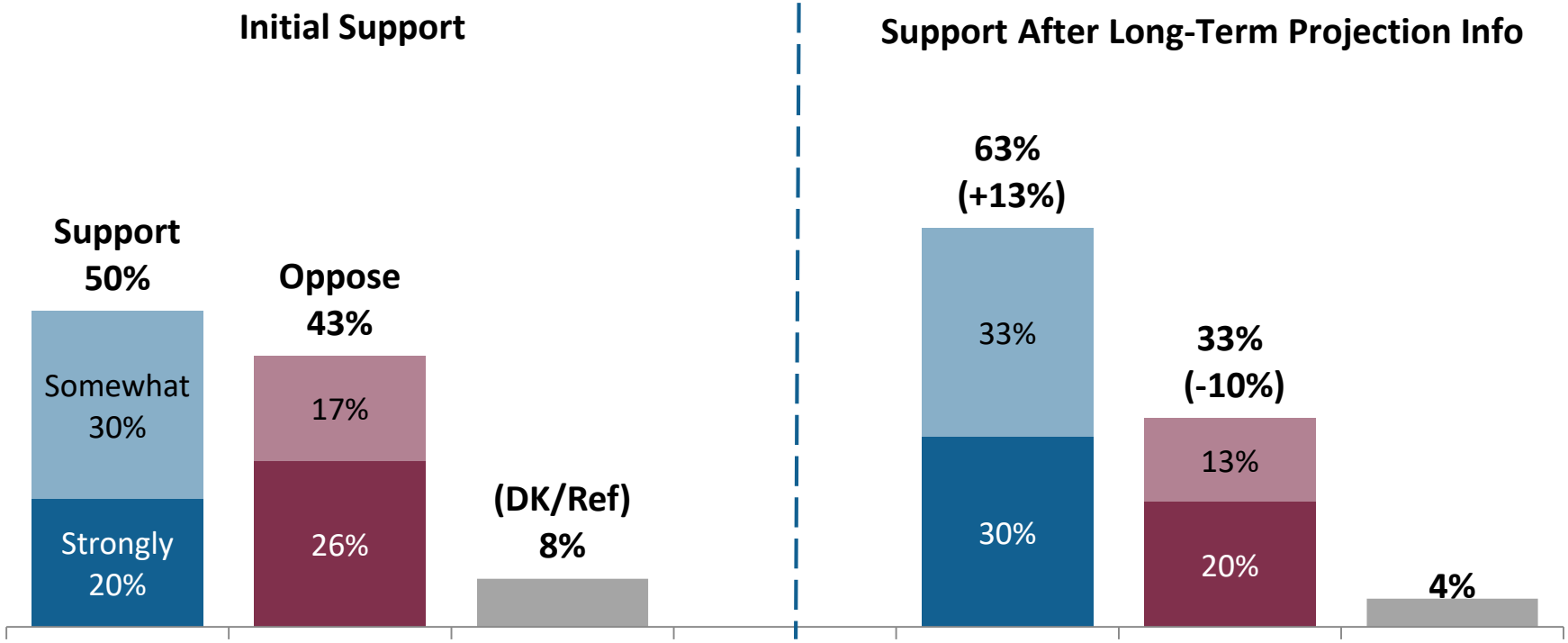
**use caution when generalizing the results among these groups due to small sample sizes*

Q7. In general, would you say you support or oppose modest increases in water rates to ensure a more reliable supply of water for our future?

Support After Long-Term Projection Information

Support increases to well over a majority once voters hear more information about the need for investments in water supply reliability.

Despite the recent rain, our local water suppliers are continuing to evaluate long-term water supply needs for our area given future challenges such as droughts, climate change, and population growth. Projections show that in future drought years we may have to cut back water use by up to 30%. To prepare for water shortages during drought years, local water agencies are planning to invest in projects that would ensure a more reliable water supply like expanding reservoirs, expanding the use of recycled water and increasing storm water reuse. These investments would increase water rates for local residents, but would mean that customers would not have to make such significant cuts in water use during drought years.

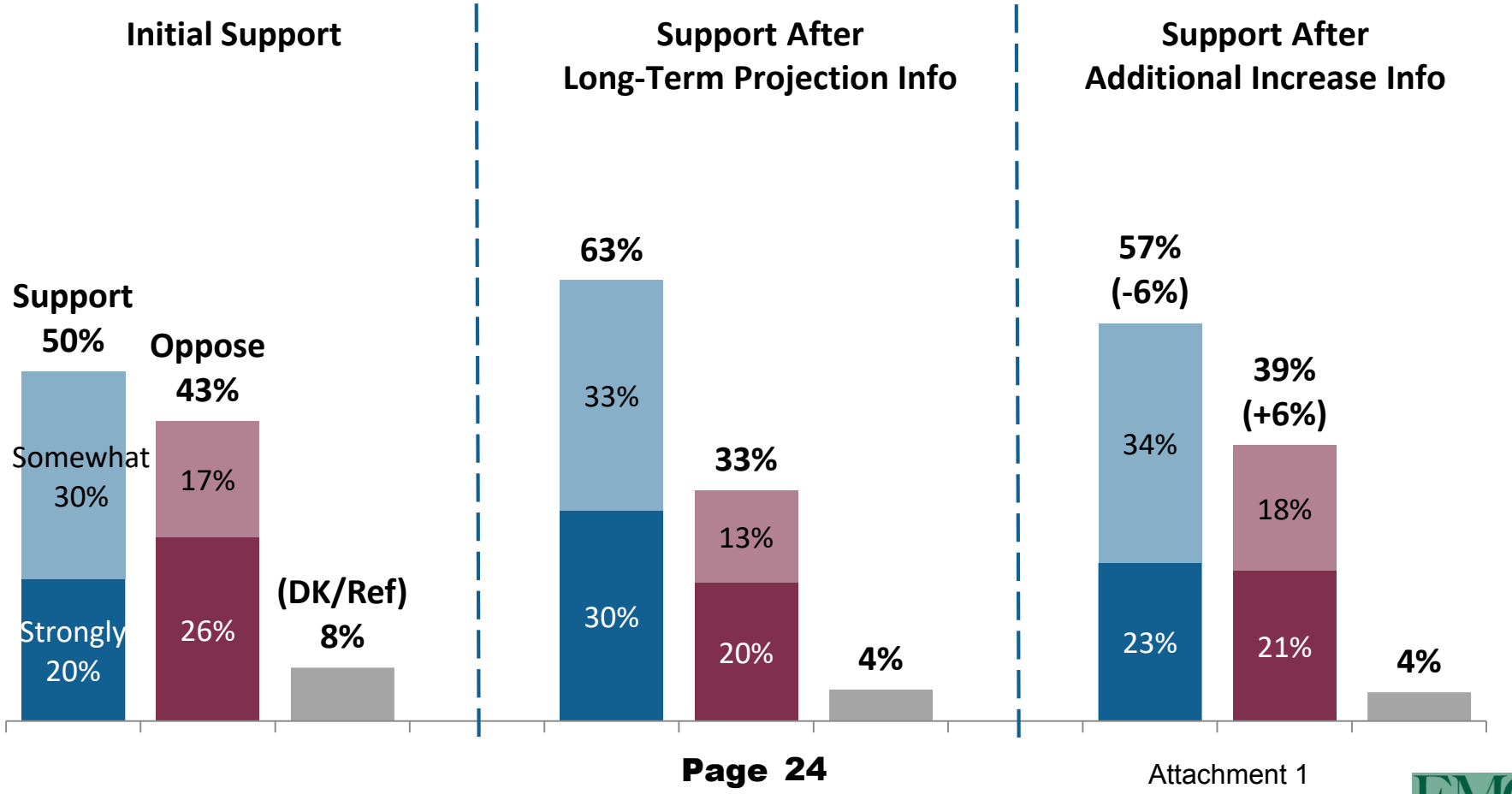


Q8. Given what you've heard, would you say you support or oppose modest increases in water rates to ensure a more reliable supply of water for our future?

Support After Additional Increase Information

Support decreases slightly after voters learn that these increases would come on top of other increases that are already planned, but a majority remains supportive.

Rate increases to further improve water supply reliability would be in addition to already planned increases, primarily for maintaining and improving existing infrastructure.



Q9. Given what you've heard, would you say you support or oppose modest increases in water rates to ensure a more reliable supply of water for our future?

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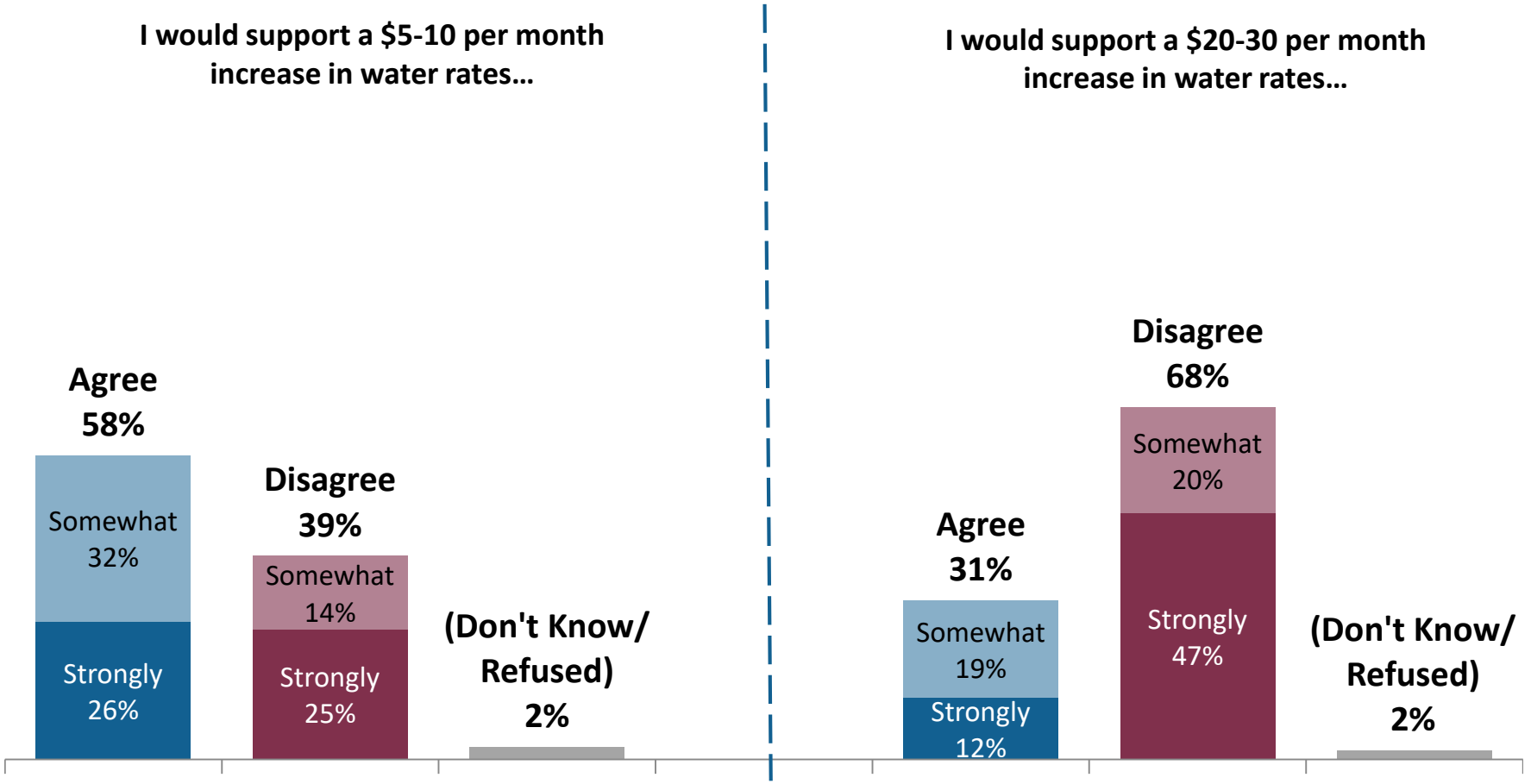
Attitudes Toward Specific Increases

Attitudes Towards Water Rates Increase

A majority would support a $5-10 per month increase. Twenty to $30 is a much harder sell.



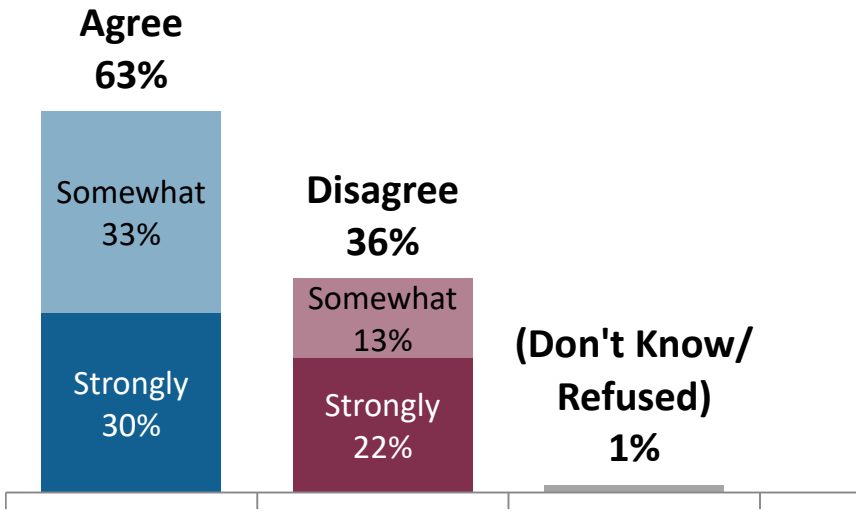
Q10-11. Please tell me whether you strongly agree, somewhat agree, somewhat disagree, or strongly disagree with each of the following statements.

Attitudes Toward a $5 to $10 Increase

Those who hear an increase amount only are more open to a $5-10 increase than those who also hear about the corresponding tradeoff in cutbacks.

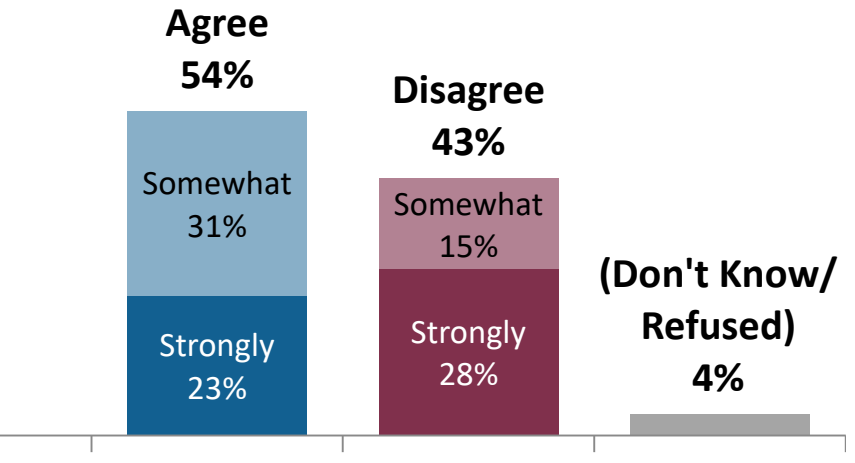
Rate Increase Only
n=200, MoE=±6.9%

In order to ensure a more reliable supply of water for our area, I would support a $5-10 per month increase in water rates now to invest in infrastructure for the future.



Percent Reduction and Rate Increase
n=200, MoE=±6.9%

In order to avoid having to reduce my water use by more than 20% during drought years, I would support a $5-10 per month increase in water rates now to invest in infrastructure for the future.



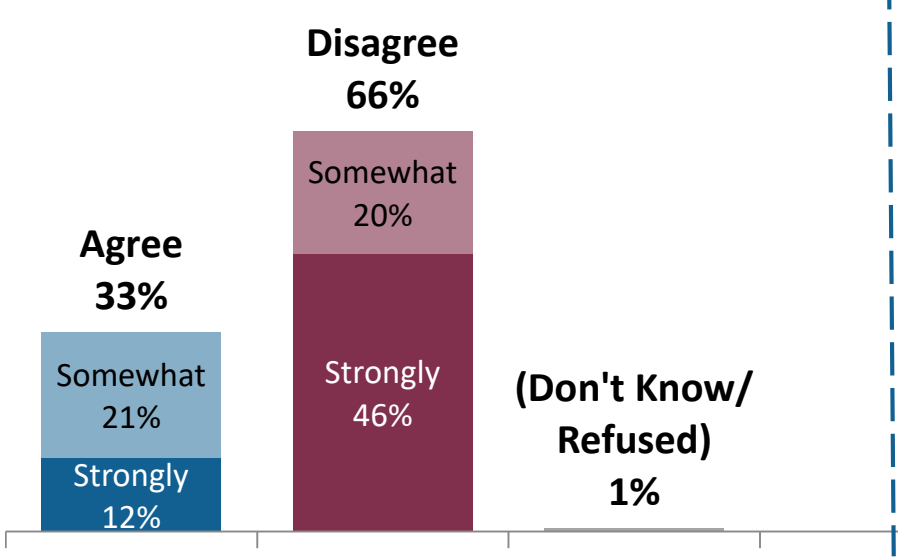
Q11. Please tell me whether you strongly agree, somewhat agree, somewhat disagree, or strongly disagree with each of the following statements.

Attitudes Toward a $20 to $30 Increase

Including the reduction tradeoff does not make a $20-30 increase more palatable.

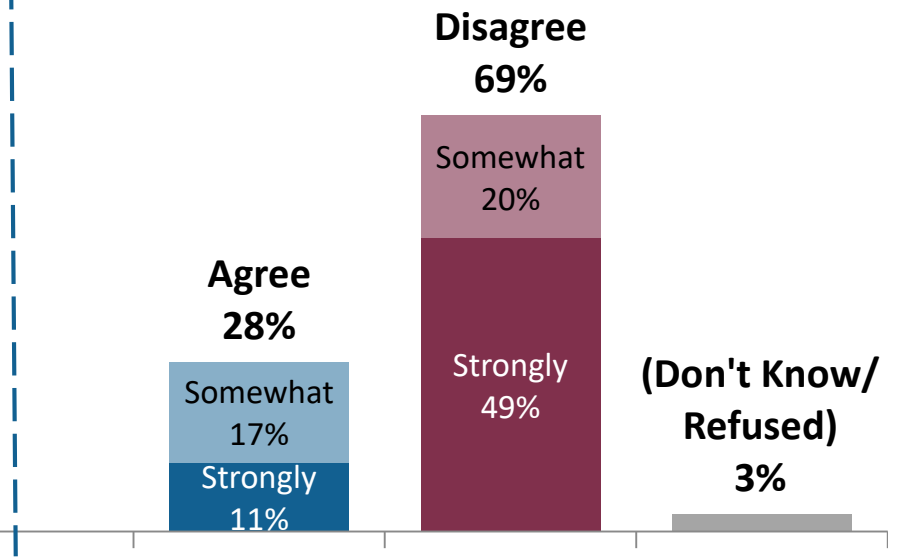
Rate Increase Only
n=200, MoE=±6.9%

In order to ensure a more reliable supply of water for our area, I would support a $20-30 per month increase in water rates now to invest in infrastructure for the future.



Percent Reduction and Rate Increase
n=200, MoE=±6.9%

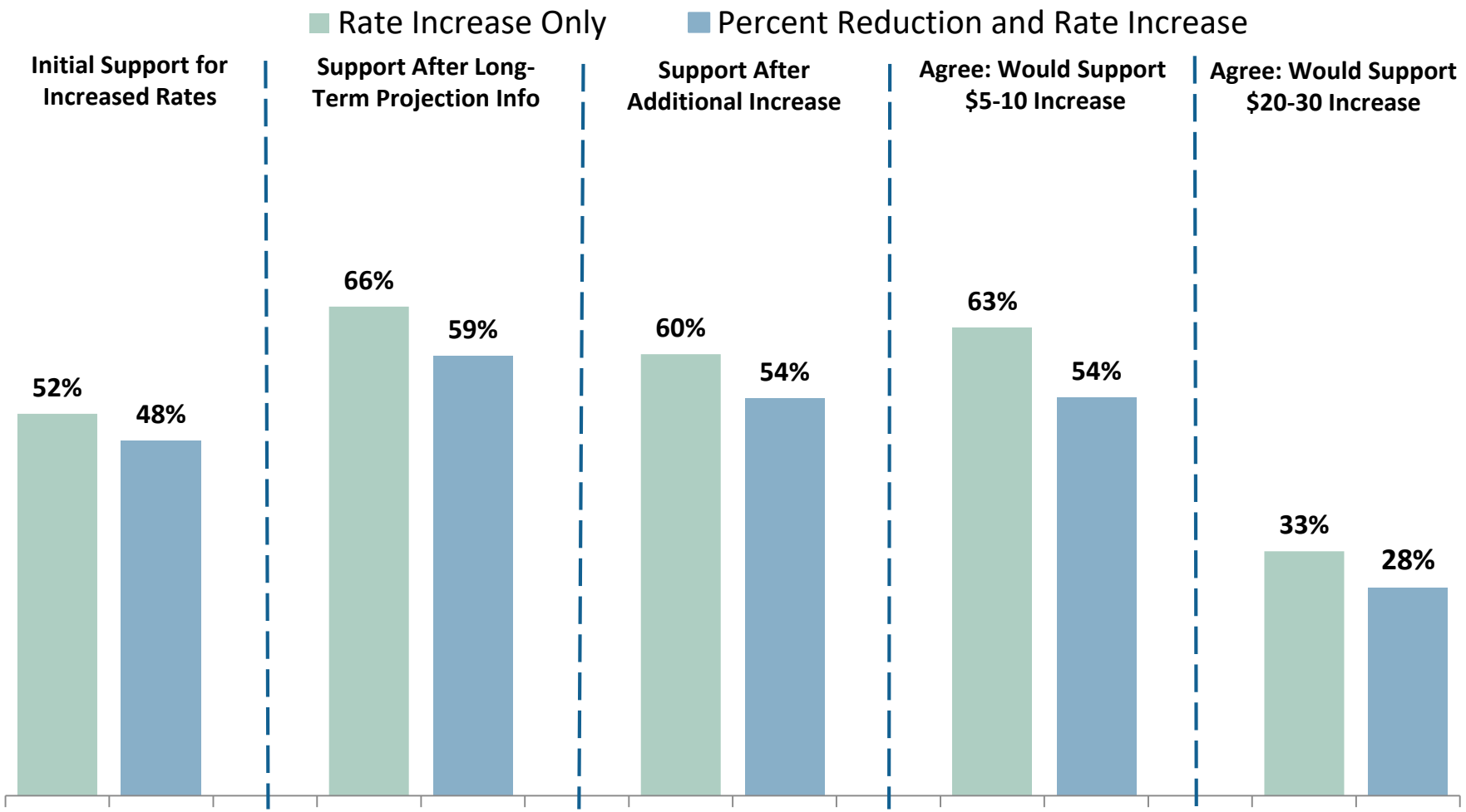
In order to avoid having to reduce my water use by more than 10% during drought years, I would support a $20-30 per month increase in water rates now to invest in infrastructure for the future.



Q10. Please tell me whether you strongly agree, somewhat agree, somewhat disagree, or strongly disagree with each of the following statements.

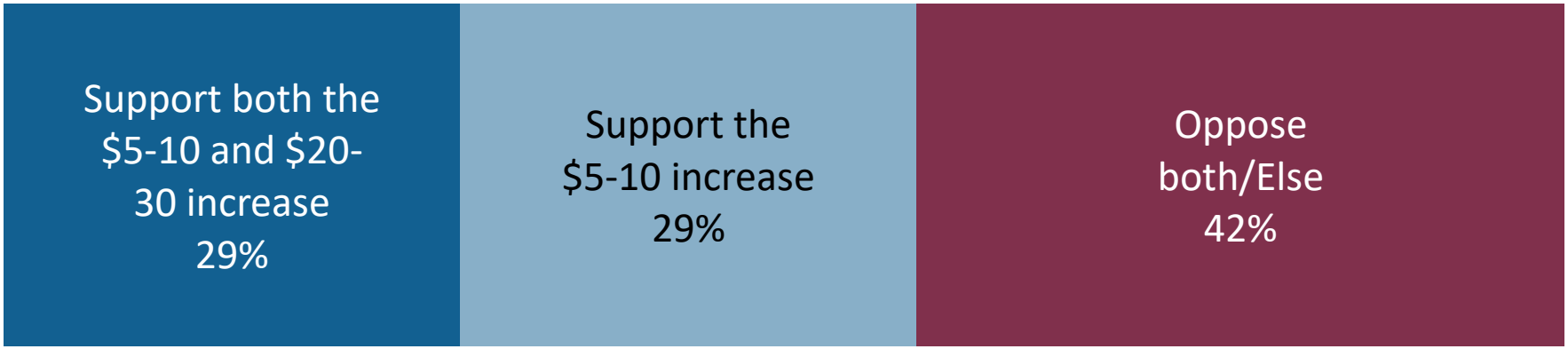
Support and Attitudes - Rate Increase Only

Although we don't see that explaining the limit on cutbacks is helpful, note that those who heard about the reduction targets were less supportive of rate increases throughout.



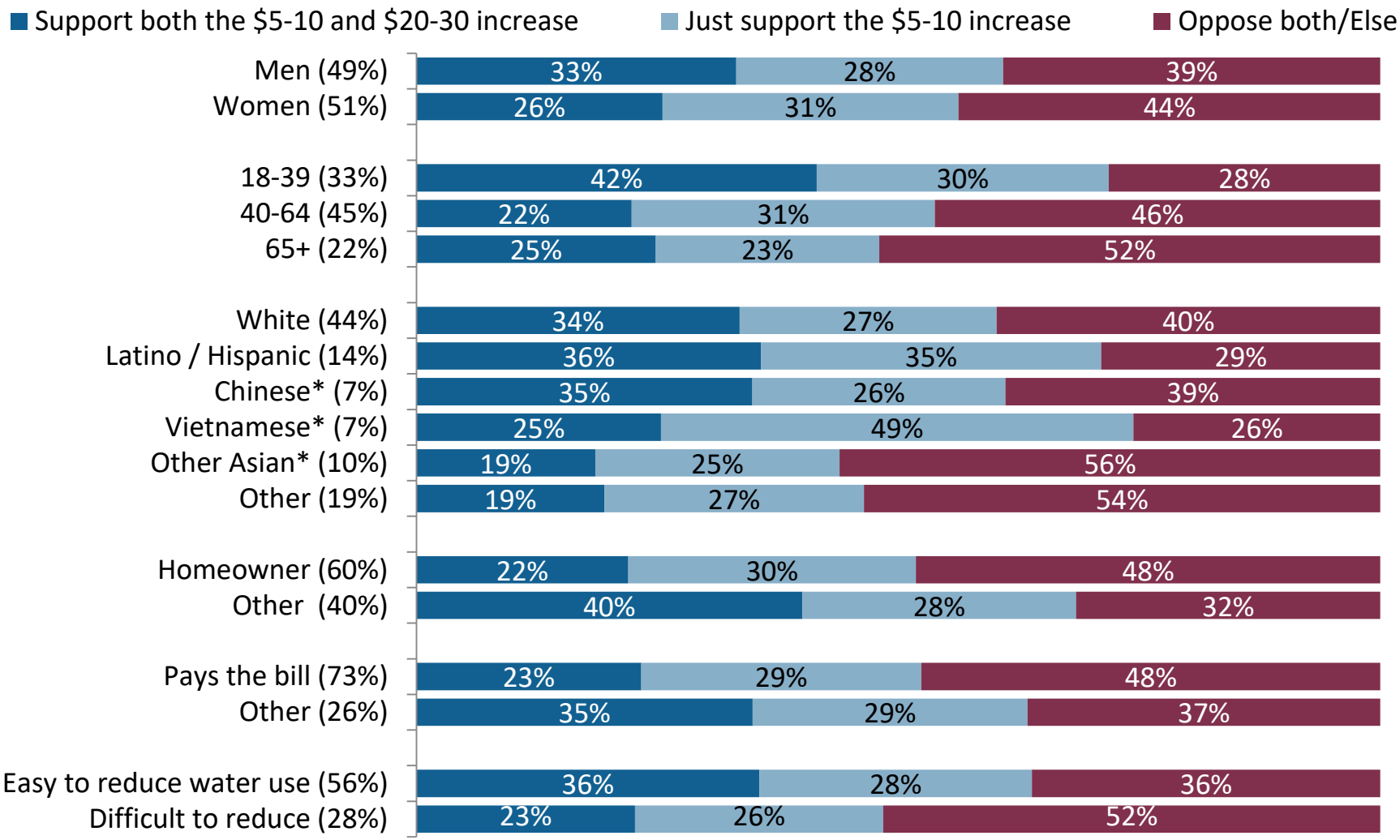
Support Segmentation: Increase in Water Rates

Just under a third support both increase amounts. The same number support the smaller increase only.



Support Segmentation by Subgroup

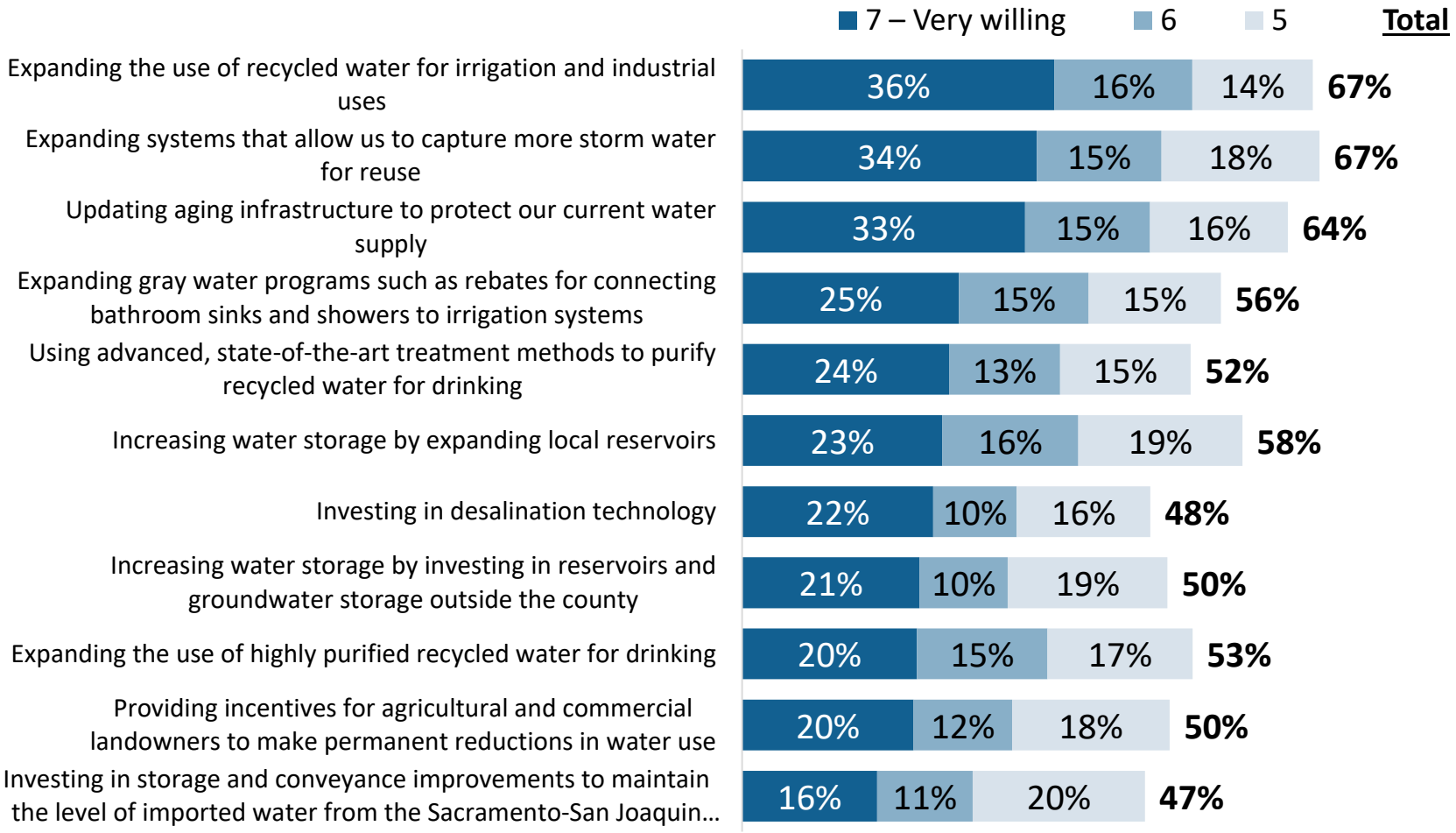
Younger voters and renters are most likely to be supportive of both increases.



*use caution when generalizing the results among these groups due to small sample sizes

Willingness to Pay for Specific Improvements

Expanding purple water use and storm water capture and updating aging infrastructure are the specific improvements for which voters are most willing to pay increased rates.



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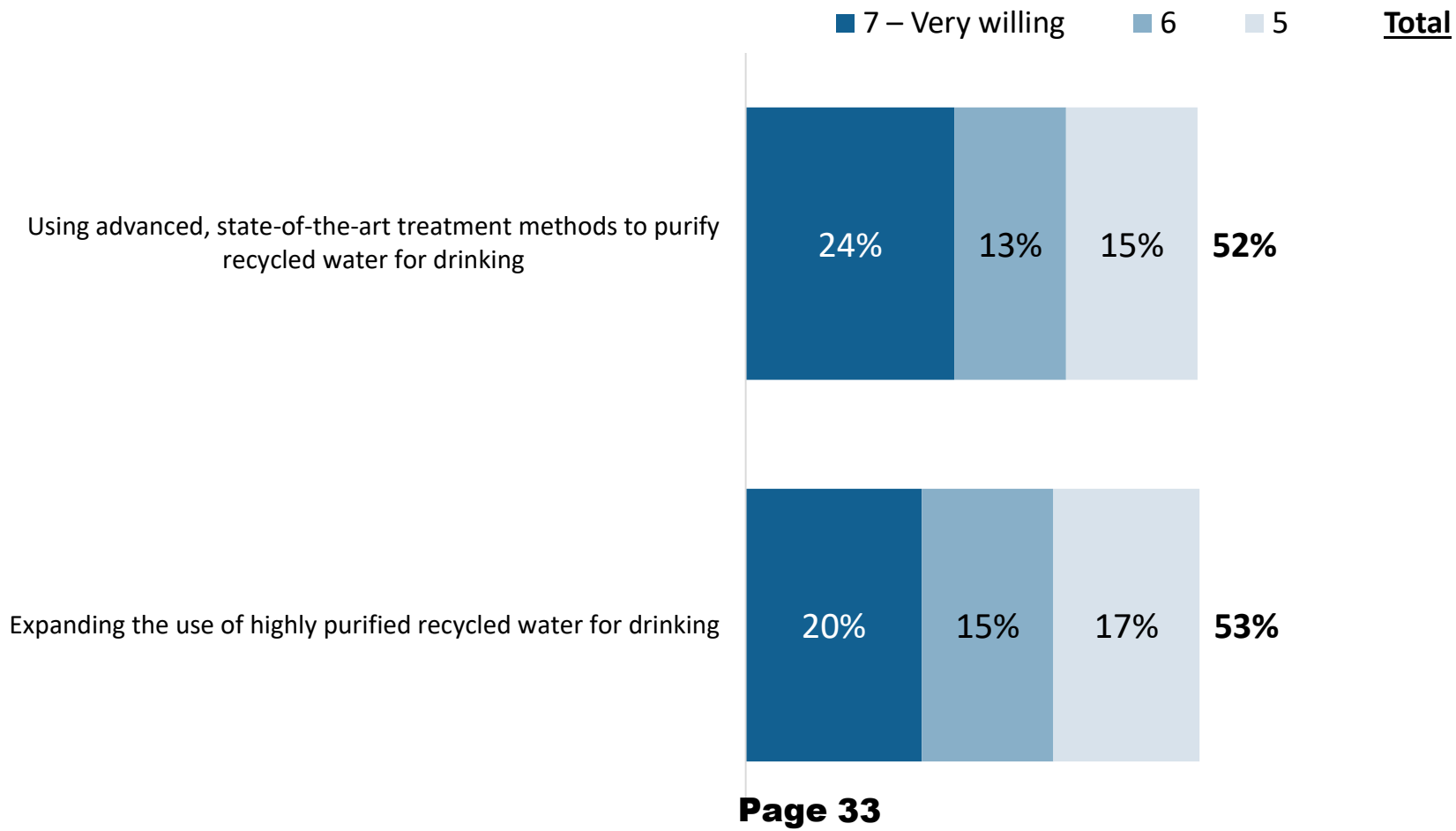
Q15-Q25. I'm going to read you a list of improvements the Santa Clara Valley Water District could make to ensure a more reliable supply of water. These improvements could potentially lead to changes in water rates. For each one, please indicate your willingness to pay increased rates for each type of improvement. Please use a scale from 1 to 7, where 1 means you are not at all willing to pay higher water rates for that item, and 7 means you are very willing to pay higher water rates for that item.

Willingness to Pay for Potable Reuse

State-of-the-art treatment of recycled water for drinking generates slightly more enthusiasm than highly purified recycled water.



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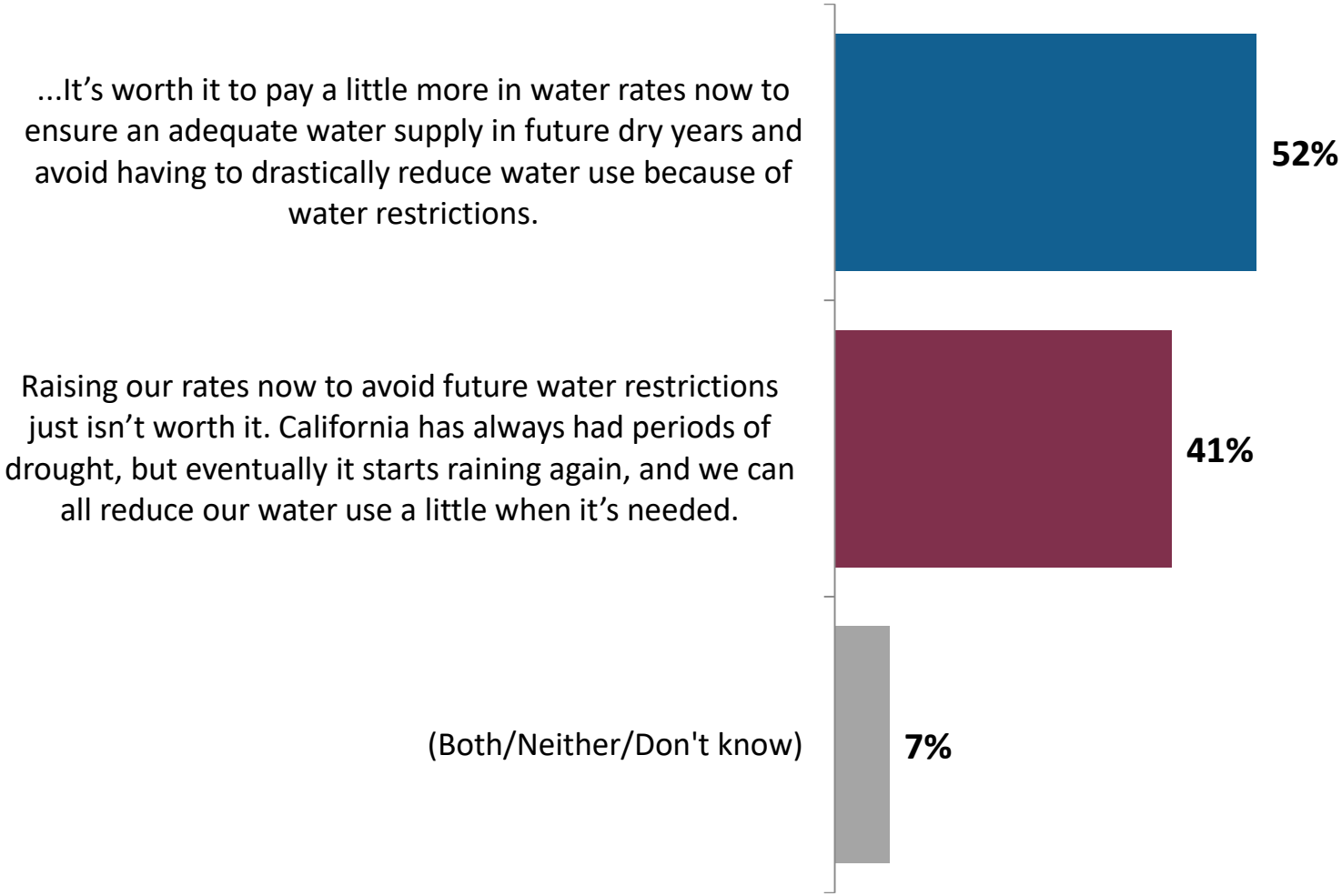
Q15-Q25. I'm going to read you a list of improvements the Santa Clara Valley Water District could make to ensure a more reliable supply of water. These improvements could potentially lead to changes in water rates. For each one, please indicate your willingness to pay increased rates for each type of improvement. Please use a scale from 1 to 7, where 1 means you are not at all willing to pay higher water rates for that item, and 7 means you are very willing to pay higher water rates for that item.

Forced Choice: Worth Investing Now?

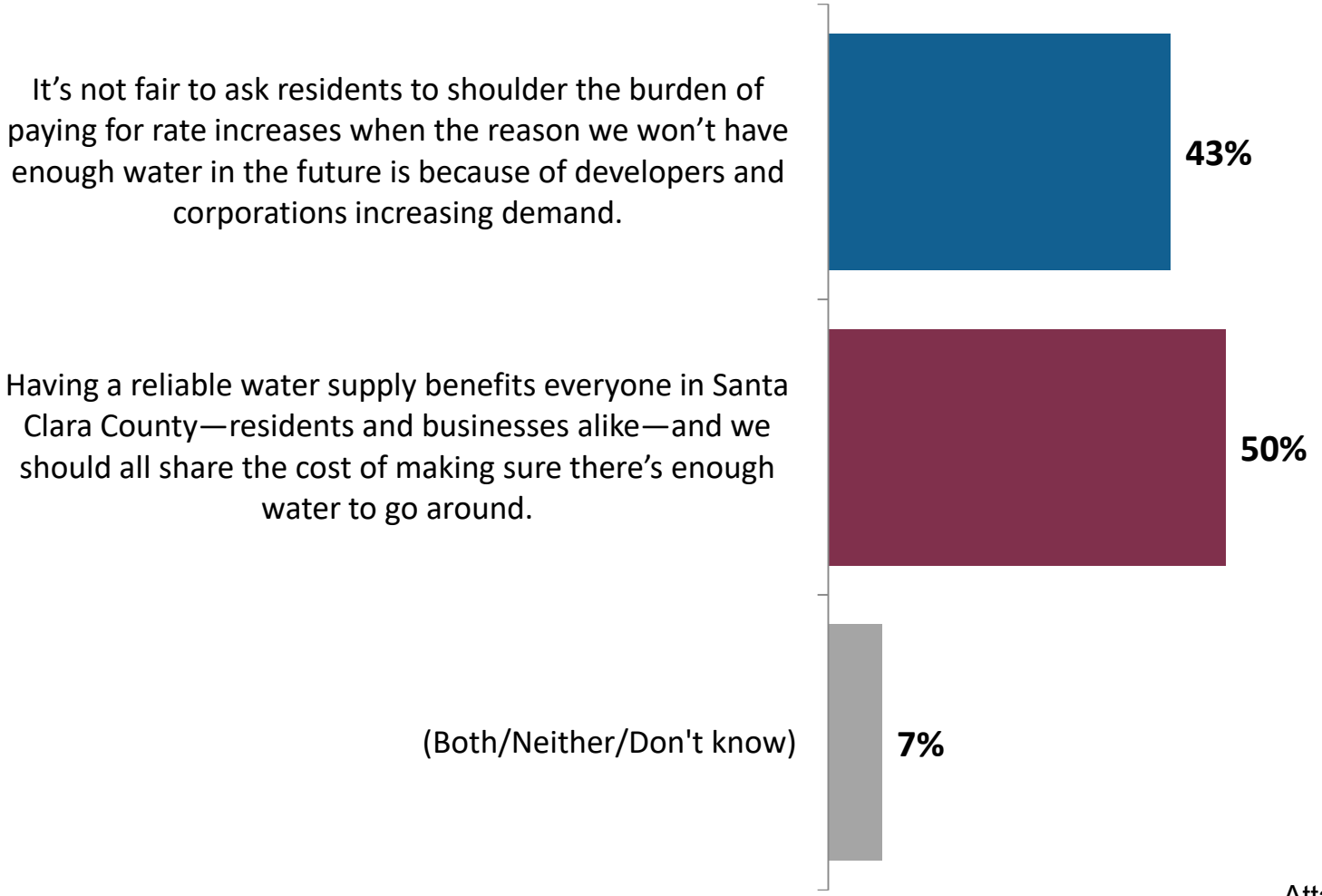
Just about half agree that it's worth it to pay more now to be prepared for future dry years and avoid big water restrictions later.



Q26. Now I'd like to read you a pair of statements. Please tell me whether the first one or the second one is closer to your opinion.

Forced Choice: Cost Sharing

Half feel that residents and businesses should all share the cost of ensuring an adequate water supply, while slightly fewer say it's not fair for residents to shoulder the burden.



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Q27. Now I'd like to read you a pair of statements. Please tell me whether the first one or the second one is closer to your opinion.

Contacts

Ruth Bernstein
510-550-8922
ruth@emcresearch.com

Jessica Polsky
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jessica@emcresearch.com

Sianna Ziegler
206-204-8045
sianna@emcresearch.com

January 2018 Stakeholder Workshops Summary

Participants

Bay Area Water Supply and Conservation Agency
California Water Service
City of Milpitas
City of Morgan Hill
City of Mountain View
City of San Jose
City of Santa Clara
Individual Residents
Joint Venture Silicon Valley
League of Women Voters
Midpeninsula Regional Open Space District
Restore the Delta
San Jose Water Company
Sierra Club Loma Prieta Chapter
SPUR
Sustainable Silicon Valley

Two participants provided written comments (enclosed) with copies to the Board or a request to share with the Board.

Question/Comment	Response at Workshop
Demands	
Retailers noted that UWMP projections are high, and actual demands have been flat, but WSMP projections (i.e. Trending Scenario) show increasing demand.	Trying to find balance. Don't want to overestimate or underestimate.
Have we looked at the impacts of increasing rates on water use?	
Need to add San Jose/Santa Clara interruptible contracts to contingency plan. Potential for increased demands on SCVWD system.	
Population increases are not driving demands. Decline in Delta supplies are not because of increasing demands.	
Level of Service/Droughts	
Should look at a lower level of service (mandatory restrictions and conservation targets combined with incentives) to force more efficient use of water. Look at Santa Monica's self-sufficiency goals.	
Should look at a lower level of service to reduce the level of investment needed. Should look at level as low as meeting 70% of demands during droughts.	
Don't want to invest in a higher level of service if the District is going to call for water use reductions/short-term conservation that is inconsistent with its Water Shortage Contingency Plan.	

Question/Comment	Response at Workshop
Need to be careful about lowering the level of service. If it is too low, people will want to wheel water into the county using the District's facilities.	
Describe cost of shortage during last drought – make part of the story.	
How do we deal with Statewide mandates that may exceed what is actually needed during droughts?	Participate in regulatory process; communicate that we've made investments to avoid having to mandate extreme reductions; communicate that we have been effective at water conservation programs and building a portfolio with investments in water use efficiency and water reuse.
Enhance cooperation between elected officials at the beginning of droughts. Can reduce impacts on rates by implementing earlier water shortage contingency plan actions.	
Look at frequency as well as magnitude of shortages.	We do, but difficult to present to most stakeholders.
Projects	
Agricultural Water Use Efficiency – Lost opportunity to not have a project dealing with agricultural water use efficiency.	
California WaterFix – Unclear how California Water Fix protects existing supplies and boosts water supply reliability.	
California WaterFix – Look at scenarios/portfolios that don't include California WaterFix. Specifically, look at potable reuse, water conservation, recycling, stormwater capture, leak reduction, and technology/innovation. Stakeholders mixed on looking at new dams.	
California WaterFix – How will costs and yields be affected by moving forward with a single tunnel? Would the project still include three new intakes in the North Delta?	
California WaterFix – Costs seem unrealistically low and yields seem unrealistically high.	

Question/Comment	Response at Workshop
Conservation - Why not do more?	We already have done the low-hanging fruit and are working on the stuff in the middle. However, water conservation programs are voluntary and there are some people we won't be able to reach no matter how much money we offer. We have direct installation programs that people don't utilize. But, we are also looking for new technology and innovation. We offer grants through the Safe Clean Water Program to support developing new program.
Desal/Brackish Groundwater Treatment	South Bay desal and shallow groundwater treatment not necessarily feasible. Regional desal seems like best option at this time, but needs to be a cooperative project. Still on BARR list and still on SCVWD list.
Groundwater Banking – Need to be more transparent about the issues with getting Semitropic water back in 2015. The lack of exchange capacity can be a significant issue.	
Land Fallowing during droughts.	Benefits primarily in Gilroy, less benefit in Morgan Hill where needs are greater in drought. On the list of potential projects.
New Dam in Coyote Watershed for Flood Protection	The water supply benefits of new storage seem relatively low, especially when operated primarily for other benefits (fisheries, flood protection, etc). Will forward to One Water team since the benefits would primarily be flood protection.
Onsite Reuse and Water Use Efficiency – Distributed reuse and water use efficiency across sectors (including commercial and industrial) can add sustainability to local water supply reliability and reduce the costs of projected shortfall. Includes rainwater capture and landscape retrofits.	
Onsite Reuse and Water Use Efficiency – When people use rain barrels and do onsite reuse, they will better realize the value of water and use it more carefully.	
Pacheco Reservoir – Need to clarify where the water supply yield is coming from. Is it from the Pacheco Creek watershed or surplus CVP supplies? Also, when is water going to local fishery and Refuges.	
Pacheco Reservoir - Why is the yield so low from such a large reservoir? Costs seem out of proportion to yield.	We're assuming a lot of the local runoff is going to fishery releases. Some of the benefit of the project is associated with reoperations/additional flexibility.

Question/Comment	Response at Workshop
Pacheco Reservoir – Would like to have more specific information on when the District is losing water because San Luis Reservoir spills.	
Pacheco Reservoir – Wouldn't moving from San Luis Reservoir to Pacheco Reservoir transfer the algae problem to Pacheco Reservoir?	
Pacheco Reservoir – Staff needs to be clear with Board that the project needs to be combined with multiple other projects in order to meet the reliability target.	
Potable Reuse – Los Gatos – Need to make sure the Board is aware of the downside of P3, especially since there will be excess capacity in wet years and will need to ramp down production at the plant.	
Potable Reuse – Los Gatos – Seems like it is pretty certain to happen. Why not use that as the baseline for all portfolios? California WaterFix not as certain.	Since we don't have agreements and permits in place, there is still some uncertainty.
Potable Reuse should be characterized as low risk.	
No Regrets Package – Meets ecosystem and environmental justice objectives.	
Non-Potable Recycled Water – Interested in seeing expanded recycled water. Where is recycled water in the plan?	Assuming retailer projections for recycled water from the Urban Water Management Plans. Need to add the Countywide Water Reuse Master Plan and existing plans/studies to the project list.
Recycled and Purified Water – The Countywide Water Reuse Master Plan should be completed before finalizing the Water Supply Master Plan to avoid a "cart before the horse" situation. Overall goal for water reuse should be as much as possible.	The purpose of the Water Supply Master Plan is to define the District's strategy for providing a reliable and sustainable water supply, which includes defining the preferred mix of water supplies and demand management for the future. The Countywide Water Reuse Master Plan will define how to achieve the water reuse goals established by the Water Supply Master Plan.
Reservoir Storage – Need to consider flood control storage in reassessing yield from our local reservoirs.	
Shallow Groundwater – Should look at reusing water from dewatering sites.	
SFPUC – They have high rates and high reliability in droughts. Can we get water from them?	They are actually looking for additional drought year supplies.

Question/Comment	Response at Workshop
Surface Water Storage Projects – It seems like a stretch to say dams have ecosystem benefits. Maybe label the objective as "Prop 1 Ecosystem Benefits."	
Costs and Water Rates	
Should not make decisions about projects based on unit costs (cost/AF). Unit costs don't tell the whole story and can be used to force decisions to implement unsustainable projects.	
The District's strategy should be scalable and flexibility, so it can be implemented as needed with climate change and supply and demand changes.	
Most expensive supply is the water you don't have.	
What is/is not included in the water rates forecast?	The baseline scenario includes California WaterFix, Potable Reuse (up to 45,000 AFY), No Regrets, and Transfer-Bethany Pipeline.
Not clear to public that all the projects the District has on its list are needed now and for future droughts. We shouldn't overinvest. Are we planning on a gold-plated Cadillac when we really just need a Volkswagen?	
Need to have simple and clear explanation of what is needed and why.	
Staff seems to have a good handle on appropriate investment levels. Concerned that some may want unnecessary expensive projects.	
Staff should make it clear that adding expensive projects isn't needed to meet future needs at this time. In other words, show that the costs of adding projects does not result in commensurate increasing is reliability.	
Need to show the rate impacts of the different projects and portfolios.	
Need to make sure that investments are made at the appropriate time. Don't build a project now that isn't needed for 40 years.	
The District should consider how it wants the public to perceive its actions. When the District sets rates, is it demonstrating that it is conscientious with regard to minimizing rate increases or will it appear that the District is spending unnecessarily.	

Question/Comment	Response at Workshop
Proposed rate increases are substantial and don't leave room for retailer needs in their systems.	
Don't propose a $2 billion CIP if there is only a $1 million budget.	
Need to have sustainable rates as well as a reliable water supply. The rates don't seem sustainable.	
Timing is important. Some of these projects can wait.	
Very difficult to justify 10% rate increases, essentially doubling rates over next 10 years, after they already doubled last 10 years. And some of these projects will have costs past Darin's forecast, are rates going to double again in the next 10 year window. This is not sustainable.	
Haven't adequately considered the effect of increased rates on demands. Rates are going up and demands are going down.	
Affordability needs to be a consideration. Discrepancy between the effect of rate increases on the east side vs. west side.	
Break out rate impacts without Prop 1 Water Storage Investment Program funding.	
Lower income people are hit harder by rate increases, but not drought surcharges.	
Do newcomers pay for new water requirements? Are there development fees?	Something at least one Board member is really interested in. Challenging because 1) new development doesn't appear to be increasing water use and 2) SCVWD is not a land use agency.
Are impact fees included in the costs of projects?	No, but will consider potential sources of revenue in developing the financing plan.
Other	
Staff should explain why "previously considered" projects were cut from the project list.	None of the projects are off the list forever. Some do not make sense at this time because 1) there are lower cost and/or more effective projects that achieve the same purpose or 2) there are issues with feasibility at this time. Staff will try to improve the descriptions on the project list.
Add a risk column to project summary table.	
Provide incentives to local urban growers who provide fresh produce to low income families via community gardening projects.	

Question/Comment	Response at Workshop
Should include ongoing recycled and purified water studies on the project list, e.g., Sunnyvale and Palo Alto partnerships, South County Recycled Water Master Plan. Should also consider direct potable reuse.	
Does the District have a recycled water target?	Yes, 10 percent of supply by 2025.
Would like to see information on the Countywide Water Reuse Master Plan on the District web site.	
Do not appear to be trying to reduce reliance on Delta. Please document how reduced reliance is measured. Disagree that reduced reliance means a lower percent of Delta water in the portfolio - believe it should be a reduction in water from the delta.	
People want to reduce water use so there is more water in the Delta and in creeks.	
Please put workshop materials on website.	
The District should do more meetings like this.	

From:	Patrick Ferraro
To:	Tracy Hemmeter
Cc:	Jerry De La Piedra; Board of Directors; Barbara Keegan; Katja
Subject:	Re: SCVWD Water Supply Master Plan Workshop Presentation
Date:	Monday, January 22, 2018 12:46:21 PM
Attachments:	image001.png WSMP Update 2018 01 12.pptx

Thanks Tracy and Jerry.

The workshop was well worth attending and I complement you both for fielding many tough questions and concerns about the track that the DRAFT Master Plan implies.

I want to re-state my concern that conducting a **Water Reuse Master Plan** should be completed before the finalization of the Water Supply Master Plan.Otherwise, the product will be a classic " cart-before-the-horse"

I was greatly encouraged last month by the "No Drop Left Behind" seminar sponsored by Sustainable Silicon Valley at the Mt. View Microsoft campus. Industry engagement in distributed reuse and water use efficiency can add substantially to local water supply reliability and reduce the projected costs of shortfalls. The same applies to domestic reuse, rainwater capture and landscape retrofits.

Affordability has become a greater concern for county residents and business, as evidenced by the well-organized resistance to San Jose Water Company's recent rate increase requests to the CPUC and the damage done during their administrative approach to implementing the mandated use reduction during the last drought. But again, I object to decision making based on unit costs developed to force decisions to implement unsustainable projects.

The "One Water" approach requires that the issue of flood control storage be a major consideration for re-assessing the yield from our local water resources. Also, the discussion has skipped the costs and benefits of direct potable reuse, which of course has the added risk of lack of public acceptance. The benefits to improving Delta water quality by blending with product water from the purification plants and reducing the need for Delta water make this project worth considering now.

Thanks again for your hard work and public service to our local communities.

Never Thirst!

Pat Ferraro, Former Director, SCVWD

On Mon, Jan 22, 2018 at 9:12 AM, Tracy Hemmeter <themmeter@valleywater.org> wrote:

> Hi all,
>
> Thanks to those of you that could attend the Water Supply Master Plan workshop on 1/12/18. I'm still working on updating our web page to have more current information, but thought I should at least get you the presentation from the workshop. There are some project specific slides at the end that I didn't use during the presentation, but I thought they

might be interesting.

Please let me know if you want to be removed this distribution list.

Thank you,

Tracy

TRACY HEMMETER

SENIOR PROJECT MANAGER
Water Supply Planning and Conservation
Santa Clara Valley Water District

5750 Almaden Expressway, San Jose, CA 95118
(408) 630-2647
themmeter@valleywater.org

From: AlMeg
To: Tracy Hemmeter
Cc: AlMeg
Subject: material for consideration: Re: Santa Clara Valley Water District staff are holding a workshop on Friday, January 12 10AM-12Noon
Date: Wednesday, January 10, 2018 11:24:43 AM
Attachments: image001.png
AG.MG commnt memo re 2017 Wat Supp Mast Plan .docx
WaterFix memo for Oct 17_2017 SCVWD mtg.docx

Hello, Tracy,

I just received your notice as a "forward", and would appreciate your seeing that my e-mail is added to your list of recipients, so that in the future, advance notice will be provided to my husband and me We look forward to participating in Friday's meeting

My husband and I re-submit the two attached documents (our memos, concerning water supply and the related WaterFix, previously submitted to the SCVWD Board) for inclusion in tomorrow's meeting and consideration by SCVWD staff, the Board and the public

Thank you

Best regards,

Meg Giberson
amgibr-lwv@yahoo com

From: Tracy Hemmeter [mailto themmeter@valleywater org]
Sent: Thursday, December 28, 2017 8:28 AM
Cc: Nina Hawk <NHawk@valleywater org>; Garth Hall <ghall@valleywater org>; Jerry De La Piedra <GDeLaPiedra@valleywater org>; Rick Callender <rcallender@valleywater org>; Rachael Gibson <rgibson@valleywater org>; Paul Randhawa <PRandhawa@valleywater org>
Subject: SCVWD Water Supply Master Plan Workshop - 1/12/18

Santa Clara Valley Water District (District) staff are holding a workshop on Friday, January 12, 2018, to get input on different water supply strategies that are being considered for the District s Water Supply Master Plan The Water Supply Master Plan is the District s strategy for providing a reliable and sustainable water supply into the future in a cost-effective manner At this workshop, staff will go over projected future water supplies and demands, describe the new projects being considered for the Water Supply Master Plan, and present potential water supply strategies for stakeholder discussion and input The input will be presented to the District Board as part of the next Water Supply Master Plan update, probably in February 2018 The most recent update provided to the Board is available by clicking here. I have also attached a summary of the projects that we are currently including in the potential water supply strategies

Workshop time and location:

- Date: Friday, January 12, 2018
- Time: 10:00 am to Noon
- Location: District Headquarters Boardroom, 5700 Almaden Expressway, San Jose, 95118

Please RSVP so we can make sure we have appropriate number handouts and seats

Happy New Year!

Tracy

TRACY HEMMETER
SENIOR PROJECT MANAGER
Water Supply Planning and Conservation
Santa Clara Valley Water District
5750 Almaden Expressway San Jose CA 95118
(408) 630-2647
themmeter@valleywater.org

TO: Honorable Members of the Santa Clara Valley Water District Board

FROM: Alan and Meg Giberson, ratepayers

RE: **2017 Water Supply Master Plan**

DATE: September 19, 2017

The Delta Reform Act of 2009 mandated reducing reliance on the Delta eight years ago. Water Code § 85021. The Water Supply Master Plan and update of 2012 and 2015 could have included these "no regret" projects, and more.

However, SCVWD's 2017 Water Supply Master Plan (current draft) still looks to increase imports through WaterFix, seeking a projected 41,000 afy from WaterFix (more even than the 39,000 afy projected shortfall that was identified last week in the SCVWD 9/12/2017 staff packet "modeled long-term average" graphic).

Too much time and money have been spent on WaterFix tunnels, a project that is fraught and tainted by too many unknowns and behind-the-scenes negotiations, dodgy ownership and payment options. It is time to look to local and regional projects for the "shortfall" water and put a hold—preferably permanent—on WaterFix.

Strategies to reduce reliance on imported water such as conservation, recycling and stormwater capture can more than compensate for projected future delivery shortfalls (even without WaterFix).

Singapore, for example, with a population three times that of Santa Clara County, currently meets 40% of its water demand (~192,640 afy) with recycled water. By 2060 Singapore expects to meet up to 55% of its demand. Recycled water has allowed industries there to reduce their costs because of the high level of purity in the recycled water.

Creative local solutions acknowledging our situation should be pursued. Some of Santa Clara County is at or below sea level, where buildings' lower levels are impacted by infiltrating water: basements of both residences and businesses need to be fitted out with pumps to remove the continuing inflow of water. At a recent SCVWD hearing, Roger Castillo, a local RCD director, pointed to the obvious: the water that pump stations remove from downtown buildings could be pumped to the upper watersheds to replenish the system. Palo Alto residents complained several years ago about large new construction that required ongoing pumping of basements—which then lowered the groundwater level for their areas. The same basement pumping situations are occurring elsewhere in this county.

Demand and supply can be managed through thoughtful, proactive, investments in projects that will benefit the health of our economy, our Bay and our community, as well as those of the Delta. What has been proposed in the "No Regrets Package" is a good start, but needs to be

pursued more intensively. Growing population doesn't have to mean increases in water use. Strategies that involve less imported water can meet reasonable demands.

The time factor also should be accounted for. The "no regrets" package can be started immediately, with costs and construction overseen by our local authorities, with foreseeable benefits to our economy. The WaterFix will not be operational for well over a decade, with as-yet-undetermined costs and uncertain product, but whose costs will require more ratepayer/taxpayer dollars immediately.

A State Water Resources Control Board policy established a mandate (in 2009) to increase the use of recycled water in California:

> We strongly encourage local and regional water agencies to move toward clean, abundant, local water for California by emphasizing appropriate water recycling, water conservation, and maintenance of supply infrastructure and the use of stormwater (including dry-weather urban runoff) in these plans; these sources of supply are drought-proof, reliable, and minimize our carbon footprint and can be sustained over the long-term.

The SCVWD should consider the following examples of conservation and recycling projects that have been successfully planned or successfully implemented by others, as projects to emulate.

Water conservation—we are doing well, but could do better: Santa Clara Valley and Santa Clara Valley Water District can meet future demand even without WaterFix.

• There would be a **shortfall** of about **23%** of our modeled long-term average Delta imports in a future with no WaterFix (assuming the 39,000 afy shortfall mentioned in last week's memo) and increased restrictions on water from the Delta; according to SCVWD predictions — future shortfalls could equal 37,000 afy (average year, 2040) to 137,000 afy (drought, 2040)

• Conservation in the recent drought has already saved **28%** according to SCVWD (approximately 84,000 afy);

• conservation predicted in the 2012 Water Master Plan shows that conservation and water recycling strategies will reduce Delta water reliance by **25%**.

Water recycling—we could do more:

• SCVWD looks to only **32,000 acre-feet per year** (afy) of non-potable recycled water by 2040. Current recycle figure for the county is up to **≈15,000 afy**. (population of Santa Clara County ~ 1.9 million)

• **Singapore** (population ~ 5.7 million) recycles wastewater effectively

- recycled currently meets 40% water demand (~**192,640 afy**)
- has allowed industries to reduce their costs because of the high level of purity in the recycled water.

• **Orange County Water District** already recycles **103,000 afy** that it uses to recharge its underground aquifer for drinking water purposes (unit cost $525 with subsidies and $850 without subsidies)

• **LA County Sanitation Districts**, in partnership with Metropolitan Water District, are planning a Regional Recycled Water Program with an eventual production target of up to **168,000 afy**

• The **LADWP** reported in May 2010 that its water recycling/replenishment will use "about 50% less energy than it takes to import water from Northern California and the Colorado River and it will lessen the strain on California's Bay Delta."

• An April 2017 **SCVWD**/EMC **survey** showed many more voter/customers willing to pay for recycled water than were willing to invest in maintaining the level of imported water from the Sacramento-San Joaquin [Delta]

• A survey by the Bay Area Council in 2015 found **88 percent** in **favor** of **expanding recycled water** programs (*See*: http://www.bayareacouncil.org/news/2015-bay-area-council-poll/ .)

• DWR's 2005 Water Plan found that "[t]here is a potential of about **0.9 million to 1.4 million acre-feet annually** of ***additional*** water supply from recycled water by the year 2030."

• Consequences of not cleaning up wastewater could be **fines of $5 billion to $10 billion**, which could be imposed on sewage treatment plants around the Bay for discharging substances that are fouling the Bay (http://www.mercurynews.com/bay-area-news/ci_24630366/san-francisco-bay-waters-are-becoming-clearer-but)

Local stormwater capture could potentially replace a large part of Santa Clara Valley's imported water.

• SCVWD used **imported water to fill its groundwater basins**, even when local water from this past rainy winter could have been used to recharge our local aquifers. (See: http://www.mercurynews.com/2017/03/02/water-district-perc-ponds-pass-on-turbid-water-full-of-sediment/). As SCVWD says, local aquifers hold nearly half the water used in the county and constitute a vast storage capacity (> 2 times local reservoirs).

• "**Groundwater basins** are the only thing that even approximate in size of storage [what] we're going to lose when we lose our snowpack in the decades to come." (Felicia Marcus, SWRCB Chair, speaking at a GGU water law conference, Jan. 2015)

• **Los Angeles** has proposed long-term stormwater capture of **179,000** acre-feet/year (conservative estimate) **to 258,000 acre-feet/year (afy)** (aggressive estimate) by 2099. Santa Clara Valley receives about the same amount of precipitation as LA and should prepare the same aggressive program.

• LA might even capture **up to 300,000 afy stormwater** says Dr. Richard Luthy, a Stanford professor of civil and environmental engineering and the director of the National Science Foundation's Engineering Research Center.
https://mavensnotebook.com/2016/08/18/stormwater-capture-treatment-and-recharge-for-urban-water-supply/

• The October 2014 stormwater capture bill signed by Gov. Brown points to the opportunity to capture **more than 600,000 afy** within the Bay Area and Southern California.

Population growth, other areas' experience has shown, does not mean greater water demand (although population growth appears to be SCVWD stated reason for greater projected demand).

• In fact, **LA** population **grew by one million** while water **demand** stayed at about the **same level** for the **past 45 years** or so. **https://www.newsdeeply.com/water/articles/2016/11/08/how-water-use-has-declined-with-population-growth (Also see: Urban Water Demand in California to 2100: Incorporating Climate Change (Aug. 2012) http://pacinst.org/wp-content/uploads/2014/04/2100-urban-water-efficiency.pdf)**

• **San Francisco** Public Utilities Commission saw **water use drop 17 percent** for its retail customers between 2005 and 2015 while **population increased by 10 percent**.

• SCVWD in its 2012 Water Master Plan looked to a population growth of only 600,000 people by 2035 (ABAG projection) yet **claimed** that growth will result in an **increase** in water demands of **94,000 afy** by 2035

Leaks account for a lot of lost water:

• "Studies suggest that leak detection surveys could reduce annual water losses by **260,000 gallons per mile surveyed**, at a cost of $300 per mile." Oct. 2016, *The Cost of Alternative Water Supply and Efficiency Options in California* (Pacific Institute)

• DWR estimates that leaks in water district distribution systems siphon away more than **700,000 acre-feet of water** a year in California—enough to supply 1.4 million homes for a year. Audits of water utilities have found an average loss through leaks of 10 percent of their total supply. [From Governor's 5/9/2016 drought message]

• **Finding leaks in pipes** may get easier -- saving money and water according to an MIT study.
https://www.wateronline.com/doc/finding-leaks-while-they-re-easy-to-fix-0001?vm_tId=2015739&user=92da4b24-340f-483f-abe0-59407f92cf31&utm_source=et_10759433&utm_medium=email&utm_campaign=WOL_08-10-2017&utm_term=92da4b24-340f-483f-abe0-59407f92cf31&utm_content=Finding+Leaks+While+They%2527re+Easy+To+Fix

Local jobs are created by local/regional projects (that can't be outsourced):

• SEIU Local 721—the largest public sector union in Southern California—opposes California WaterFix/tunnels and questions the financial plan and higher costs of WaterFix. Their July 13, 2017 letter enumerates the jobs that environmentally sustainable water capture at the local level can create. SEIU Local 721 supports recycling and stormwater capture (Letter already submitted to SCVWD Board).

• The Sacramento Regional Sanitary upgrade will create up to 600 construction jobs (at peak construction) (see: http://www.kcra.com/article/600-workers-will-build-2b-mega-project-in-sacramento/6419879). Similar projects locally could create local jobs.

Tech: Silicon Valley technology can address many of these water supply issues, by using its ability to innovate, not by promoting an improvident WaterFix project.

Dams are a questionable proposition**:**

• dams and their reservoirs leak or lose billions of gallons of water to evaporation: https://projects.propublica.org/killing-the-colorado/story/arizona-cotton-drought-crisis

• a 2016 algae bloom in San Luis Reservoir became severe, resulting in an advisory level upgraded to "warning" from "caution" http://www.fresnobee.com/news/local/article110480652.html

Conclusion: The proposed WaterFix has too many unknowns and uncertainties; it is not the water solution for Santa County residents and ratepayers. Other, better solutions should be aggressively pursued.

WaterFix unknowns and problem issues, for example, include:

• the **accusation that taxpayer money was "wrongly used"** to plan California water tunnel project according to an Inspector General report (federal), issue covered by the LA Times http://www.latimes.com/local/california/la-me-water-tunnel-funds-20170908-story.html (some $50-80 million, depending on media reporting). Transparency and accountability have been lacking in this process

• whether WaterFix will be **legally considered** part of the SWP—an issue to be decided in "validation action" in Sacramento Court;

• if WF is not found to be part of SWP, then there is **questionable** ability under Water Code to **authorize bonds** to construct, etc.

• who will control project **if "validation action" fails** and DWR is not "owner"

-proposal that Joint Finance JPA, or "designee", could assume ownership, with question of who would control then ("ongoing negotiations, discussions" are being held, in private)

-"In the scenario that DWR does not have the authority, **SWP contractors** that are members of the Finance JPA would have to '**step up' to pay the debt service** for the outstanding Finance JPA Bonds." (from previous SCVWD Bd. Agenda Memo, Item 2.1, § F.1)

• whether State Water Board will allow the change in point of diversion to the proposed northern intakes (if not, the project will not go forward); the continued hearings on that are scheduled to begin in Jan. 2018

• WaterFix project projected **capital costs $16.7 billion,** that may ultimately **cost up to $60 billion or more**, including debt financing

• an ultimate **high cost** to SCVWD ratepayers (risk volatility is inherent in project)

• ultimate **water allocation** amount

-can depend on % from SWP, CVP, etc., regulatory actions, SLR, climate change

-SCVWD looks to approximately **28,000 to 44,300 afy gain** from **WaterFix**

• **opt-in/opt-out** "choices": opt-in for CVP participation in WF; opt-out of SWP participation in WF

• will **ratepayers** of Santa Clara County still have to pay for WaterFix even if SCVWD opts out of participation in SWP part of WaterFix; will SCVWD opt in to participation under CVP?

October 13, 2017

TO: Honorable Members of the Santa Clara Valley Water District Board

FROM: Alan and Meg Giberson

RE: October 17, 2017, SCVWD WaterFix meeting

California WaterFix (CWF or WF) is a fantasy project. The years-long process of "study" has left a "project" that seems no more real than it did 10 years ago because so much about it is unknown. Only 5% to 10% of the project has been designed so far; 90% to 95% of its design has yet to be determined. With its legal status as part of the SWP uncertain, with construction costs unknowable because of WaterFix's incomplete design stage, with as-yet-undeterminable borrowing costs (being dependent in part on whether a JPA or government/state actor will be the borrower), and with uncertain amounts of yield and cost per acre-foot of any WaterFix water, nothing about WaterFix can be relied on.

Currently available information demonstrates that WaterFix is a quagmire not a solution. California residents are being asked to trust, but there is insufficient data with which to verify. Need for this project cannot be demonstrated because local projects and local water sources will yield more reliable water at an equal or lesser cost.

COST will soar; COST OVERRUNS to be expected

CWF costs will rise above what has been promoted; accurate costs of construction and/or resulting cost per acre foot of water have not been—and cannot be— assured. CWF water costs presented to SCVWD board have been low-balled at $600 per acre-foot (per SCVWD projects' cost analysis, 9/19/17, Item 2.1-E, Handout, Attachment 4, revised page 13 of 42). However:

- staff has also labeled WaterFix cost as the riskiest, in a Weighted Cost Risk analysis of thirteen projects (Fig. 3, Attachment 3, SCVWD Item # 2.1, 9/19/17);
- costs will reach $888 to $1427 per acre-foot (in 2033 dollars) according to Kern documents ("Kern document" at https://wrmwsd.com/wp-content/uploads/2017/08/KCWA-CWF-Overview-Public-Version-Complete-9.15.17.pdf, page 72).

Cost overruns have plagued projects in this state and elsewhere. The Bay Bridge and high-speed rail are but two California examples.

The Legislative Analyst's Office also reported in 2009 an "upward expenditure cycle [of the SWP] … due in part to the lack of effective budgetary oversight of the (State Water Project)." The LAO has recommended making the State Water Project's entire budget part of the state budgeting process. Such a process might help CWF's soaring bottom line, but such oversight seems extremely unlikely in view of DWR /CWF activities to date.

Kern Water Agency's consultant 5RMK, while noting that CWF design was only "5 to 10 percent complete", was told to base its estimate on a "design definition" requiring a 10 to 30 percent complete" project. (Kern County Water Agency's Analysis of California WaterFix Impacts—"Kern analysis"—page 27.) With just this minimal information, 5RMK signaled possible WF capital cost increases that could be more than one and one-half times 5RMK's lowest estimate. (Kern Analysis, page 76.)

FAULTY PROJECT DESIGN, reliability jeopardized:

Given the preliminary status of WaterFix design, all cost estimates are guesswork, based on missing and/or inadequate data. Comparisons and estimates cannot be considered reliable, and border on speculation because of so many unknowns.

The ≈35% construction contingency figure reported for WaterFix by both SCVWD[1] and Kern County Water Agency would be drastically low for a large tunneling project such as this, given the "iron law of megaprojects": "over time, over budget, over and over again." Considering the 5% to 10% design stage[2] of WaterFix and the identified weakness of the construction method using concrete segments that are subject to leakage at segment joints, costs will soar with likely tunnel failure; water reliability will be jeopardized.

Initial DWR design documents indicate large segmented concrete tunnels are planned, but without the inner lining that had been considered earlier. (See: Informational comments submitted by Des Jardins for the 10/10/2017 SCVWD meeting, quoting DWR 2010a, p.9.) This cheaper design nearly guarantees leakage from sources such as: 1) seismic activity, 2) subsidence of the soft soils surrounding proposed tunnel placement, 3) long-term degradation of segmental concrete lining, resulting in 4) increased forces pulling the tunnels apart. Consequences will be increased cost to 1) redesign and construct tunnels, or 2) repair, if built as preliminarily designed.

The Des Jardins 10/10/2017 submission cited EMBUD's 2015 comments on the tunnel design:

> Long-term degradation of segmental concrete lining may result in failure of the lining. In the event that the tunnel lining fails and results in a tunnel collapse or blowout, a collapse during operations would result in major ground movement extending to the ground surface and potentially sinkholes or blowout.

[1] SCVWD Sep 12, 2017 Board memo, Section D ("Total WaterFix costs"), Table 1 (Calif. WaterFix Cost Summary) cited "Contingency (36%)" under capital costs (and directly following "construction" costs

[2] Design is at only 5% to 10% stage ("the design definition for California WaterFix currently is between 5 to 10 percent complete", according to https://wrmwsd.com/wp-content/uploads/2017/08/KCWA-CWF-Overview-Public-Version-Complete-9.15.17.pdf

STATE AUDITOR'S REPORT critical of **WATERFIX**:

The State Auditor's Report is critical of WaterFix; it should be heeded as a warning not to proceed with the project. DWR's lack of transparency is not new, and bodes ill for any WaterFix future. The State Auditor's report re WaterFix (October 2017, Report 2016-132) indicates ongoing lax management on the part of DWR, which was responsible for:

- no demonstration of financial viability, incomplete financial analysis, yet "[t]he financial analysis is critical in determining whether water contractors are willing and able to pay for the construction of WaterFix" (State Auditor's Report, pages 34- 35);
- unqualified consulting firm hired, with multi-million dollar CWF contract, but no competitive bid process;
- amended contracts for BDCP consultant costs resulting in cost increases of nearly five times the original amount, with funding or spending "not fully track[ed]" (State Auditor's Report, page 17);
- no finished economic analysis;
- $50 million allegedly misused to pay planning costs;
- planning alone 200%-500% over budget.

With DWR making the critical and final decisions re WaterFix management, WaterFix is a bad choice for Santa Clara Valley ratepayers.

DESIGN AND COST CONSIDERATIONS:

Design and cost considerations coalesce in ballooning costs if WaterFix is allowed to proceed. California already faces a staggering cost of infrastructure maintenance, leak detection and repair. Dams in California, for instance, need expensive upgrades/repairs.

- The same people (DWR) who brought us Oroville—with repair costs rising potentially to $1 billion— have suggested a CWF design that proposes tunnel construction involving demonstrably problematic construction techniques. SWP contractors, such as SCVWD (and ratepayers), may be on the hook for expenses such as the Oroville repair, according to a statement by Gov. Brown's Department of Finance in February this year.
- Of the dams owned by SCVWD, the California Division of Safety of Dams September 2017 report listed four as only "fair", with significant downstream hazards due to extremely high potential for loss of life/infrastructure in the event of dam failure. SCVWD ratepayers will be on the hook for such catastrophic events.
- https://www.eenews.net/stories/1060053463: "The 240-foot Anderson Dam near Morgan Hill … impounds a 90,000-acre-foot reservoir that is threatened by an earthquake on the same fault. If it fails, a deluge would reach the pricey real estate in Morgan Hill in less than 15 minutes. Downtown San Jose would be under 8 feet of water in three hours. The dam's owner, the Santa Clara Valley Water District, has sought to avoid surprises…. But that hasn't kept its price tag from ballooning. The project cost jumped from $200 million to $400 million when new geologic studies concluded the upstream slope of the dam could collapse in an earthquake."

BETTER CHOICE: RELIABLE, DROUGHT-PROOF, CLIMATE-RESILIENT, LOCAL WATER SOURCES

The Pacific Institute notes that **urban water conservation** and **efficiency** measures are less expensive than most new water supply options and are thus the most cost-effective ways to meet current and future water needs. Indeed, many residential and non-residential measures have a "negative cost," which means that they save the customer more money over their lifetime than they cost to implement.

Stormwater capture projects can cost less, and use local water.

- A median cost of $590 per af for large stormwater capture projects is projected by a Pacific Institute study/report. (The Cost of Alternative Water Supply and Efficiency Options in California, Pacific Institute, October 2016)
- UCSC's Dr. Andy Fisher is currently working on distributed stormwater recharge projects in Pajaro Valley ("Pajaro"), which has a similar precipitation pattern to Silicon Valley's. Pajaro receives no imported water; it is dependent on groundwater, which—at over 1 mafy—represents 83-85% of Pajaro's demand. *See*: https://mavensnotebook.com/2017/09/20/dr-andy-fisher-enhancing-groundwater-recharge-with-stormwater/. The recharge initiative has four components: mapping, modeling, field project, monetizing incentives for stakeholders. Similar projects could help recharge Santa Clara Valley's aquifers.
- Work by Dr. Richard Luthy, Stanford, also demonstrates enormous potential for stormwater capture. *See*: https://mavensnotebook.com/2016/08/18/stormwater-capture-treatment-and-recharge-for-urban-water-supply/ Dr. Luthy projects the possibility that LA could boost its aggressive plan for stormwater capture (of 258,000 afy by 2099) **up to 300,000 afy stormwater**.
- Considerable tech expertise is available in Silicon Valley to address these, and similar, water source issues.

Alternate sources:

The averaged cost of $400 per acre-foot of the nine projects listed in SCVWD 9/19/017 Water Supply Master Plan Update demonstrates potential for sourcing water from other than megaprojects such as WaterFix. ("Project and Programs Currently Being Considered for Inclusion in the 2017 Water Supply Master Plan", Attachment 1, page 1 of 9).

- **Landscape conversion** can save up to 2,000,000 acre-feet per year in California, and is one of the lowest cost water supplies (The Cost of Alternative Water Supply and Efficiency Options in California, Pacific Institute, October 2016, page 17, Table 5, "Residential Water Efficiency Measures")
- **Recycled water**

- Recycled water has received **approvals** from numerous groups: Cal. Med. Assoc. (2012 Resolution 119-12); Santa Clara County voters (SCVWD/EMC April 2017 Survey); Bay Area Council 2015 (88 percent of those surveyed favored expanding recycled water programs); NRC/National Academies: Reuse of Municipal Wastewater has Significant Potential to Augment Future U.S. Drinking Water Supplies ("Moreover, new analyses suggest that the possible health risks of exposure to chemical contaminants and disease-causing microbes from wastewater reuse do not exceed, and in some cases may

be significantly lower than, the risks of existing water supplies.") (press release) Also see: http://www8.nationalacademies.org/onpinews/newsitem.aspx?recordid=13303.

- **Various areas and agencies** safely process and use large amounts of recycled water:

• OCWD 103,000 afy (project uses half the energy it would take to pump imported water; cost $525/af with subsidies, $850/af without subsidies);

• Singapore 192,640 afy;

• LA County Sanitation Districts plan up to 168,000 afy. LADWP reported in May 2010 that its water recycling/replenishment will use "about 50% less energy than it takes to import water from Northern California and the Colorado River and it will lessen the strain on California's Bay Delta."

• Del Puerto district (Stanislaus County) will receive 30,600 acre-feet of highly-treated wastewater (recycled water) from Modesto (from a $100 million project) that will supply one-third of the needs for Del Puerto farmers and give them a stable water source; ultimately 59,000 afy is anticipated. http://www.modbee.com/news/state/california/water-and-drought/article30198939.html#storylink=cpy

HIGH RISK: WaterFix was listed as the riskiest project in SCVWD staff's rating of 13 potential water supply projects. Members of the SCVWD board have also repeatedly mentioned being risk-averse; that risk aversion was again cited at the 10/10/2017 SCVWD board meeting. SCVWD and DWR documents have repeatedly reported that the WaterFix design is subject to change. (SCVWD staff reports, along with the Kern consultant 5RMK have identified the same 35% construction contingency.) WaterFix doesn't merit taking that risk.

BORROWING COSTS: If WaterFix is not legally considered part of the SWP (pursuant to a Validation Action in a Sacramento court) issuance of bonds may not be possible as a state action. Financing would then need to be provided through a JPA, which might have to pay higher interest rates than state-backed bonds receive. (And DWR has already had to increase its short-term—and thus more costly— borrowing capacity to pay for Oroville spillway repair work.)

CONCLUSION: A long, 15-year, delay in WaterFix water availability is projected (assuming all goes perfectly for the project, unlikely in view of the problematic design and multiple lawsuits challenging it). Local projects can be built faster and may be less costly, with local control and more reliable water as a result. History does not favor large infrastructure such as WaterFix; water transfer projects haven't been the solutions they were supposed to be. WaterFix is not the fix Santa Clara Valley needs.

Our five-page **memo submitted for the September 19, 2017, SCVWD 2017 Water Supply Master Plan** board hearing is hereby referenced and included in this memo, as if fully set forth herein.

File No.: 18-0458

Agenda Date: 6/25/2018
Item No.: 4.2.

COMMITTEE AGENDA MEMORANDUM

Water Conservation and Demand Management

SUBJECT:
Climate Smart San Jose Plan.

RECOMMENDATION:
This is a discussion item and the Committee may provide comments. However, no action is required.

SUMMARY:
At a recent District Board's Water Conservation & Demand Management Committee meeting, staff was directed to invite the City's Environmental Services Department to a future meeting to present their Climate Smart San Jose Plan. Specifically, the Board representatives would like an overview of the Plan (objectives, goals, etc.) as well as what the City may ask in turn from the District to help achieve those goals.

The next Committee meeting is scheduled for 10:00 a.m. on June 25, 2018.

ATTACHMENTS:
Attachment 1: Climate Smart Plan
Hyperlink: <https://prezi.com/view/70m5jjeG20bT3sZZYbpV>

UNCLASSIFIED MANAGER:
Garth Hall, 408-630-2750

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CLIMATE SMART SAN JOSE

A People-Centered Plan for a Low-Carbon City

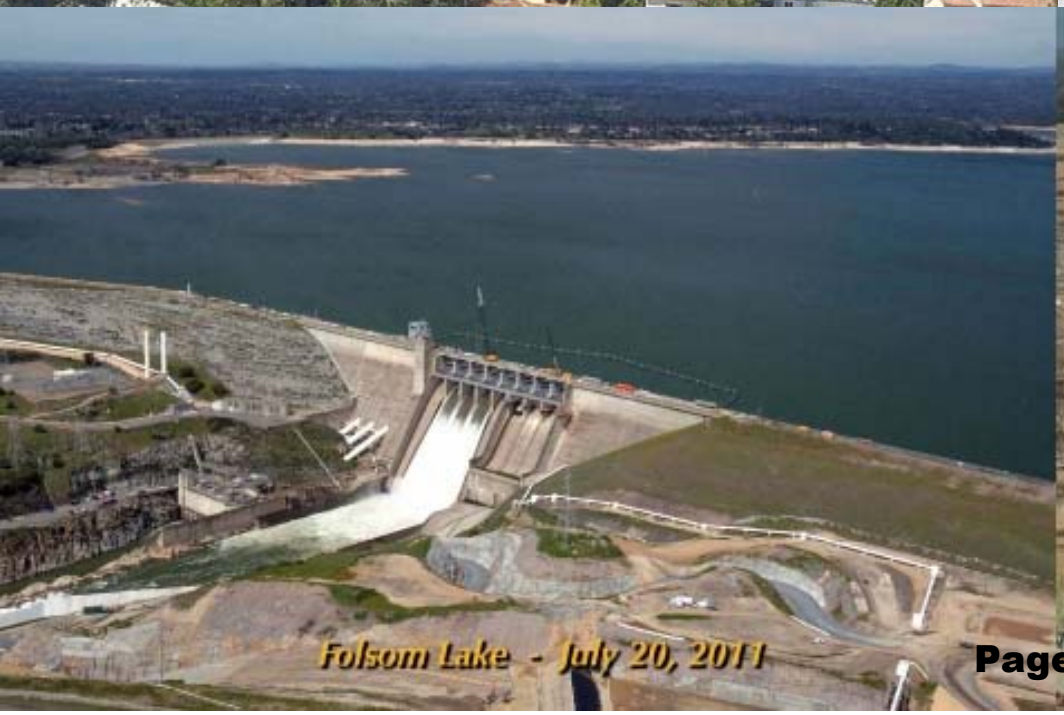
SCV Water District Meeting
June 25, 2018

LIVING BETTER TODAY FOR TOMORROW

1

WHY WE'RE DOING THIS

WE DON'T NEED TO LOOK VERY FAR TO SEE THE EFFECTS OF CLIMATE CHANGE



CITY COUNCIL DIRECTION

- In 2015, Mayor Liccardo and City Council outlined a Green Focus effort to support two goals of the 2007 Green Vision:
  - Ensuring a more sustainable water supply and;
  - Reducing GHG emissions – tied to energy and mobility.

ENERGY

MOBILITY

WATER

A LOT HAS ALREADY HAPPENED LAST YEAR:
U.S. CITIES SIGNING UP TO THE PARIS AGREEMENT

Over 1,400 U.S. Cities, States and Businesses Vow to Meet Paris Climate Commitments

Climate Cities: Can Urban America Save Paris Agreement?

By Michael Dhar, Live Science Contributor | July 11, 2017 02:22pm ET

Sam Liccardo
8 August at 18:49 ·

While President Trump rejects the #ParisAgreement, San Jose voted unanimously to stand by it. The City Council also voted to doing its part to fight climate change by formally establishing San Jose Clean Energy, which will bring more energy from renewable sources to San Jose homes in 2018. #climatemayors

Like Comment Share

A California-led alliance of cities and states vows to keep the Paris climate accord intact

A LOT HAS ALREADY HAPPENED:
SAN JOSE'S COMMUNITY CHOICE ENERGY SUCCESS

The Mercury News

San Jose City Council approves new community choice energy plan, the largest in California

Proponents say the plan offers consumers another choice, reduces rates and reduces greenhouse gas emissions

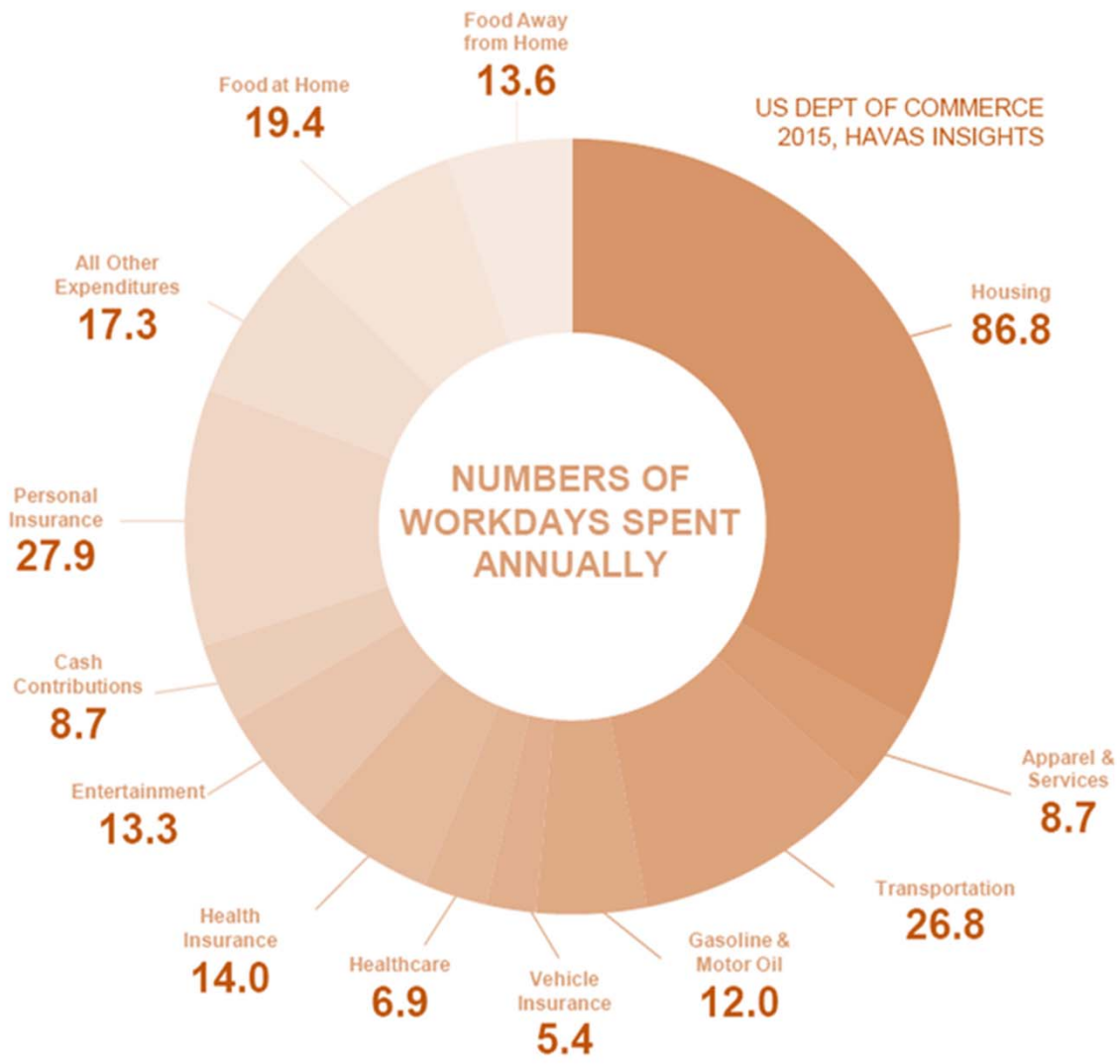
A LOT HAS ALREADY HAPPENED:
Water Conservation

- During the severe drought, San José residents conserved 27%, surpassing state mandate.

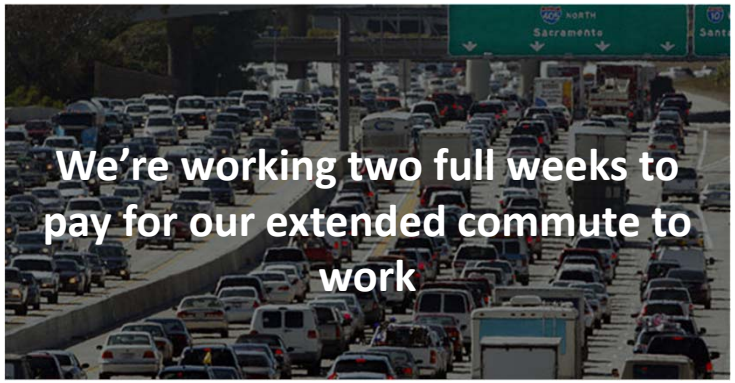
Rethinking the Good Life 1.0:
What does the Good Life 2.0 look like for San Joséans?

- Spend more time with family and friends
- Be more healthy and active
- Have access to parks and nature

WHAT DOES THE GOOD LIFE COST THE AVERAGE AMERICAN?



Sources: US Census Bureau, Federal Reserve Bank of St. Louis, Wall Street Journal



2

OUR JOURNEY TO DATE

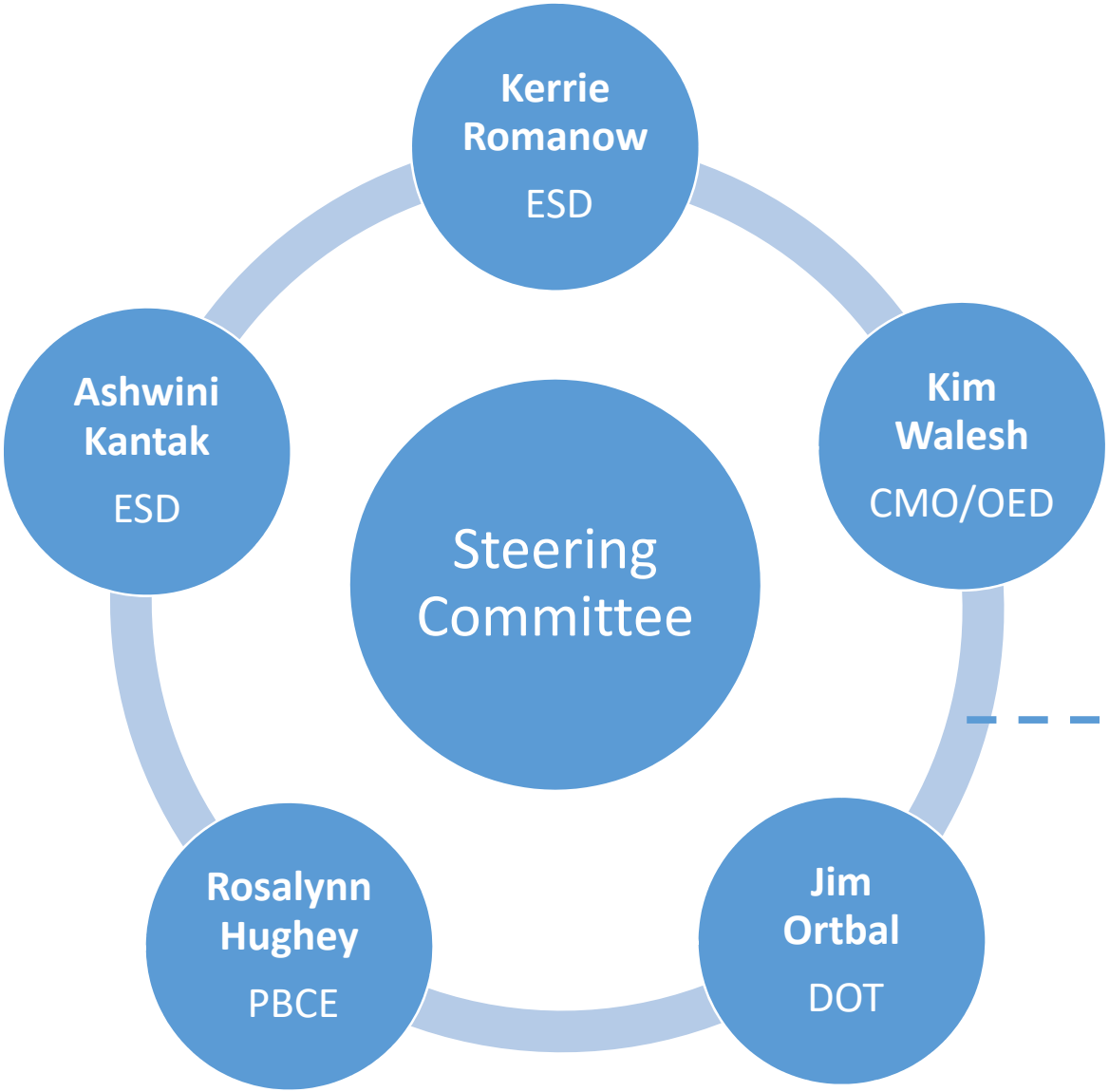
Climate Smart San José Requires Activation 73% of General Plan's goals

CHAPTERS	GOALS																			
THRIVING COMMUNITY	Diverse and Innovative Economy	IE-1 Land Use and Employment	IE-2 Business Growth and Retention	IE-3 Regional, State, & National Leadership	IE-4 Connections to Promote Economic Development	IE-5 Cultural Attractions	IE-6 Broad Economic Prosperity	IE-7 Clean Technology												
	Arts and Culture	AC-1 San José as the Silicon Valley Cultural Center	AC-2 High Impact Public Art																	
	Community Engagement	CE-1 Active Community Engagement	CE-2 Community Partnerships																	
	Fiscal Sustainability	FS-1 City Operations	FS-2 Cultivate Fiscal Resources	FS-3 Fiscally Sustainable Land Use Framework	FS-4 Promote Fiscally Beneficial Land Use	FS-5 Fiscally Sustainable Service Delivery	FS-6 Fiscally Sustainable Waste Management													
ENVIRONMENTAL LEADERSHIP	Measurable Environmental Sustainability	MS-1 Green Building Policy Leadership	MS-2 Energy Conservation and Renewable Energy Use	MS-3 Water Conservation and Quality	MS-4 Healthful Indoor Environment	MS-5 Waste Diversion	MS-6 Waste Reduction	MS-7 Environmental Leadership and Innovation	MS-8 Environmental Stewardship	MS-9 Service Delivery	MS-10 Air Pollutant Emission Reduction	MS-11 Toxic Air Contaminants	MS-12 Objectional Odors	MS-13 Construction Air Emissions	MS-14 Reduce Consumption and Increase Efficiency	MS-15 Renewable Energy	MS-16 Energy Security	MS-17 Responsible Management of Water Supply	MS-18 Water Conservation	MS-19 Water Recycling	MS-20 Water Quality	MS-21 Community Forest
	Environmental Resources	ER-1 Grassland, Oak Woodlands, Chaparral, and Coast Scrub	ER-2 Riparian Corridors	ER-3 Bay and Baylands	ER-4 Special-Status Plants and Animals	ER-5 Migratory Birds	ER-6 Urban Natural Interface	ER-7 Wildlife Movement	ER-8 Stormwater	ER-9 Water Resources	ER-10 Archaeology and Paleontology	ER-11 Extractive Resources									
	Environmental Considerations / Hazards	EC-1 Community Noise Levels and Land Use Compatability	EC-2 Vibration	EC-3 Seismic Hazards	EC-4 Geologic and Soil Hazards	EC-5 Flooding Hazards	EC-6 Hazardous Materials	EC-7 Environmental Contamination	EC-8 Wildland and Urban Fire Hazards											
	Infrastructure	IN-1 General Provision of Infrastructure	IN-2 Infrastructure Management	IN-3 Water Supply, Sanitary Sewer, and Storm Drainage	IN-4 Wastewater Treatment and Water Reclamation	IN-5 Solid Waste-Materials Recovery / Landfill	IN-6 Telecommunications													
QUALITY OF LIFE	Vibrant Neighborhoods	VN-1 Vibrant, Attractive, and Complete Neighborhoods	VN-2 Community Empowerment	VN-3 Access to Healthful Foods	VN-4 Cultural Opportunities	VN-5 Private Community Gathering Facilities														
	Community Design	CD-1 Attractive City	CD-2 Function	CD-3 Connections	CD-4 Compatibility	CD-5 Community Health, Safety, and Wellness	CD-6 Downtown Urban Design	CD-7 Urban Villages	CD-8 Building Height	CD-9 Access to Scenic Resources	CD-10 Attractive Gateways										
	Housing	H-1 Housing - Social Equity and Diversity	H-2 Affordable Housing	H-3 High Quality Housing and Great Places	H-4 Housing - Environmental Sustainability															
	Education and Services	ES-1 Education	ES-2 Libraries	ES-3 Law Enforcement and Fire Protection	ES-4 Emergency Management	ES-5 Code Enforcement	ES-6 Access to Medical Services													
	Parks, Open Space and Recreation	PR-1 High Quality Facilities and Programs	PR-2 Contribute to a Healthful Community	PR-3 Provide an Equitable Park System	PR-4 Community Identity	PR-5 Grand Parks	PR-6 Sustainable Parks and Recreation	PR-7 Interconnected Parks System	PR-8 Fiscal Management of Parks and Recreation Resources											
LAND USE AND TRANSPORTATION	Land Use Policies	LU-1 General Land Use	LU-2 Growth Areas	LU-3 Downtown	LU-4 Commercial	LU-5 Neighborhood Serving Commercial	LU-6 Industrial Preservation	LU-7 Attract New Industrial Uses	LU-8 Maintain Employment Lands	LU-9 High-Quality Living Environments	LU-10 Efficient Use of Residential and Mixed-Use Lands	LU-11 Residential Neighborhoods	LU-12 Urban Agriculture	LU-13 Landmarks and Districts	LU-14 Historic Structures of Lesser Significance	LU-15 Public Awareness	LU-16 Sustainable Practices	LU-17 Hillside / Rural Preservation	LU-18 Hillside Development Hazard Avoidance	LU-19 Urban Growth Boundary (Open Hillside / Agriculture Lands)	LU-20 Rural Agriculture
	Transportation Policies	TR-1 Balanced Transportation System	TR-2 Walking and Bicycling	TR-3 Maximize Use of Public Transit	TR-4 Passenger Rail Service	TR-5 Vehicular Circulation	TR-6 Goods Movement	TR-7 Transportation Demand Management	TR-8 Parking Strategies	TR-9 Tier I Reduction of Vehicle Miles Traveled	TR-10 Tier II Vehicle Miles Traveled Reduction	TR-11 Regional and State VMT Reduction Efforts	TR-12 Intelligent Transportation System	TR-13 Attractive and Accessible Airport	TR-14 Safe Airport	TR-15 Moffett Field	TN-1 National Model for Trail Development and Use	TN-2 Trails as Transportation	TN-3 Accessible, Safe, and Well-Functioning Trails		
IMPLEMENTATION	Implementation	IP-1 Land Use / Transportation Diagram	IP-2 General Plan Phasing / Planning Horizons / Major Review	IP-3 General Plan Annual Review and Measureable Sustainability	IP-4 General Plan Annual Review Hearing Process	IP-5 Urban Village Planning	IP-6 Capital Improvement Program	IP-7 Specific Plans	IP-8 Zoning	IP-9 Subdivision	IP-10 Site Development	IP-11 Annexations	IP-12 Environmental Clearance	IP-13 Building Permits	IP-14 Citizen Participation and Community Engagement	IP-15 Development Fees, Taxes, and Improvement Requirements	IP-16 Implementation of the General Plan by Other Agencies	IP-17 Environmental Leadership / Stewardship	IP-18 Economic Development	IP-19 Housing Development	

KEY

- CSSJ **drives progress** on this goal
- CSSJ **enables progress** on this goal
- CSSJ **aligns with** this goal
- CSSJ **does not actively consider** this goal

CLIMATE SMART SAN JOSE STEERING COMMITTEE



pwc

- Coordinated with Public Works, Housing and Community Energy

WE ENGAGED THE BAY AREA'S LEADING CLIMATE AND WATER EXPERTS

Expert Survey – April 2017

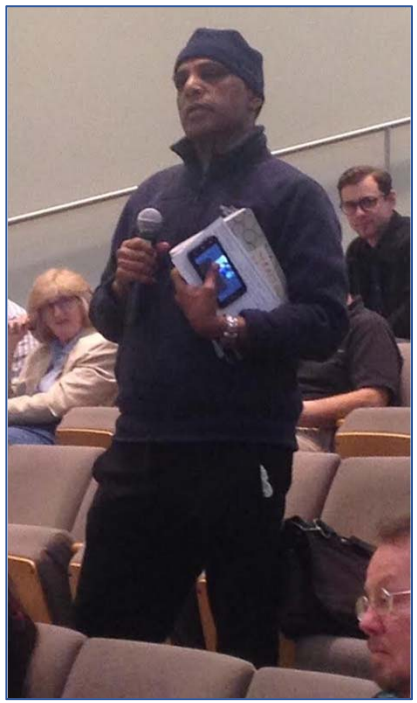
- Collect ideas on innovations and leading edge measures
- 119 responses

Technical Workshops
May 2017 – January 2018

- Six workshops focused on energy water, mobility and open space
- Approx. 120 attendees

INVITED FEEDBACK FROM SAN JOSE RESIDENTS & COMMUNITY GROUPS

- Town Hall meetings
- Council District meetings
- Neighborhood community meetings
- Council study sessions
- Neighborhoods Commission meeting



WHICH HELPED US DEVELOP A VISION FOR THE GOOD LIFE, AND WHAT IT MEANS FOR RESIDENTS OF THE CITY

Objective

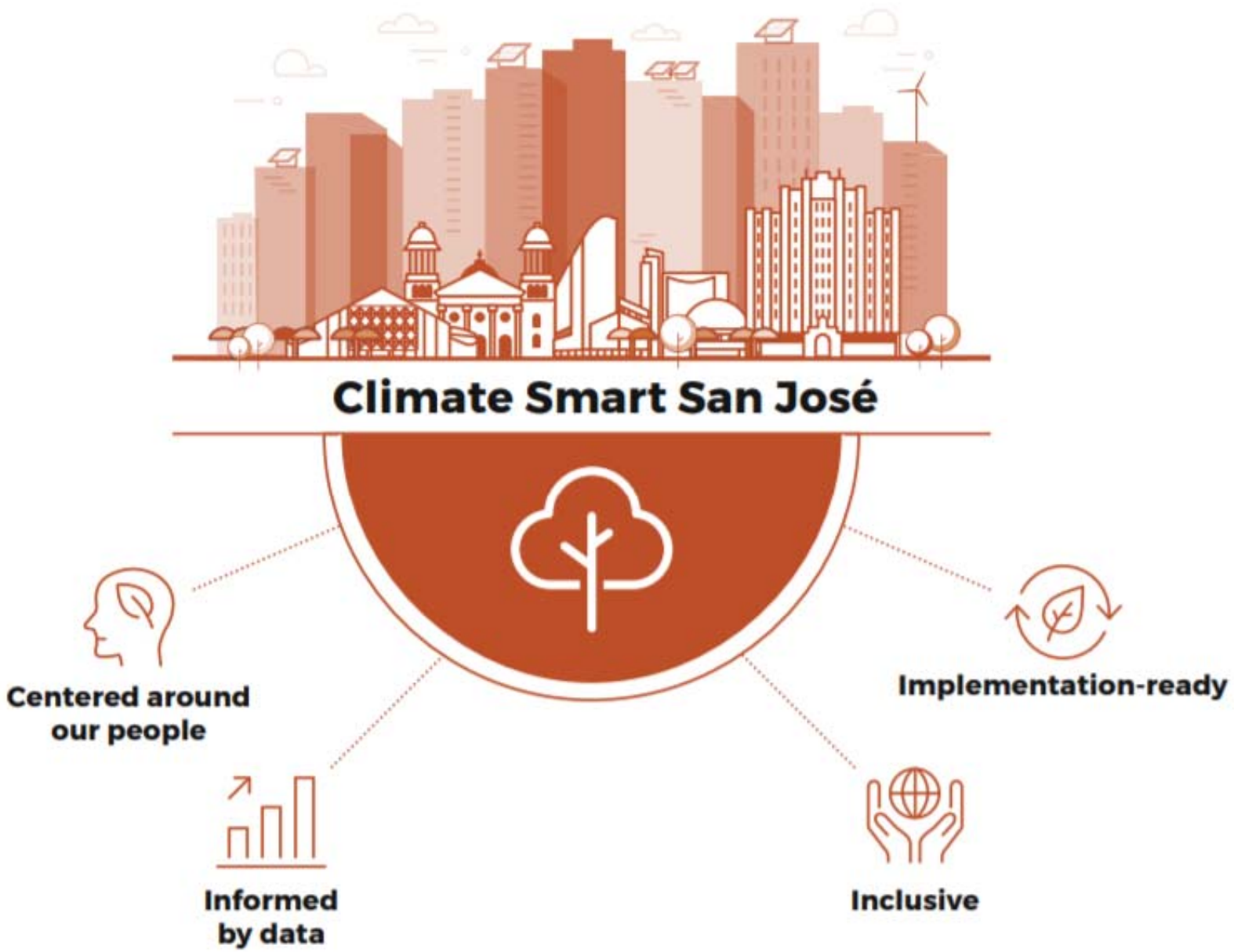
- Understand people's feelings, perspectives, and actions on sustainability issues and The Good Life
- **2,100** responses
- **1,800** ideas submitted

Word cloud generated from responses to a question on what the good life means to you.

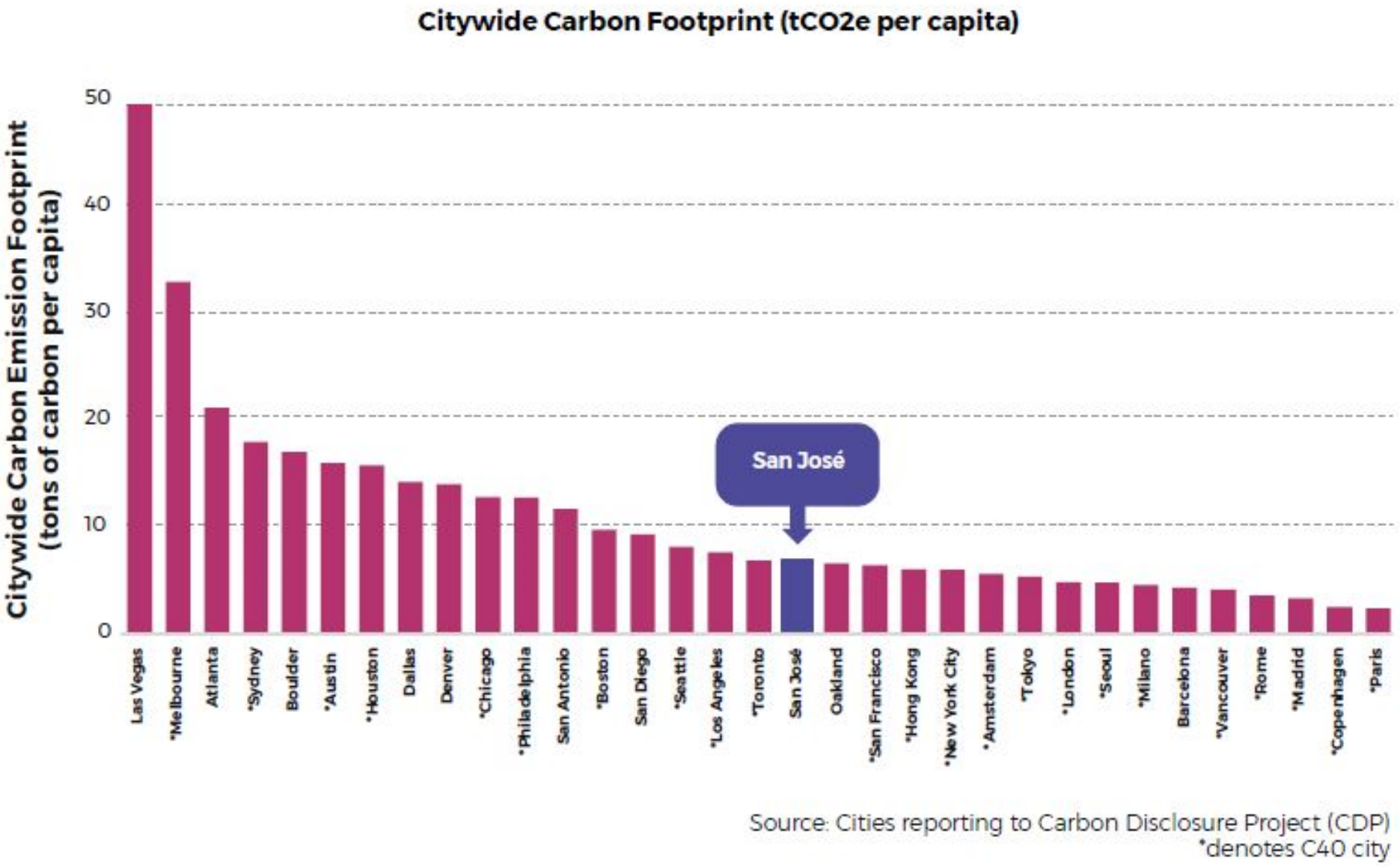
3

CLIMATE SMART SAN JOSE PLAN

CLIMATE SMART SAN JOSE FRAMING

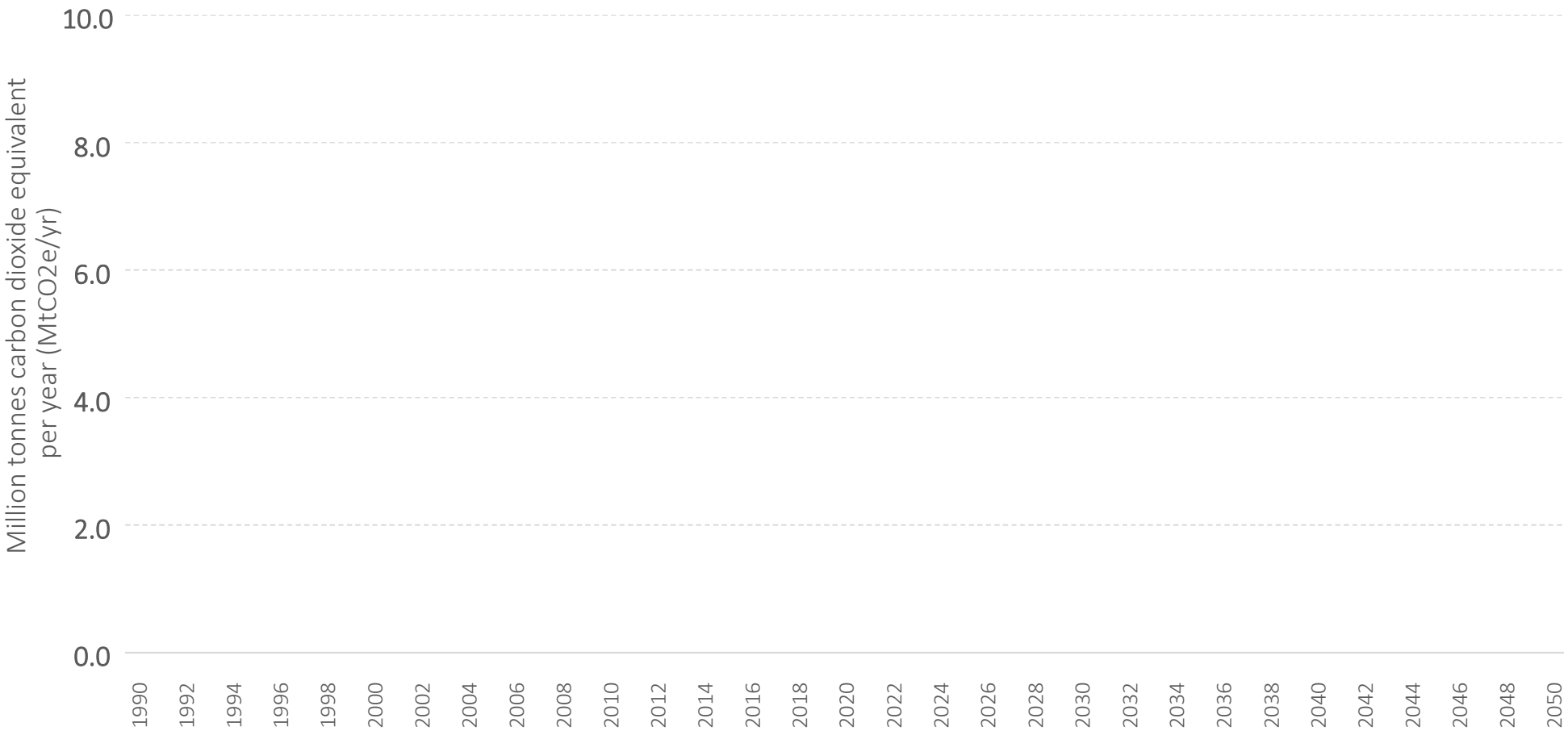


COMPARISON TO OTHER CITIES: CARBON FOOTPRINT

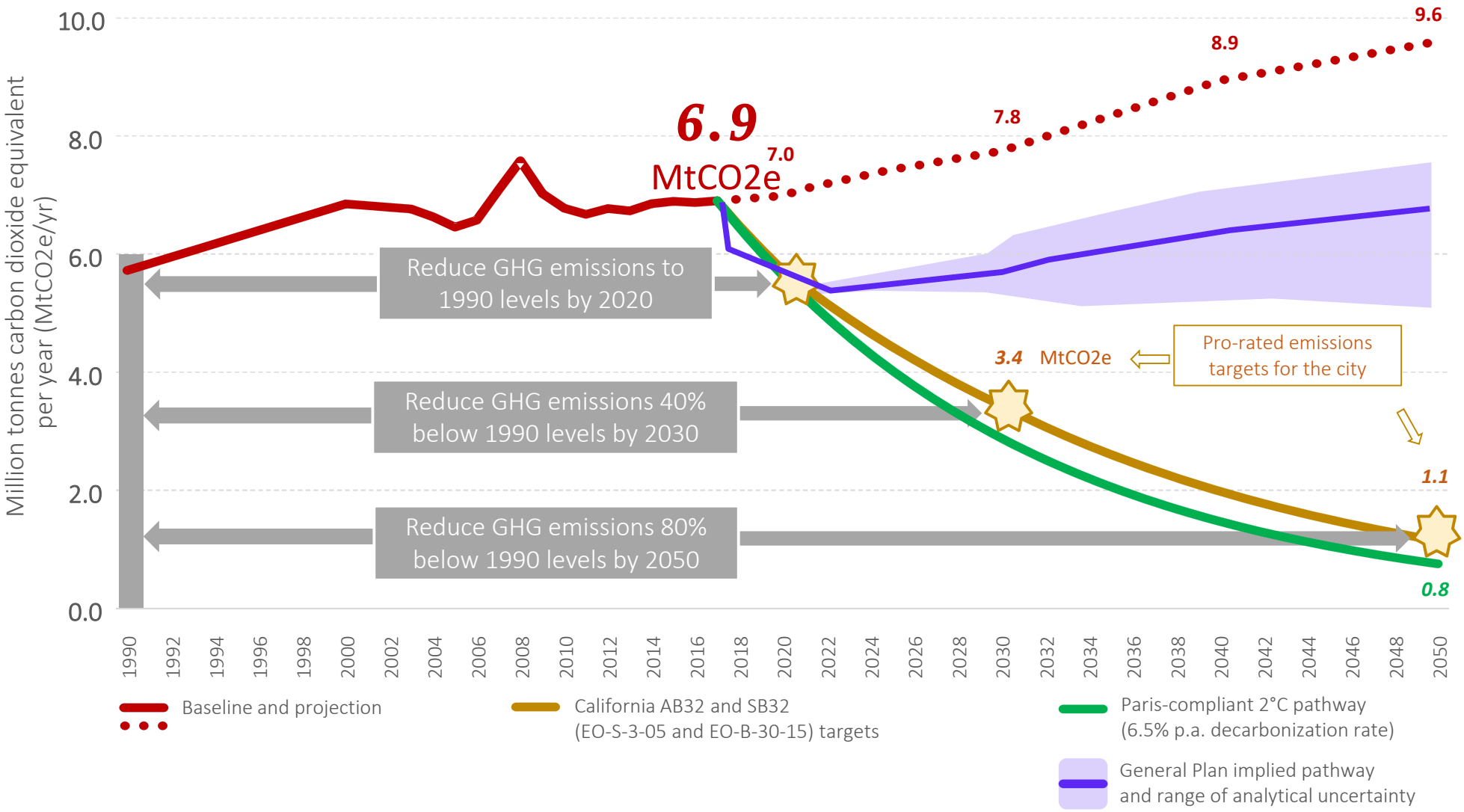



One tonne
of CO2

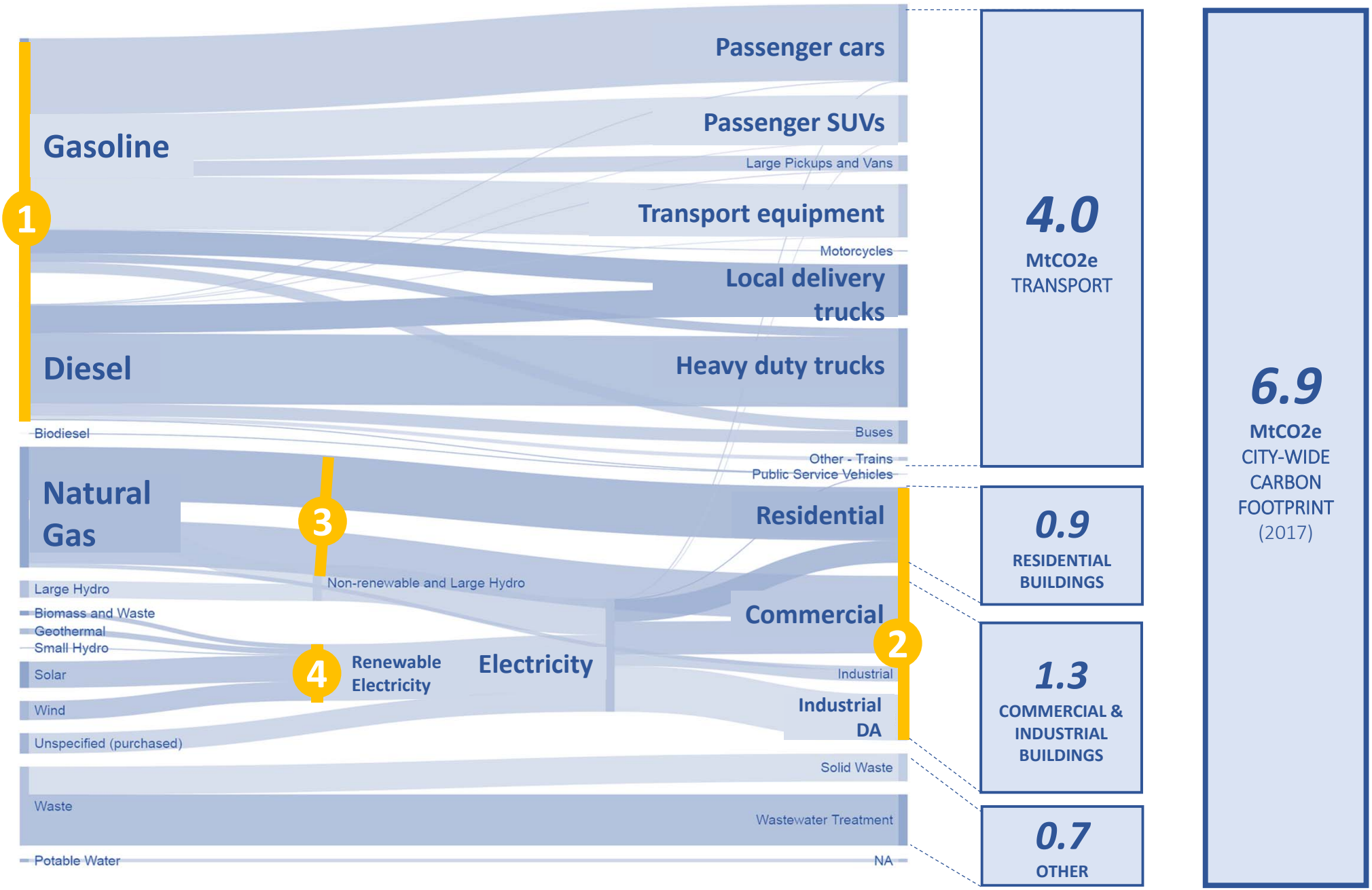
SAN JOSE'S EMISSIONS PROFILE



SAN JOSE'S EMISSIONS PROFILE



...AND ITS DRIVERS, WHICH TOLD US WHERE TO FOCUS



WE USED THIS DATA TO GENERATE IDEAS TO ADDRESS THE PROBLEM OF CARBON EMISSIONS

1. Addressed key supply/use node in the GHG-fossil fuel use profile
2. Effective at reducing emissions at-scale
3. Would ‘zero-out’ carbon impact of additional pop’ growth
4. Remain relevant for the continued growth of the city
5. Reasonable marginal abatement costs
6. Supported by Town Hall attendees and survey respondents

THERE ARE 53 MEASURES THAT HELP US GET THERE


San José Clean Energy


Distributed solar generation

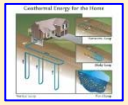

LED lighting retrofit


Energy efficient electronics


Energy efficient refrigerators


Gas to electric stove replacement


Gas to electric water heater replacement


Gas to electric ground source heat pumps

Smart thermostats


Residential building thermal envelope retrofit

Residential building thermal envelope new-build


Commercial building thermal envelope retrofit


Commercial building thermal envelope new-build


Commercial building energy efficient HVAC new-build


Commercial building HVAC recommissioning


Commercial building LED lighting


Commercial building data center energy efficiency


Residential dishwasher efficiency


Residential clothes washer efficiency


Passenger car EV


SUV EV


Passenger car autonomous EV


SUV autonomous EV


Ride-sharing cars

Ride-sharing shuttles


Ride-sharing autonomous cars


Ride-sharing autonomous shuttles


Large pick-up EVs

Local delivery EVs


Hybrid heavy goods vehicle (HGVs)


Electric heavy goods vehicle (HGVs)


CNG heavy goods vehicle (HGVs)


Efficient heavy goods vehicle (HGVs)


Cal train Modernization


BART Silicon Valley Extension


California High Speed Rail


VTA Bus Rapid Transit & Light Rail


VTA Next Network & Enhanced Bus Service


San Jose Bike Plan


Creating local jobs

Densification / focused growth

Streets for People

Drought resilient landscaping

Drip irrigation in landscaping

Domestic rainwater storage

Low flush toilets (residential)

Low flow showers

Showers instead of baths

Aerated faucets in homes

Fixing leaks in homes

Aerated faucets commercial buildings

Low flush toilets (commercial)

Commercial greywater reuse

Residential greywater

KEY

ENERGY

TRANSPORT

LAND USE

WATER

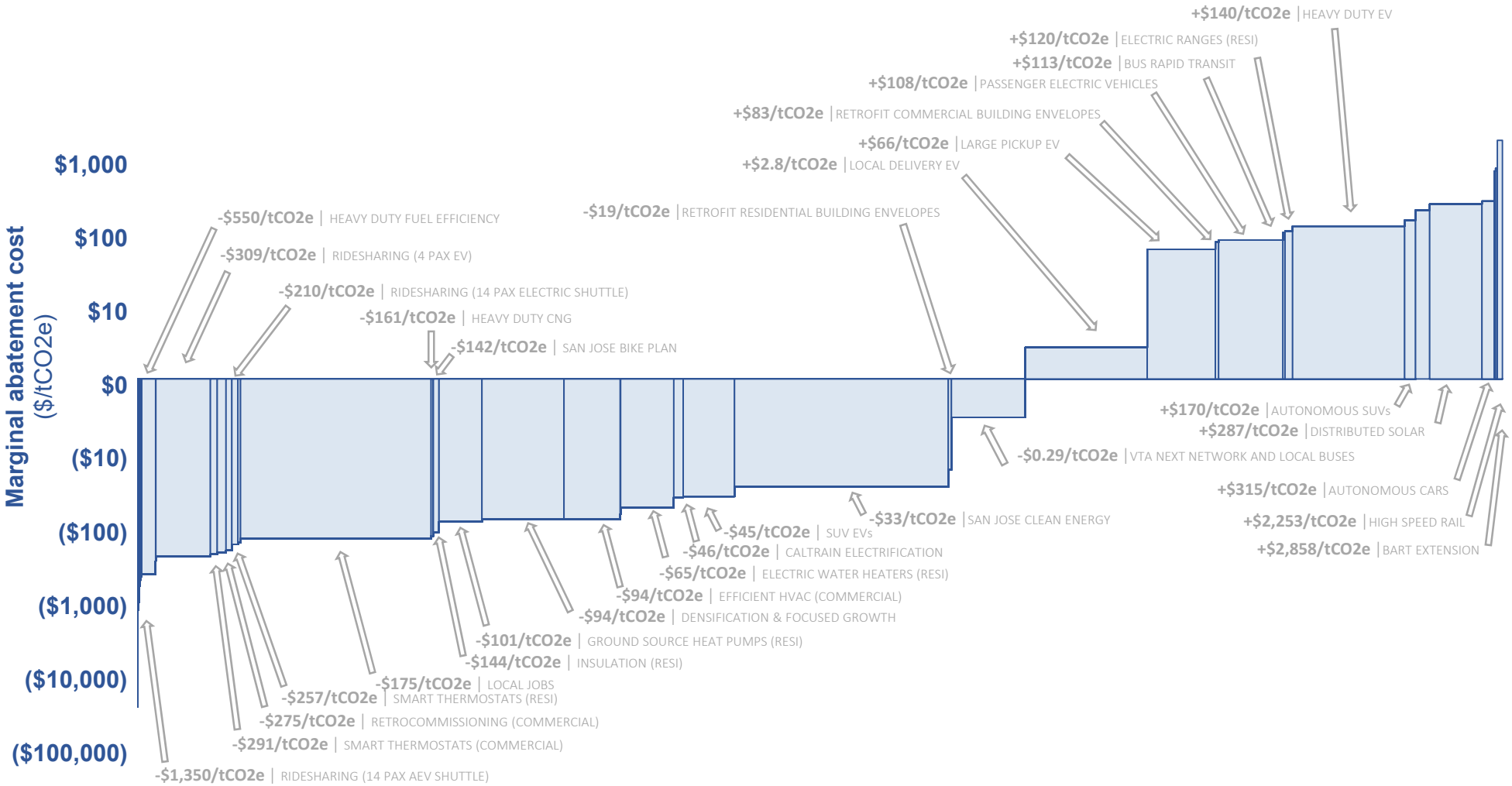
Worked example: electric vehicles

		Climate Smart Measure	Business as Usual
[1]	**Fuel source**	Electricity	Gasoline and diesel
[2]	**Utilization**	16,800 miles/yr	12,000 miles/yr
[3]	**Efficiency**	103 mpg-e	30 mpg
[4]	**Capital cost**	$28,000	$18,490
[5]	**Operational cost**	[2]x[3]xfuel price	Σ[2]x[3]xfuel price
[6]	**Stock in year**	% of total vehicles	% of total vehicles

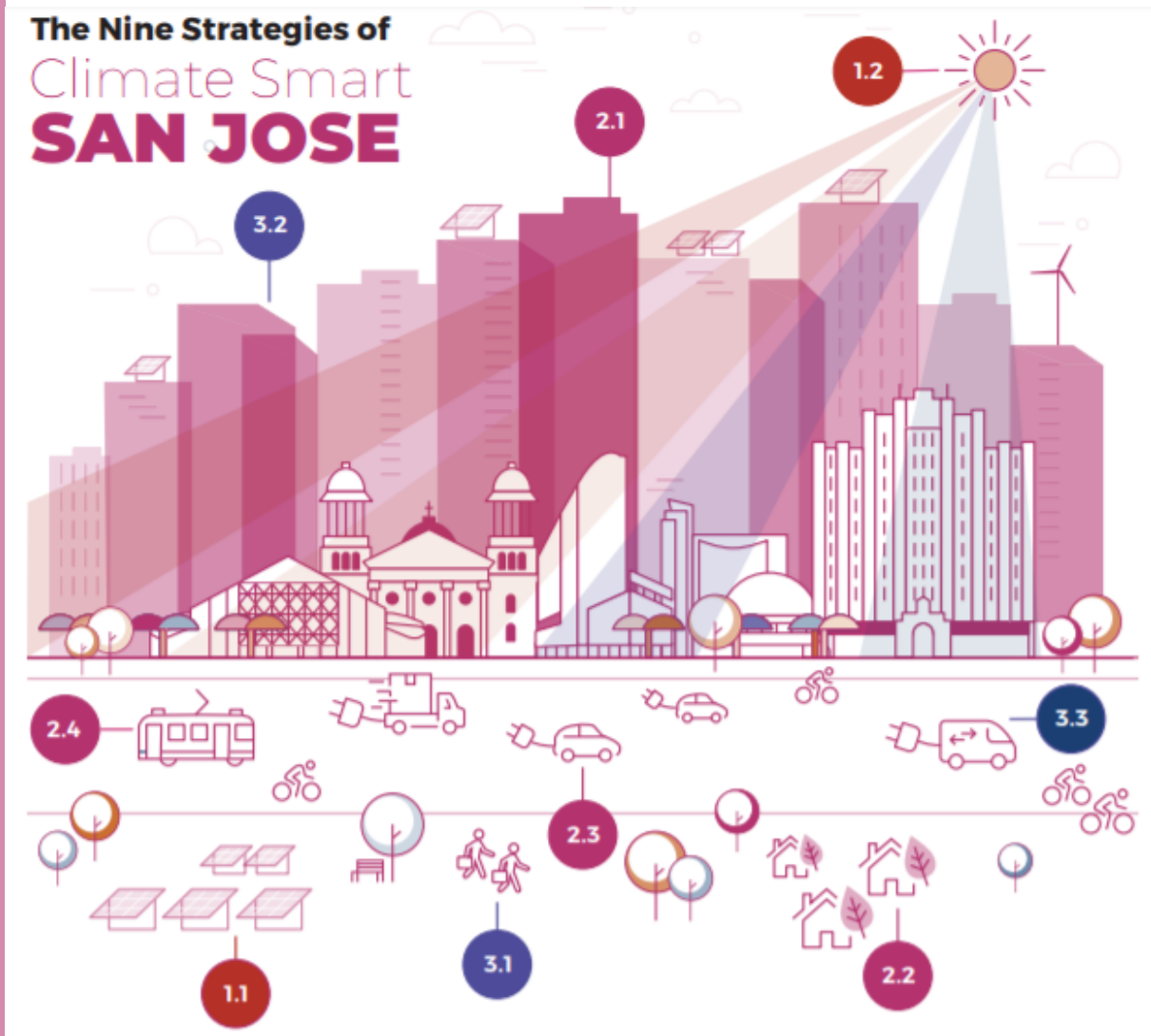
Outputs: Energy, CO2, $ saving

[2](Climate Smart, Business as Usual) - EMFAC
[3] - Derived from San Jose GHG Inventory
[4](BAU) - Bay Area, Plug-In Electric Vehicle Readiness Plan - BAAQMD
N.b. - electric vehicle charging infrastructure has been modelled but excluded from this worked example for simplicity

ECONOMIC COST BENEFIT ANALYSIS



THE BUILDING BLOCKS OF CLIMATE SMART SAN JOSE



1.1 Transitioning to a renewable energy future provides clean electricity that supplies the entire city

2.1 Densifying our city in focused growth areas increases walkability and cycling and also makes our neighbor-hoods more vibrant, distinctive, and enjoyable

2.3 New technology can enable clean, electric, and personalized mobility choices that make it convenient to move between any two points in the City

3.1 Creating local jobs in our City makes it possible for our residents to work close to where they live, saving time, money, and gas spent commuting

3.3 Moving commercial goods through our City more efficiently with new technology and fleet management practices

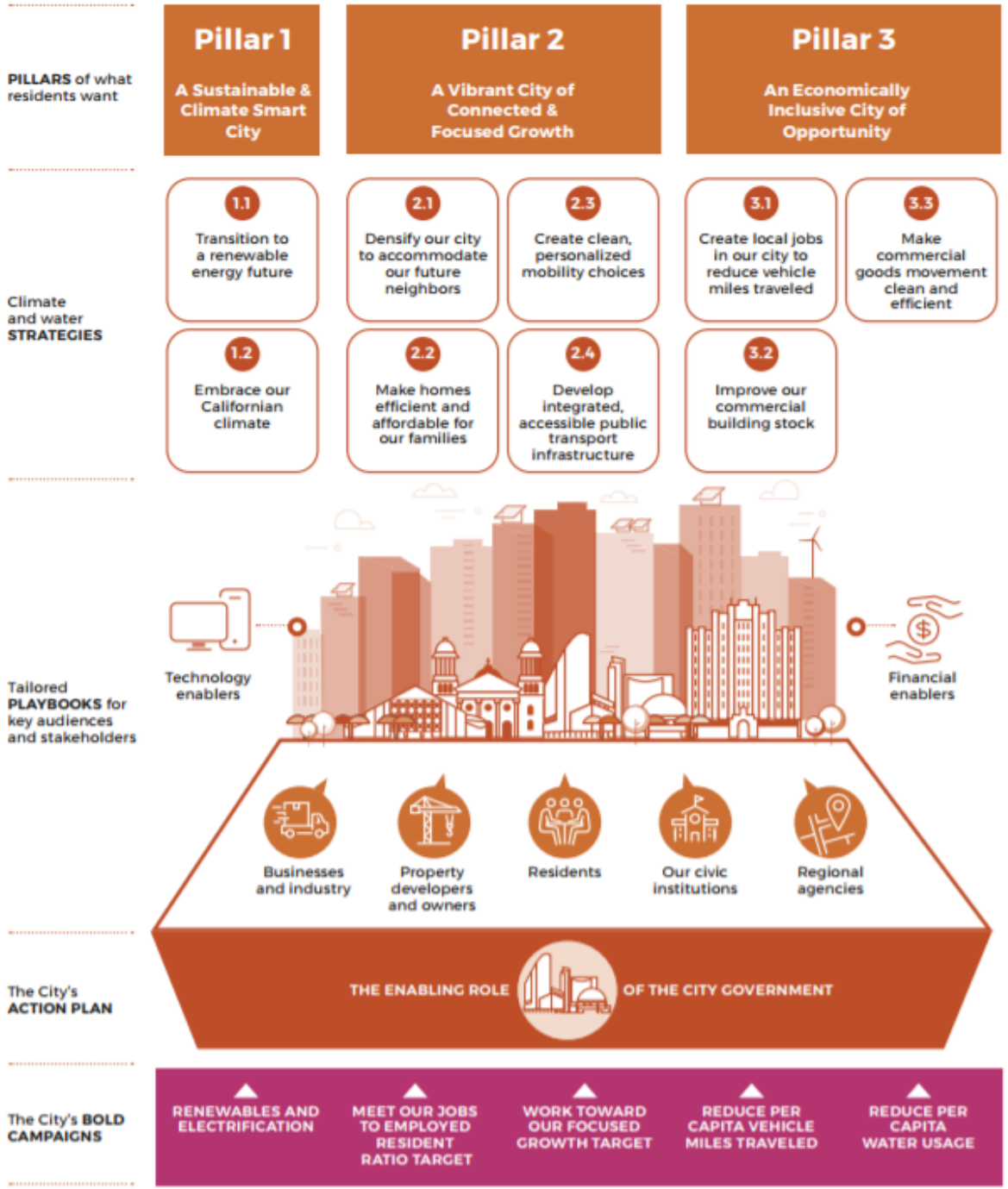
1.2 Embracing our Californian climate means creating an urban landscape, in our homes and public places, that is not just low water use, but attractive and enjoyable

2.2 Making our homes energy efficient and fully electric can make them affordable for our families and more comfortable to live in

2.4 Developing integrated, accessible public and active transport infra-structure reduces the dependency on the car to move within the City

3.2 Making our commercial buildings high-performance and siting them close to transit lowers water and energy use

THE BUILDING BLOCKS OF CLIMATE SMART SAN JOSE



San José will create SJCE, a community choice energy (CCE) program that will make 100 percent carbon-free electricity available as a base offering to all users in the city by 2021.

Good Life Benefits for Our City

By creating its own electricity service provider in the form of SJCE, the people of San José will have direct control over how much they pay and where their energy comes from. Households generating energy through on-site solar panels will also stand to receive benefits from the sale of distributed energy through net energy metering.

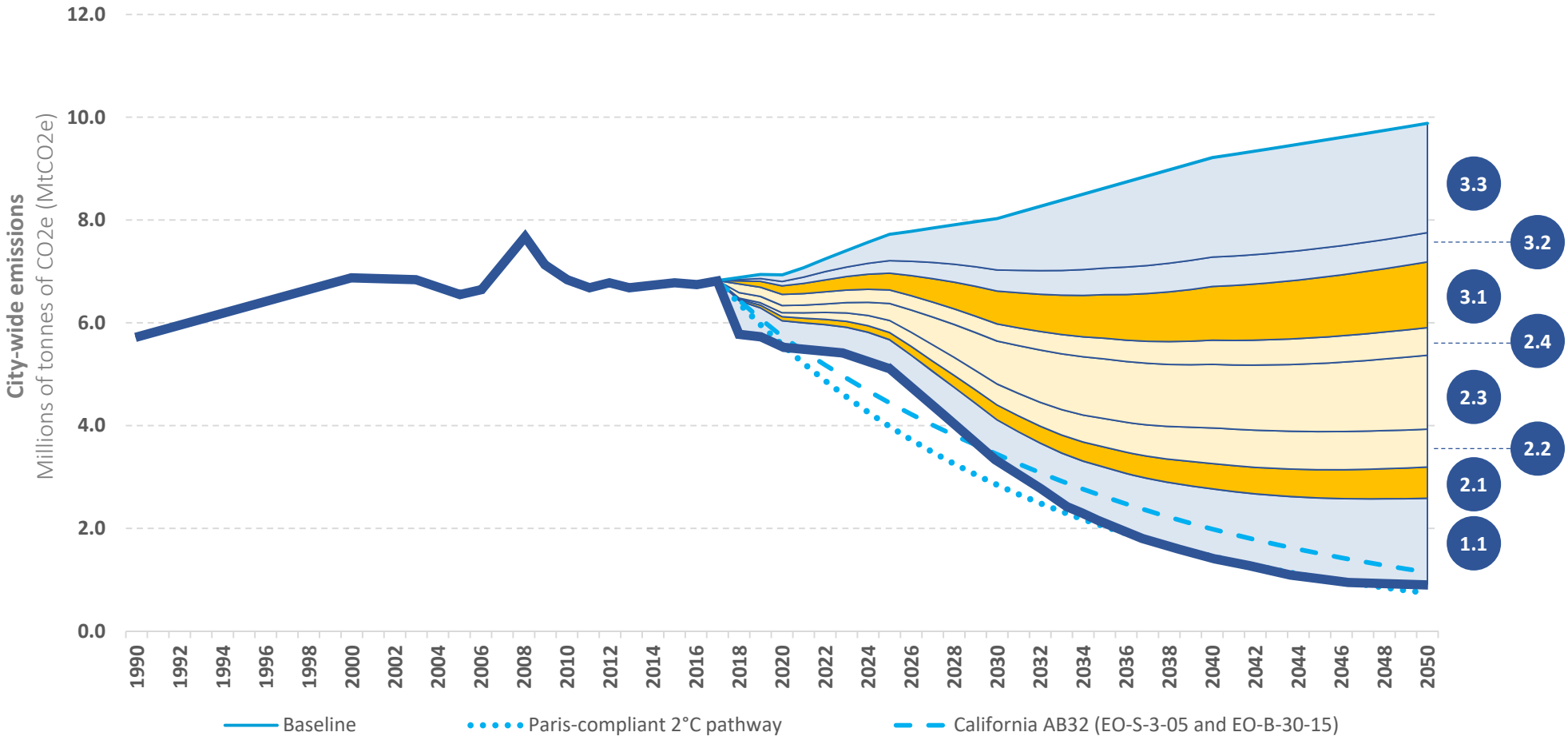
Our Leadship to Date

In our 2007 San José Green Vision (Green Vision), we committed to receive 100 percent of our electrical power from clean, renewable sources. Ten years later, in May 2017, the city council voted unanimously to establish SJCE, making San José the largest city with a CCE program in the country with the option to choose the level of renewable power. Combined with 131 MW of distributed solar generating capacity in the city, San José is well-placed to transition to a renewable energy future.

Low-Carbon Growth Milestones

INDICATORS	CARBON REDUCTIONS	RENEWABLE ENERGY	LOCAL RENEWABLES
METRICS	Emissions reduction from this strategy	Share of eligible renewable energy generation provided by SJCE	Amount of renewable energy capacity installed in San José
PROGRESS MILESTONES	Thousands of tons of carbon reduced per year	Percentage of SJCE's power mix	Installed capacity of local renewables (MW)
TODAY	-	-	131
2030	784	60%	668
2040	1,341	87%	1,113
2050	1,666	100%	1,430

CONTRIBUTIONS OF ALL STRATEGIES TO THE PARIS PATHWAY

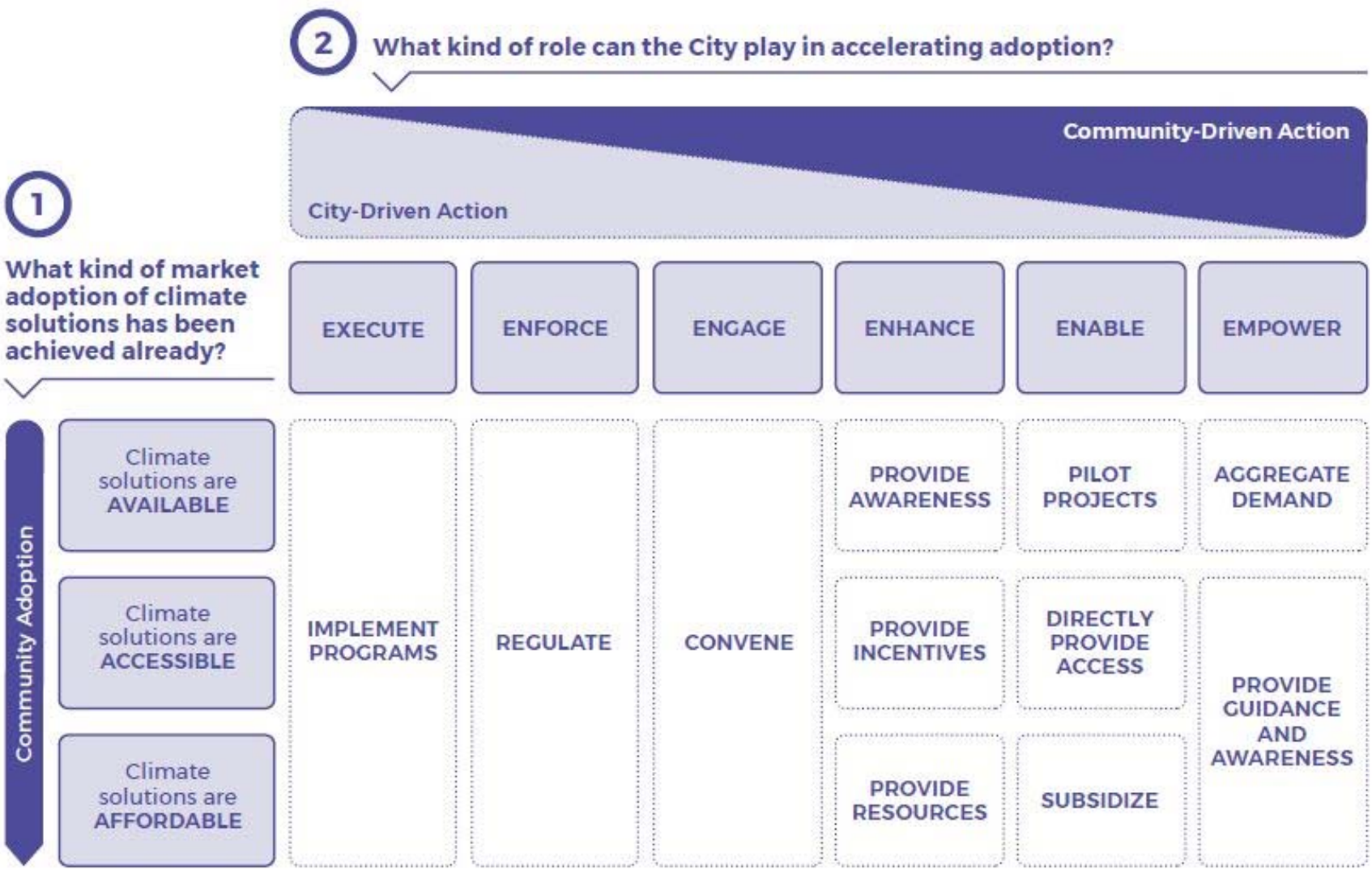


- 1.1 Transition to a renewable energy future
- 2.1 Densify our city to accommodate our future neighbors
- 2.2 Affordable, efficient homes for our families
- 2.3 Create clean, personalized mobility choices
- 2.4 High quality, accessible public transit infrastructure
- 3.1 Create good jobs in our city
- 3.2 Improve our commercial building stock
- 3.3 Make commercial goods movement clean and efficient

4

HOW SJ CITY HALL AND THE COMMUNITY CAN IMPLEMENT CLIMATE SMART SAN JOSE

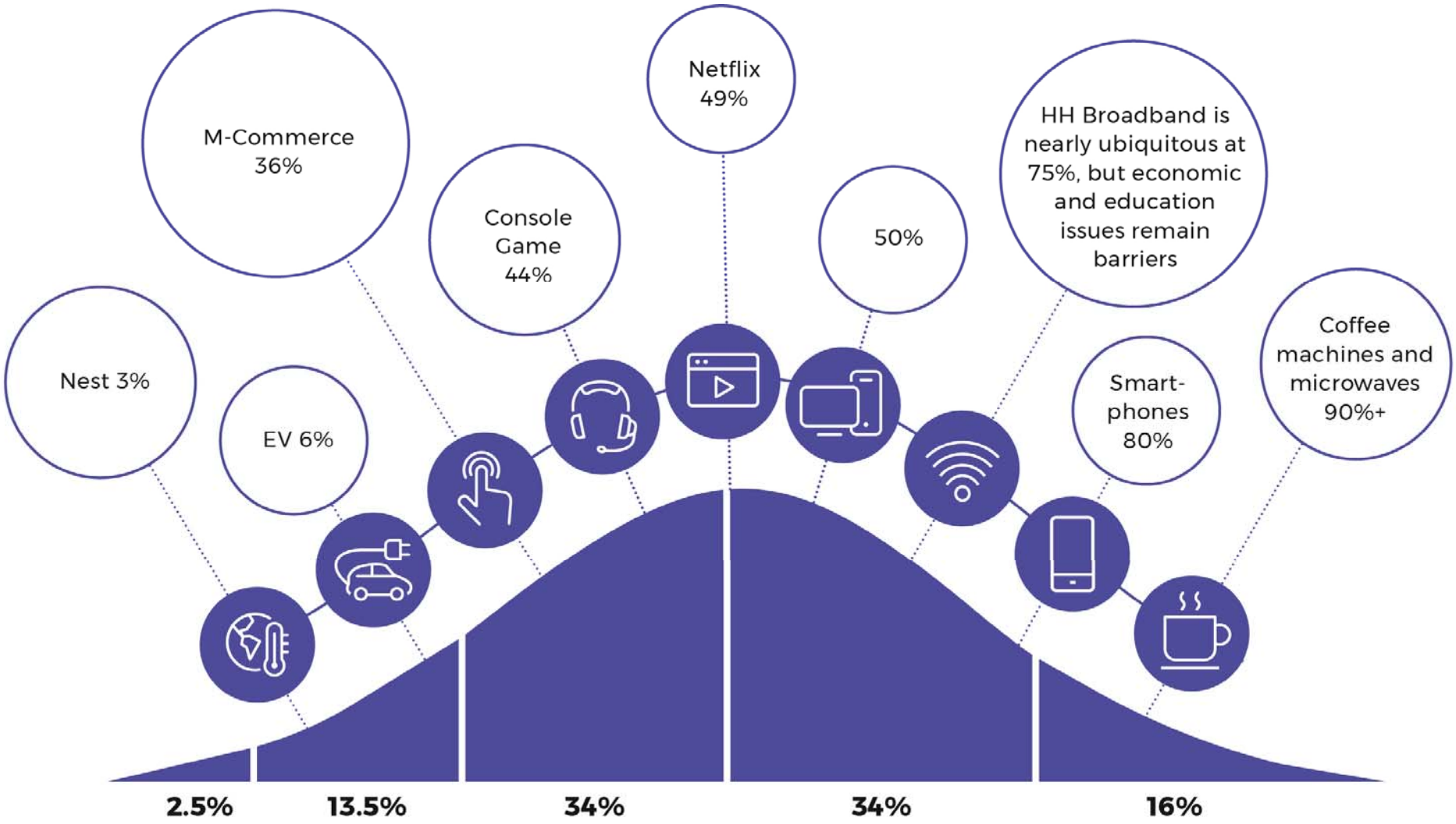
ROLES: CITY HALL AND THE COMMUNITY



CITY ACTION PLAN – EXAMPLES OF ACTIONS CITY HALL CAN TAKE

FOCUS AREA	OPTIONS FOR SUPPORTING CITY ACTIONS	LEAD DEPARTMENTS
SAN JOSÉ CLEAN ENERGY	Run program to stand up SJCE which will provide the community a choice in their electricity provider. **EXISTING**	DCE
	Support legislative and regulatory items that further the city's transition to renewable energy.	DCE
ENABLE FINANCING	Evaluate options such as performance-based electric rates and on-bill financing to incentivize fully-electric homes.	DCE
	Evaluate feed-in tariff program options where SJCE pays for excess residential and/or commercial solar generation.	DCE
	Provide guidance and explore improvements to energy efficiency financing options, especially for commercial businesses.	ESD

PROGRESS THROUGH THE ADOPTION CURVE




2005
Rapid mass market adoption of sustainable products and technologies
Luca Bruno / AP
2013
NBC NEWS
Michael Sohn / AP

5th Ave New York City, April 15, 1900

1900: Where is THE CAR?

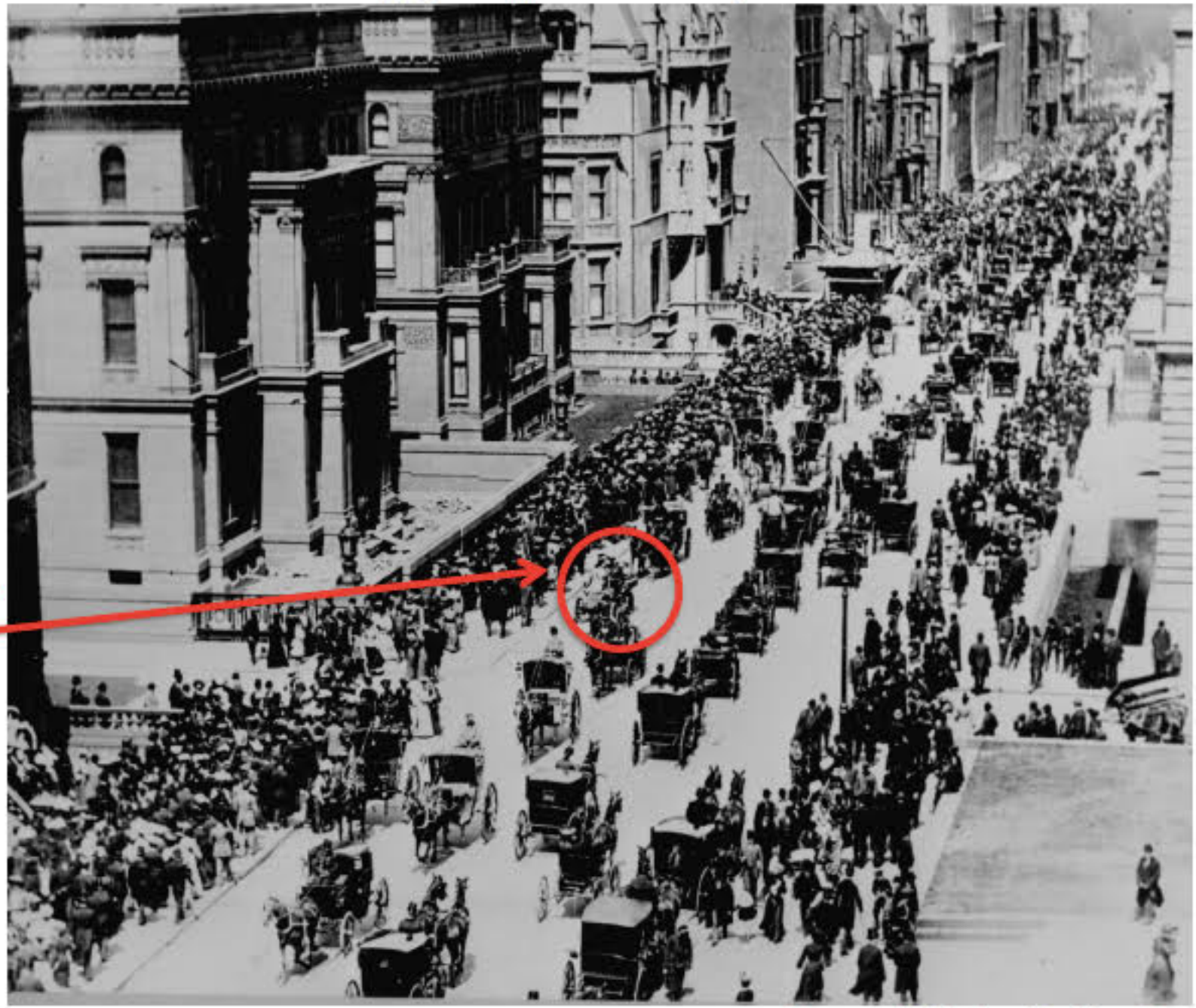


Photo: Fifth Ave NYC on Easter Morning 1900

Source: US National Archives from (Wikipedia)

5th Ave New York City, March 23, 1913

1913: Where is THE HORSE?

Photo: Easter 1913, New York. Fifth Avenue looking north. George Grantham Bain Collection

Source: shorpy.com

PLAYBOOKS DESIGNED TO GIVE A FOCUSED SHORTLIST OF ACTIONS THAT RESIDENTS CAN ADOPT

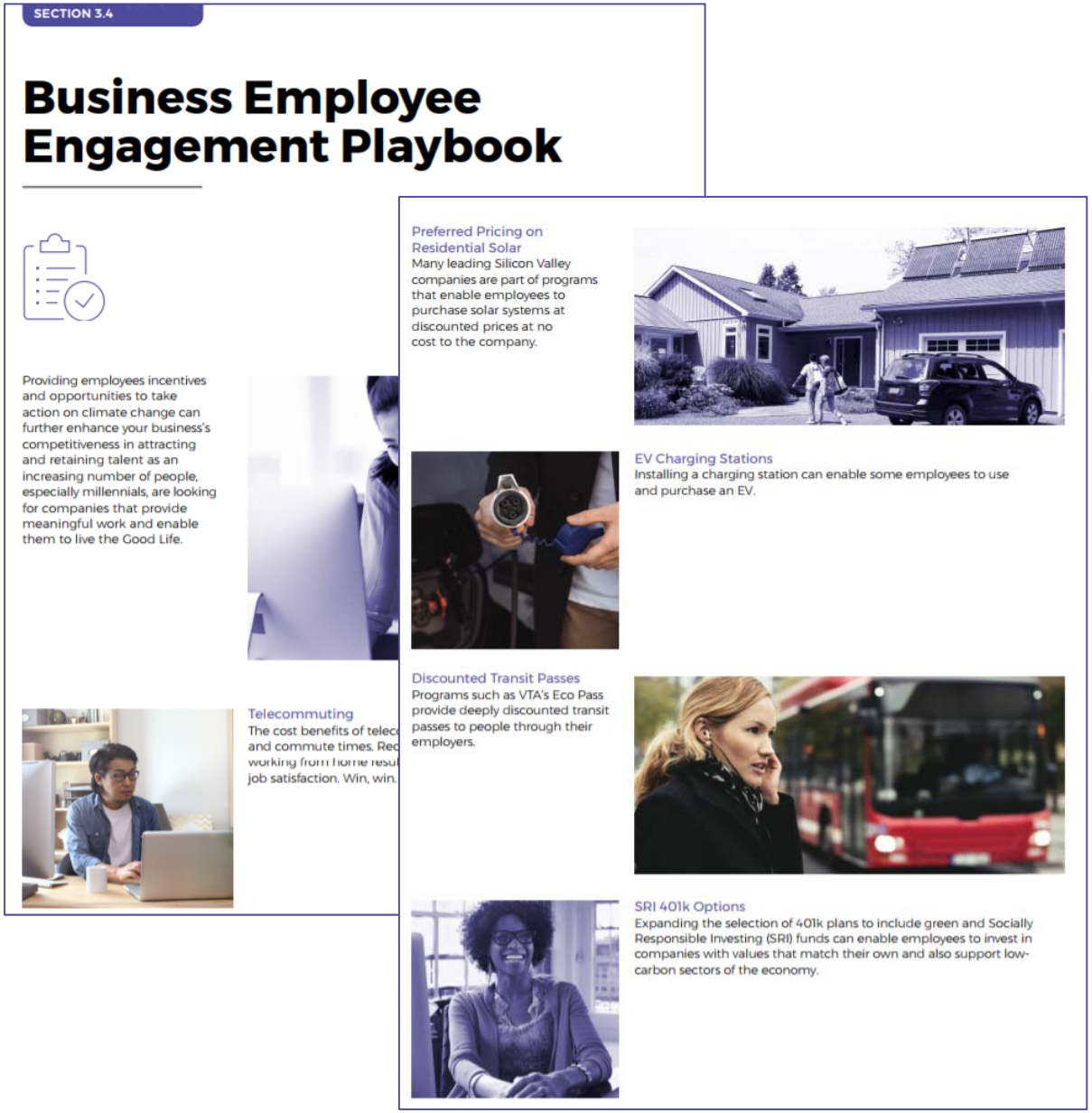
Highlights:

- Live close to where you work
- Automate efficiency
- Walk, bike, carpool and take public transit
- Conserve water

PLAYBOOKS DESIGNED TO GIVE A FOCUSED SHORTLIST OF ACTIONS THAT BUSINESSES CAN ADOPT

Highlights:

- Locate your businesses close to where your employees work
- Telecommuting where possible
- SRI 401ks



SECTION 3.4

Business Employee Engagement Playbook

Providing employees incentives and opportunities to take action on climate change can further enhance your business's competitiveness in attracting and retaining talent as an increasing number of people, especially millennials, are looking for companies that provide meaningful work and enable them to live the Good Life.

Telecommuting
The cost benefits of telec
and commute times. Rec
working from home resu
job satisfaction. Win, win.

Preferred Pricing on Residential Solar
Many leading Silicon Valley companies are part of programs that enable employees to purchase solar systems at discounted prices at no cost to the company.

EV Charging Stations
Installing a charging station can enable some employees to use and purchase an EV.

Discounted Transit Passes
Programs such as VTA's Eco Pass provide deeply discounted transit passes to people through their employers.

SRI 401k Options
Expanding the selection of 401k plans to include green and Socially Responsible Investing (SRI) funds can enable employees to invest in companies with values that match their own and also support low-carbon sectors of the economy.

PLAYBOOKS DESIGNED TO GIVE A FOCUSED SHORTLIST OF ACTIONS THAT AGENCIES CAN ADOPT

- VTA
- CPUC
- SCVWD
- PG&E
- BART
- And many others

Civic & Regional Agency Playbook

PILLAR 1: A SUSTAINABLE & CLIMATE-SMART CITY	
1.1 TRANSISTION TO A RENEWABLE ENERGY FUTURE San José will create San José Clean Energy (SJCE), a community choice aggregation, that will make 100 percent carbon-free electricity available as a base offering to all users in the city by 2021.	**CEC, PUC, PG&E, BayREN:** Partner on acceptance of small-scale feed-in tariffs for distributed solar. **NGOs:** Support installation of solar for low-income communities.
1.2 EMBRACE OUR CALIFORNIAN CLIMATE San José will effectively employ sustainable use practices of local water and green infrastructure to achieve a 30 percent reduction in residential water consumption to 42 gallons per day per capita by 2030.	**SCVWD:** Continue to invest in expanding incentives for conservation efforts and regional water storage. **Water agencies and NGOs:** Connect people with resources, including training, to do climate-smart landscaping.

PILLAR 2: A VIBRANT CITY OF CONNECTED & FOCUSED GROWTH	
2.1 DENSIFY OUR CITY TO ACCOMMODATE OUR FUTURE NEIGHBORS San José will embrace its expected 319,000 additional residents through managed, mixed-use densification around its urban villages.	**NGO:** Support developers of dense housing and office projects in urban villages during entitlement process. Advocate for housing at all price points and safe, comfortable places to walk.
2.2 MAKE HOMES EFFICIENT AND AFFORDABLE FOR OUR RESIDENTS All new homes built in San José from 2020 will be ZNE, and existing homes will be retrofitted to reduce their energy consumption and eliminate their use of natural gas.	**NGO:** Support cities and developers in being able to design and construct homes that meet or exceed Title 24 and CalGreen standards. Help make resources available for lower income communities to take advantage of the kind of retrofits needed. **PG&E, BayREN, CEC:** Provide funding and resources for energy efficiency and potential energy storage.
2.3 CREATE CLEAN, PERSONALIZED MOBILITY CHOICES San José will work to develop clean, personalized, and shared mobility choices, reducing single-passenger gasoline-car use through a combination of bike- and ridesharing, passenger vehicle electrification and, in the future, autonomous vehicles.	**CalTrans, MTA, CARB:** Create commercial transit policies that accelerate the development and adoption of clean, personal mobility technologies. **Biking advocates:** Continue advocating for embedded and enhanced bike networks and teaching bike safety for adults and kids.
2.4 DEVELOP INTEGRATED, ACCESSIBLE PUBLIC TRANSPORT INFRASTRUCTURE San José will continue supporting public transit infrastructure as a means of getting around the city, particularly the integration of multiple transport modes at Diridon Station.	**VTA:** Match growth of VTA network to the growth of urban villages. **BART:** Focus growth on mixed-use development at sites near stations. **BART, Caltrain, Cal High Speed Rail:** Enable efficient first-mile, last-mile connections. **All Transit:** Increase transit frequency to make it more attractive and convenient for riders. Encourage jobs to be located on the transit infrastructure.

CLIMATE SMART SAN JOSE

A People-Centered Plan for a Low-Carbon City

LIVING BETTER TODAY FOR TOMORROW

File No.: 18-0460

Agenda Date: 6/25/2018
Item No.: 4.3.

COMMITTEE AGENDA MEMORANDUM

Water Conservation and Demand Management

SUBJECT:
Review of Water Conservation and Demand Management Committee Work Plan, the Outcomes of Board Action of Committee Requests and the Committee's Next Meeting Agenda.

RECOMMENDATION:
Review the Committee Work Plan and Planning Calendar to guide the Committee's discussions regarding policy alternatives and implications for Board deliberation.

SUMMARY:
The attached Work Plan and Planning Calendar outlines the topics for discussion to be able to prepare policy alternatives and implications for Board deliberation. The work plan and planning calendar are agendized at each meeting as accomplishments are updated and to review additional work plan assignments by the Board.

BACKGROUND:

Governance Process Policy-8:
The District Act provides for the creation of advisory boards, committees, or commissions by resolution to serve at the pleasure of the Board.

The Board Ad Hoc Committee is comprised of less than a quorum of the Board and/or external members having a limited term, to accomplish a specific task, is established in accordance with the Board Ad Hoc Committee procedure (Procedure No. W723S01), and will be used sparingly. Annually, the purpose of an established Ad Hoc Committee will be reviewed to determine its relevance.

In keeping with the Board's broader focus, Board Committees will not direct the implementation of District programs and projects, other than to receive information and provide advice and comment

ATTACHMENTS:
Attachment 1: Water Conservation and Demand Management Committee 2018 Work Plan
Attachment 2: Water Conservation and Demand Management Committee August 2018 Draft Agenda

UNCLASSIFIED MANAGER:

Michele King, 408-630-2711

2018 Work Plan: Water Conservation and Demand Management Committee

Update: June 2018

The annual work plan establishes a framework for committee discussion and action during the annual meeting schedule. The committee work plan is a dynamic document, subject to change as external and internal issues impacting the District occur and are recommended for committee discussion. Subsequently, an annual committee accomplishments report is developed based on the work plan and presented to the District Board of Directors.

ITEM	WORK PLAN ITEM	MEETING	ACTION/DISCUSSION OR INFORMATION ONLY	ACCOMPLISHMENT DATE AND OUTCOME
1	**Election of Chair and Vice Chair for 2018**	2-28-18	Discussion/Action Item	**Accomplished 02/28/18:** The Committee voted to retain Director Richard P. Santos as Chair and Director Linda J. LeZotte as Vice Chair' for 2018**.**
2	**Water Conservation and Demand Management Committee 2017 Accomplishments Report**	2-28-18	Discussion	**Accomplished 02/28/18:** The Committee reviewed the 2017 work plan accomplishments and took no action**.**
3	**Develop Water Conservation and Demand Management Committee's 2018 Work Plan, in consideration of the following potential topics:** • **Current water conservation programs and resources** • **Water Supply Master Plan "No Regrets" programs** • **Shallow groundwater** • **Fixed/variable charges** • **Open Space credit** • **State's effort to Make Water Conservation a California Way of Life** • **Water Supply Reliability Level of Service Goal** ***See workplan items #5-#11 for suggested meeting dates***	2-28-18	Discussion/Action Item	**Accomplished 02/28/18:** The Committee received an overview of the 2018 work plan and added one additional item to the Climate Plan and invited the City of San Jose's Environmental Services Division (ESD) to make a presentation.

Yellow = Update Since Last Meeting

Blue = Action taken by the Board of Directors

2018 Work Plan: Water Conservation and Demand Management Committee

Update: June 2018

ITEM	WORK PLAN ITEM	MEETING	ACTION/DISCUSSION OR INFORMATION ONLY	ACCOMPLISHMENT DATE AND OUTCOME
4	**Review of Water Conservation and Demand Management Committee Work Plan, the Outcomes of Board Action of Committee Requests and the Committee's Next Meeting Agenda**	4-30-18 6-25-18 August October December	Discussion/Action Item	**Accomplished 02/28/18:** The Committee received an overview of the 2018 work plan and took no action.
5	**Water Conservation Options for Agriculture**	4-30-18	Discussion/Action Item	**Accomplished 04/30/18:** The Committee received an overview of the Water Conservation Options for Agriculture and took no action.
6	**Water Supply Reliability Level of Service Goal**	4-30-18 6-25-18	Discussion/Action Item	**Accomplished 04/30/18:** The Committee received an overview of the Water Supply Reliability Level of Service Goal and took no action, however, provided staff with comments.
7	**Current Water Conservation Programs and Resources**	4-30-18 October	Discussion/Action Item	**Accomplished 04/30/18:** The Committee received an overview of the Current Water Conservation Programs and Resources and took no action, however, provided staff with comments.

Yellow = Update Since Last Meeting

Blue = Action taken by the Board of Directors

2018 Work Plan: Water Conservation and Demand Management Committee

Update: June 2018

ITEM	WORK PLAN ITEM	MEETING	ACTION/DISCUSSION OR INFORMATION ONLY	ACCOMPLISHMENT DATE AND OUTCOME
8	**Water Supply Master Plan "No Regrets" Programs**	4-30-18 October	Discussion/Action Item	**Accomplished 04/30/18:** The Committee received an overview of the Water Supply Master Plan "No Regrets" Programs and took no action, however, provided staff with comments. If staff comes up with any cost sharing/subsidy program, bring it back to the Committee for discussion.
9	**Shallow groundwater**	6-25-18	Discussion/Action Item	
10	**Climate Plan-City of San Jose ESD-presentation**	6-25-18	Discussion/Action Item	
11	**Water Conservation Programs for the Landscape Sector**	6-25-18	Discussion/Action Item	
12	**State's effort to Make Water Conservation a California Way of Life**	August	Discussion/Action Item	
13	**Fixed/variable charges**	August	Discussion/Action Item	
14	**Update on Direct Potable Reuse-Treatment Plant/Reservoir (per 4-30-18, public comment request-D. Muirhead)**	October	Discussion/Action Item	

Yellow = Update Since Last Meeting

Blue = Action taken by the Board of Directors

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DRAFT AGENDA

WATER CONSERVATION AND DEMAND MANAGEMENT COMMITTEE

AUGUST 2018 (TBD)

10:00 a.m. - 12:00 p.m.

Santa Clara Valley Water District
Headquarters Building Boardroom
5700 Almaden Expressway
San Jose, CA 95118

Time Certain
10:00 a.m.

1. Call to Order/Roll Call

2. Time Open for Public Comment on Any Item Not on the Agenda
Comments should be limited to two minutes. If the Committee wishes to discuss a subject raised by the speaker, it can request placement on a future agenda.

3. Approval of Minutes
3.1 Approval of Minutes – June 25, 2018, meeting

4. Discussion/Action Items
4.1 State's effort to Make Water Conservation a California Way of Life (Jerry De La Piedra/Rachael Gibson)
Recommendation: This is a discussion item and the Committee may provide comments, however, no action is required.

4.2 Fixed/variable charges (Darin Taylor)
Recommendation: This is a discussion item and the Committee may provide comments, however, no action is required.

4.3 Review of Water Conservation and Demand Management Committee Work Plan, the Outcomes of Board Action of Committee Requests and the Committee's Next Meeting Agenda (Committee Chair)
Recommendation: Review of Water Conservation and Demand Management Committee Work Plan, any Outcomes of Board Action or Committee Requests and the Committee's Next Meeting Agenda.

5. Clerk Review and Clarification of Committee's Requests
This is an opportunity for the Clerk to review and obtain clarification on any formally moved, seconded, and approved requests and recommendations made by the Committee during discussion of Item 4.

6. Adjourn: Adjourn

REASONABLE EFFORTS TO ACCOMMODATE PERSONS WITH DISABILITIES WISHING TO ATTEND COMMITTEE MEETINGS WILL BE MADE. PLEASE ADVISE THE CLERK OF THE BOARD OFFICE OF ANY SPECIAL NEEDS BY CALLING (408) 630-2277.

Meetings of this committee will be conducted in compliance with all Brown Act requirements. All public records relating to an open session item on this agenda, which are not exempt from disclosure pursuant to the California Public Records Act, that are distributed to a majority of the legislative body will be available for public inspection at the same time that the public records are distributed or made available to the legislative body, at the following location:

Santa Clara Valley Water District, Office of the Clerk of the Board
5700 Almaden Expressway, San Jose, CA 95118

Water Conservation and Demand Management Committee:
Purpose: To support the Board of Directors in achieving its policy to provide a reliable water supply to meet current and future water usage by making policy recommendations related to demand management.

File No.: 18-0457

Agenda Date: 6/25/2018
Item No.: 5.1.

COMMITTEE AGENDA MEMORANDUM

Water Conservation and Demand Management

SUBJECT:
Shallow Groundwater.

RECOMMENDATION:
This is an information only item and no action is required.

SUMMARY:
Groundwater underlying the Santa Clara Valley occurs in shallow aquifers with relatively little pumping, and in deeper aquifers where most pumping occurs. Where building foundations or other infrastructure encounter shallow groundwater, temporary or ongoing dewatering may be required. Construction activities requiring dewatering are permitted by land use agencies, which may impose related restrictions. Generally, only a small fraction of flow from shallow groundwater dewatering is reused -- for various reasons, including the often-temporary nature of dewatering, lack of infrastructure, and marginal water quality.

As requested by the Committee, this memo provides information on shallow groundwater discharges, including related District authority and influence, which are limited. Per the District Act, the District has no authority to charge for dewatered water unless the water is sold or put to beneficial use. Furthermore, the District cannot regulate the construction or use of dewatering wells unless there is a likely threat to groundwater resources.

Shallow groundwater often discharges to creeks, San Francisco Bay, or adjacent aquifers, and most water pumped during dewatering returns to these systems via storm drains or creek discharges. Despite temporary and ongoing dewatering activities, groundwater conditions are sustainable throughout Santa Clara County. However, the Committee may wish to explore working with land use agencies and others to develop policy related to shallow groundwater reuse.

BACKGROUND:

Information on shallow groundwater occurrence, pumping, and regulation is provided below.

Groundwater Occurrence

The primary subbasins in Santa Clara County are the Santa Clara and Llagas subbasins. Groundwater generally follows surface water patterns, flowing toward San Francisco Bay in the Santa Clara Subbasin and the Pajaro River in the Llagas Subbasin. Groundwater recharge areas

occur along the higher-elevation subbasin margins where gravels and sands are more predominant (Attachment 1). Within the recharge areas, groundwater occurs under water table, or unconfined, conditions. At various locations above the water table, perched groundwater may occur on a temporary or permanent basis above discontinuous lenses of lower-permeability silts and clays.

Confined areas occur in the subbasin interior, where laterally-extensive and relatively impermeable aquitards comprised of silts and clays restrict the downward movement of water. These aquitards separate aquifer deposits into shallow and principal aquifer zones, which generally occur above and below depths of about 150 feet, respectively. Like the recharge area, shallow groundwater may occur under water table or perched conditions. Shallow groundwater generally flows laterally toward a discharge point such as a creek, San Francisco Bay, or an adjacent aquifer. In deeper, principal aquifer zones, groundwater is confined and occurs under pressure, with water levels often higher than those in shallow zones. Attachment 2, which shows the depth to groundwater for several wells of varied depths in Palo Alto, shows that groundwater levels can be markedly different between aquifer zones, indicating the lack of a strong, vertical hydrogeologic connection.

Attachment 3 is a generalized map of the shallowest groundwater observed based on data from contaminant release sites and other monitoring wells. As shown, shallow groundwater is known to occur at several locations throughout the county, with depth to water less than 10 feet in many locations. In some areas, like many creeks near San Francisco Bay, groundwater discharge to creeks is observed.

Groundwater Pumping and Dewatering

Most pumping in the county is from deeper, principal aquifer zones. Shallow pumping primarily supports groundwater remediation, limited domestic/agricultural use, and dewatering. Temporary and ongoing dewatering represent a small component of overall subbasin outflows compared to pumping for beneficial use. For example, temporary dewatering within Palo Alto, an area experiencing increased basement construction, was approximately 350 acre-feet in 2017, while Santa Clara Subbasin groundwater pumping averages about 92,000 acre-feet annually.

Groundwater pumping for beneficial use is metered or estimated within the District's groundwater charge zones, which largely coincide with the subbasins. The volume of pumping from dewatering is unknown since wells used for the purpose of dewatering excavations are exempt from well construction regulation under the California Water Code. Shallow groundwater conditions persist in some areas due to natural geology and because there is little demand for water from these zones. Despite temporary and ongoing dewatering activities, groundwater conditions are sustainable throughout the subbasins.

Authority Related to Dewatering

Activities that typically require dewatering are permitted by land use agencies, which may impose related restrictions. For example, the City of Palo Alto limits the duration of dewatering, encourages

reuse, and requires site-specific studies or features to reduce dewatering volume. Some locations experience sustained shallow groundwater conditions, and the overlying land use may require ongoing dewatering. Dewatering discharges to creeks or other surface water bodies are also regulated through National Pollution Discharge Elimination System (NPDES) permitting to ensure water quality in receiving waters is protected.

Per the District Act, the District has the authority to levy and collect groundwater charges for the production of groundwater within District groundwater charge zones. However, the District Act definition of “production” exempts water incidentally produced during excavation, unless the water is sold or used for a beneficial purpose. Because dewatering is incidental to excavation activities, there is no groundwater “production” for which the District may levy a charge.

In general, the District has no authority to regulate land use. The District’s authority is derived from the District Act and other statutes adopted by the Legislature. The District does have the authority to regulate the construction and abandonment of wells to protect groundwater quality. The District’s Well Ordinance Program helps ensure that wells and other deep excavations are properly constructed, maintained, and destroyed to prevent the vertical transport of water of poor quality into deeper aquifers used for drinking water. While the District regulates well construction, “wells used for the purpose of dewatering excavation during construction” are exempt from regulation per Water Code Section 13710.

Under the Sustainable Groundwater Management Act (SGMA), the District is a Groundwater Sustainability Agency with jurisdiction over the Santa Clara and Llagas subbasins. The District manages those subbasins to avoid “undesirable results” defined by the Legislature as:

(1) Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply if continued over the planning and implementation horizon.
(2) Significant and unreasonable reduction of groundwater storage.
(3) Significant and unreasonable seawater intrusion.
(4) Significant and unreasonable degraded water quality, including the migration of contaminant plumes that impair water supplies.
(5) Significant and unreasonable land subsidence that substantially interferes with surface land uses.
(6) Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water.

If an activity, including construction dewatering, is likely to cause an undesirable result, the District may regulate groundwater extractions under SGMA, so long as its actions are consistent with the land use agency’s general plan. Temporary and ongoing dewatering have not been determined to constitute an "undesirable result" under SGMA.

Shallow Groundwater Reuse

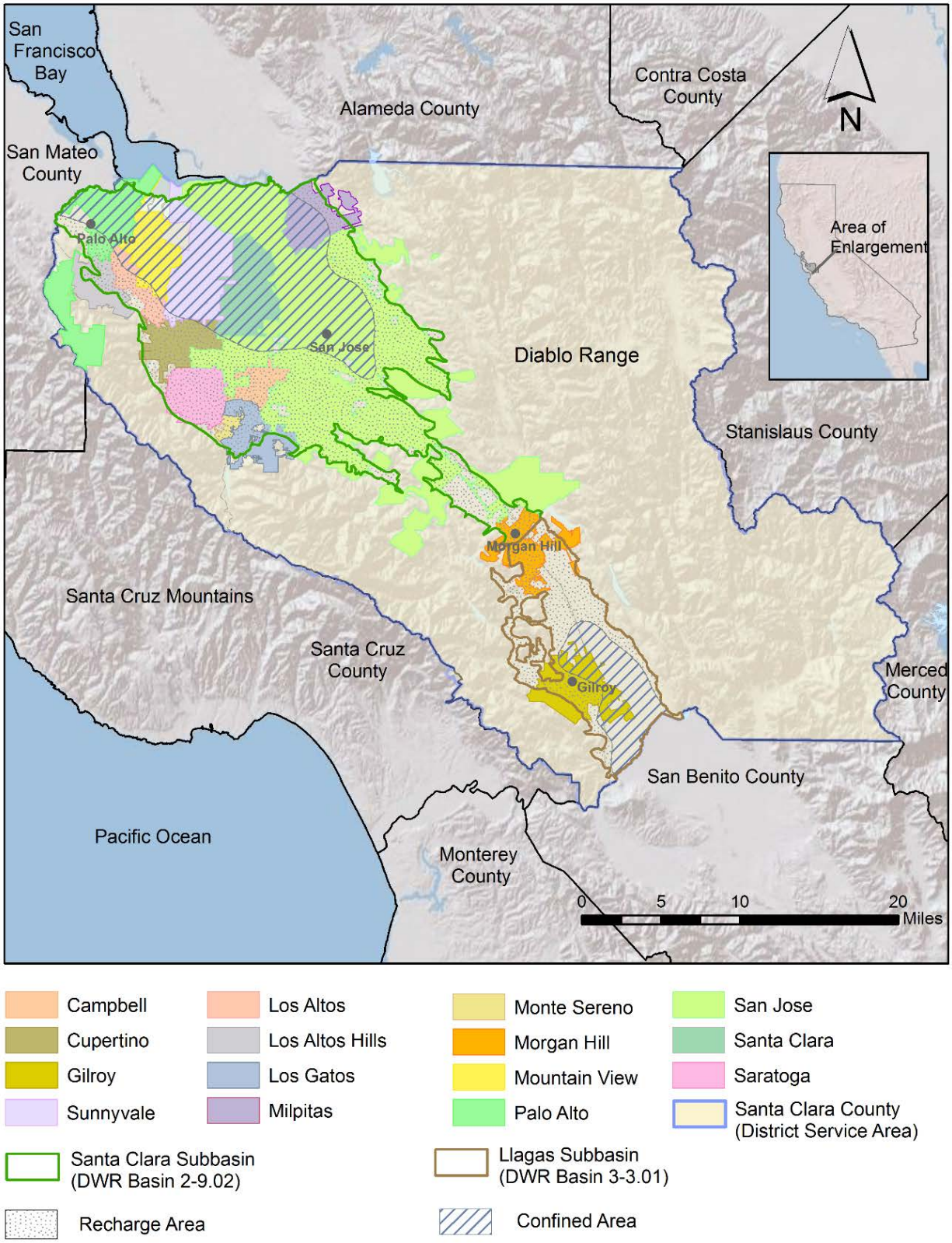
Shallow groundwater is typically not used for beneficial use due to often-unreliable yield and because it is generally of poorer quality than water in principal aquifers. Contaminant release sites from

leaking underground fuel tanks and industrial spills are widespread throughout shallow aquifers, with over 600 open soil/groundwater remediation sites in the county. The feasibility of using shallow groundwater for beneficial use has been explored through the District's Water Supply Master Plan and other efforts, but has not been recommended for implementation due to uncertain long-term yield, high infrastructure and treatment costs, and other challenges. However, the Committee may wish to explore working with land use agencies and others to develop policy related to shallow groundwater reuse.

ATTACHMENTS:
Attachment 1: Map of the Santa Clara and Llagas Subbasins
Attachment 2: Groundwater Elevations in Shallow and Deep Aquifer Zones
Attachment 3: Generalized Map of Depth to First Groundwater

UNCLASSIFIED MANAGER:
Garth Hall, 408-630-2750

Map of the Santa Clara and Llagas Subbasins



Sources: California Department of Water Resources, Santa Clara Valley Water District
May 2018

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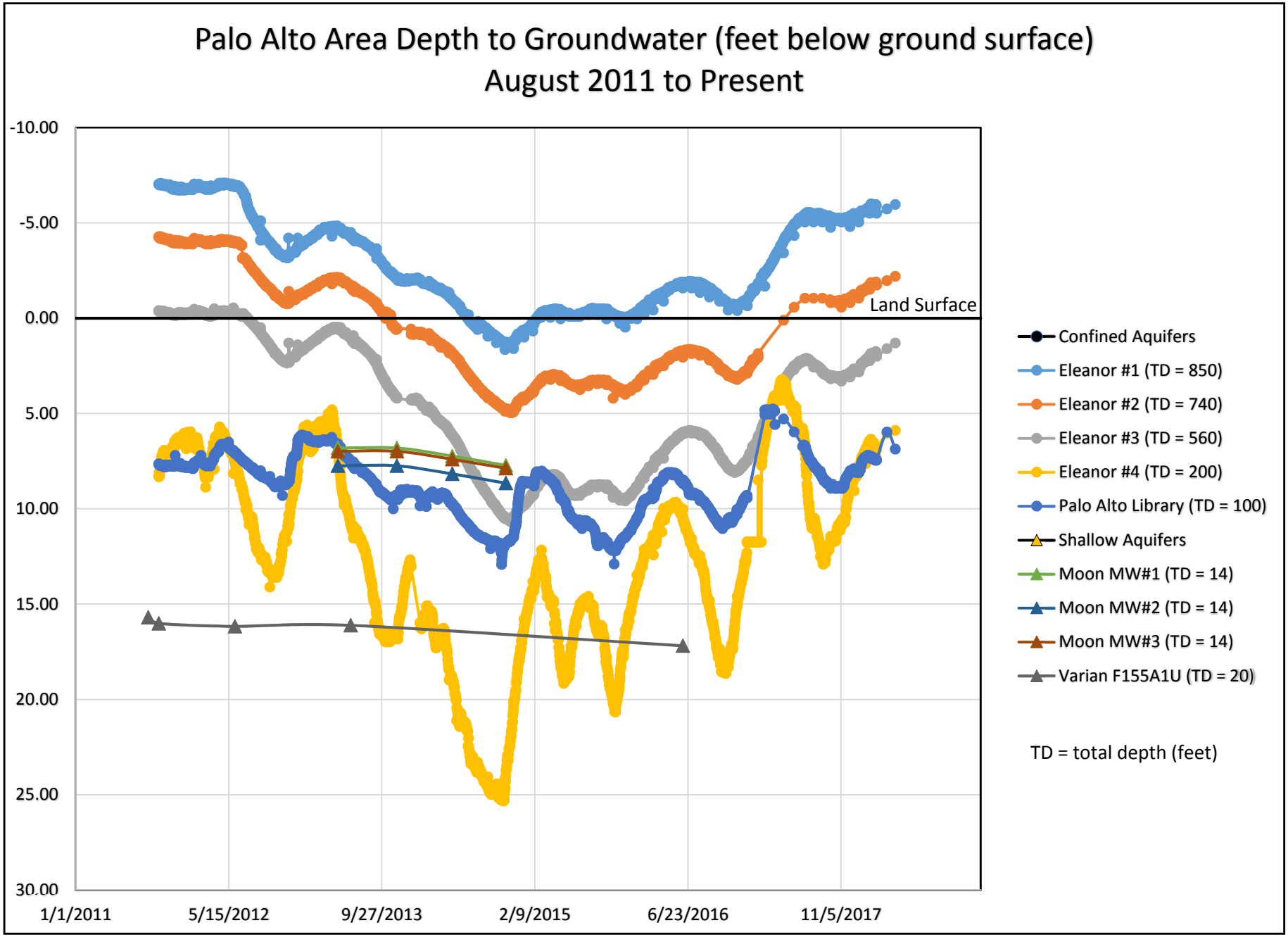
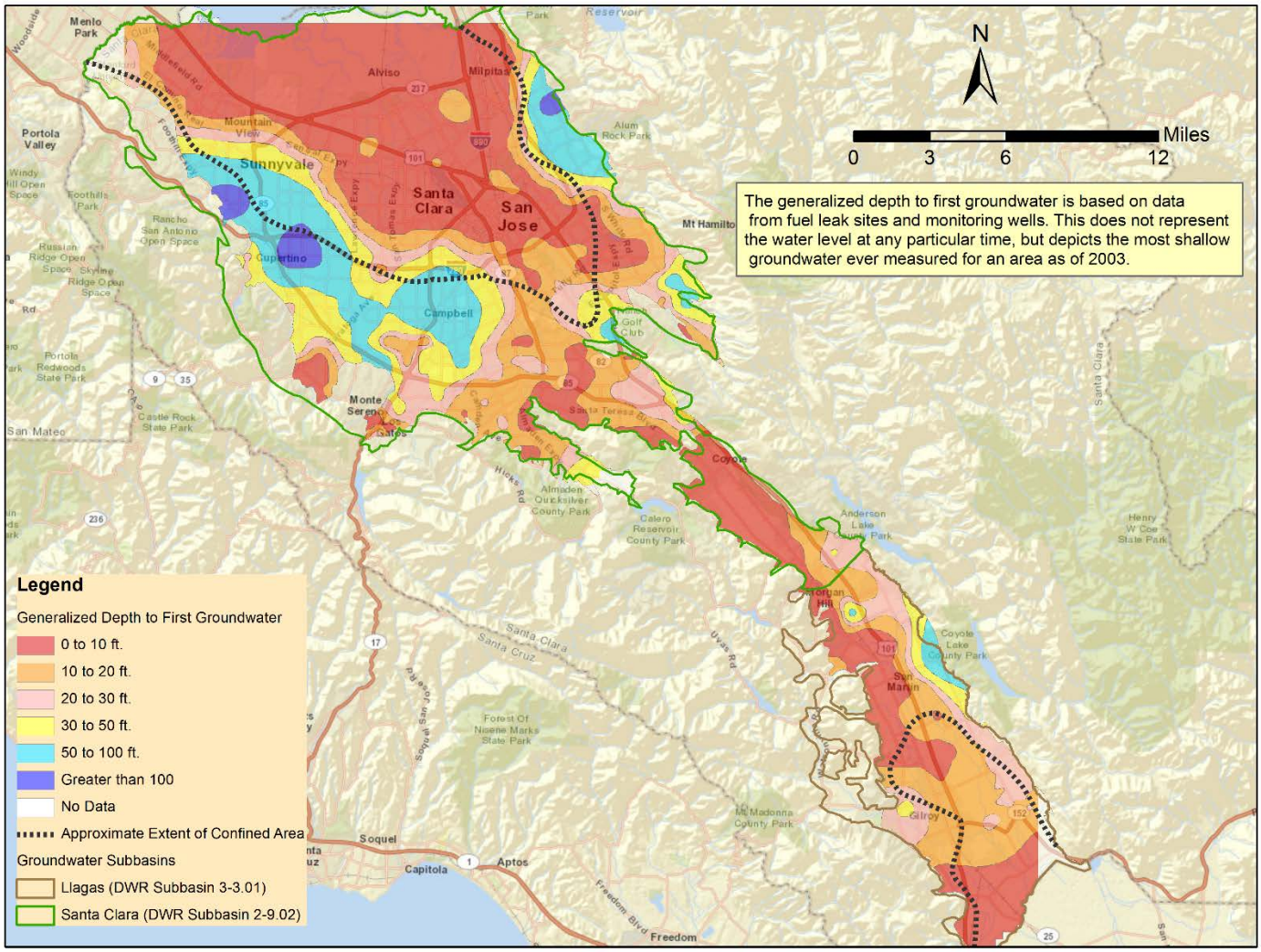


Sources: California State Water Resources Control Board GeoTracker, Santa Clara Valley Water District
May 2018

Well Sites Used for Water Level Hydrographs - Palo Alto Area

Sources: California State Water Resources Control Board GeoTracker, Santa Clara Valley Water District
May 2018

Generalized Map of Depth to First Groundwater



Source: Santa Clara Valley Water District (2003)

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File No.: 18-0459

Agenda Date: 6/25/2018
Item No.: 5.2.

COMMITTEE AGENDA MEMORANDUM

Water Conservation and Demand Management

SUBJECT:
Water Conservation Programs for the Landscape Sector.

RECOMMENDATION:
This is an information only item and no action is required.

SUMMARY:
During the Board's May 8, 2018 meeting on the California WaterFix, a member of the public spoke of his company's "highly-effective" water conservation tool and how it's being underutilized by water agencies. The service the gentleman was referring to is offered by GreenLeaf: <https://www.greenleaf.com/main/index.asp>.

At the end of the meeting Director Hsueh asked that staff bring this topic to the Water Conservation & Demand Management Committee for discussion.

BACKGROUND:

GreenLeaf provides online water management services to assist property owners/managers and landscape professionals to become more efficient with their water use. Their system uses customer-provided information on plants, soil, slope, and irrigation equipment to develop a monthly irrigation plan. The system can provide alerts to adjust the schedule based on weather and other factors. If actual water use data is entered, the system will provide an analysis of actual water use versus recommended water use and of water and cost savings.

Staff has long recognized the importance of irrigation scheduling/water budgets, along with other landscape programs, as a water conservation tool. Over the last 15+ years, the District has offered numerous landscape water conservation programs, including free workshops and trainings for the public and landscape professionals; landscape certification programs such as the California Landscape Contractors Association (CLCA) Water Management Certification Program and the Qualified Water Efficient Landscaper (QWEL) certification program; free educational materials and publications; District sponsored legislation to establish water use efficiency standards for irrigation equipment; rebates for lawn conversion and efficient irrigation equipment; design and maintenance assistance programs; and a water management/budget program for large landscapes (currently offered through WaterFluence: <https://www.waterfluence.com/>). The latter is a free service to the

public and includes calculating a site-specific monthly water budget and on-site evaluations for sites that wish to improve their efficiency. The District also has numerous resources available on its website, including links to assist homeowners with irrigation scheduling (under "Irrigation Information": <https://www.valleywater.org/saving-water/landscaping>).

As several of these programs are similar to the services offered by GreenLeaf, the District has not contracted with GreenLeaf in the past. However, over the last few years, GreenLeaf has indicated they will be looking to expand their services into the residential sector. This concept may be a good candidate for the Safe, Clean Water-funded Water Conservation Research Grant Program, where the District provides funding to pilot test new and innovative technologies and programs

ATTACHMENTS:
None.

UNCLASSIFIED MANAGER:
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