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BrandOutlook

May 31, 2024

ADEQ Arizona Department of Environmental Quality

Final Report – 2024 Quantitative Research

Regarding Advanced Water Purification (AWP)

Project Overview

- Objectives, Methodology, Survey Flow

Executive Summary

Key Findings

- Perceptions about the Arizona Water Situation
- Current Water Consumption
- Perceptions about Advanced Water Purification (AWP)
- AWP Adoption Barriers & Influencers
- Outreach Strategies

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Project Overview

The Arizona Department of Environmental Quality (ADEQ) is working to develop rules, regulations, and guidelines for implementing Advanced Water Purification (AWP) in Arizona. To support this effort, ADEQ has partnered with HMA Public Relations and BrandOutlook to conduct consumer research on perceptions of Arizona's water situation and AWP.

The insights from this research will help ADEQ provide tools and resources for municipalities, water and wastewater professionals, local leaders, and potential customers, promoting AWP as a viable water resource. A crucial aspect of this initiative is to assess public perceptions of AWP and to inform proposed rulemaking, ensuring clarity and understanding among constituents across the state.

Specific objectives include:

- Understand public perceptions regarding the urgency of Arizona's water situation.
- Identify the top concerns and efforts being made to address these issues.
- Assess opinions on Advanced Water Purification (AWP), including perceived benefits and drawbacks.
- Identify the primary barriers to adopting AWP.
- Determine the most effective ways to communicate with different public groups about AWP.

The 2024 survey serves as a follow-up to a similar survey conducted in May 2023.

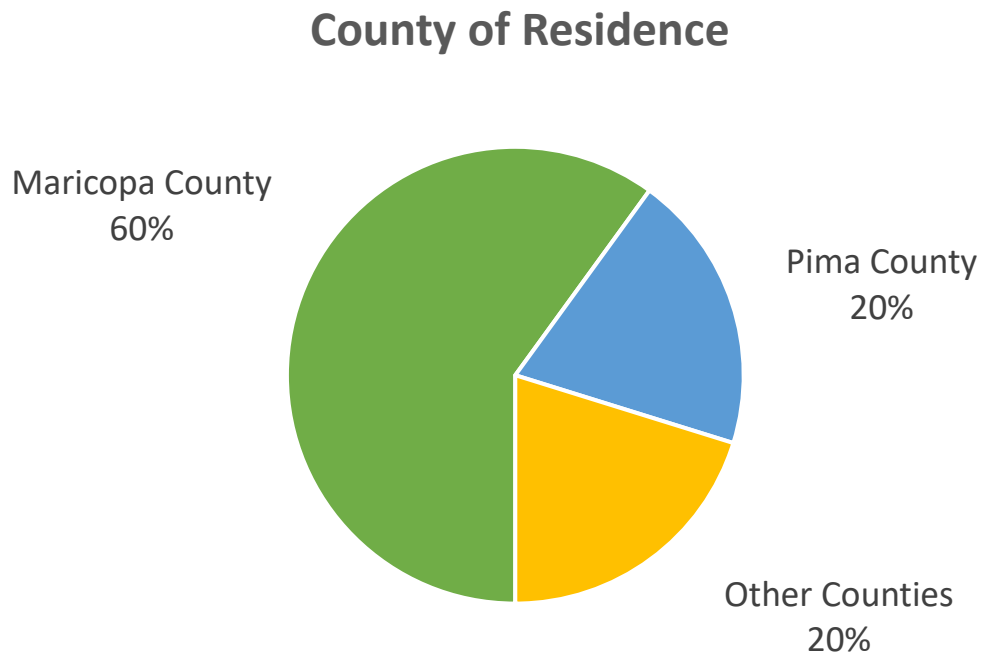
Methodology

A total of 1,000 surveys were completed between April 26 and May 8, 2024.

- It was a blind survey, meaning that ADEQ was not disclosed as the sponsor.
- The source of respondents was a consumer panel of Arizona residents. A few respondents were seasonal residents of the state.
- Quotas were set to ensure we had a representative sample of adult Arizona residents.
- An intentional effort was made to recruit approximately 30% who identify as Hispanic/Latino, reflecting US Census data.
  - The increase in Hispanics when compared to the previous year (up from 18% to 30%) also impacted the home ownership rate (down to 58% from 67%); this shift may have impacted overall results in some areas.
  - The % of female respondents was also higher in 2024 than in 2023.
- Respondents had the option to take the survey in English or Spanish.

Quota: County of Residence

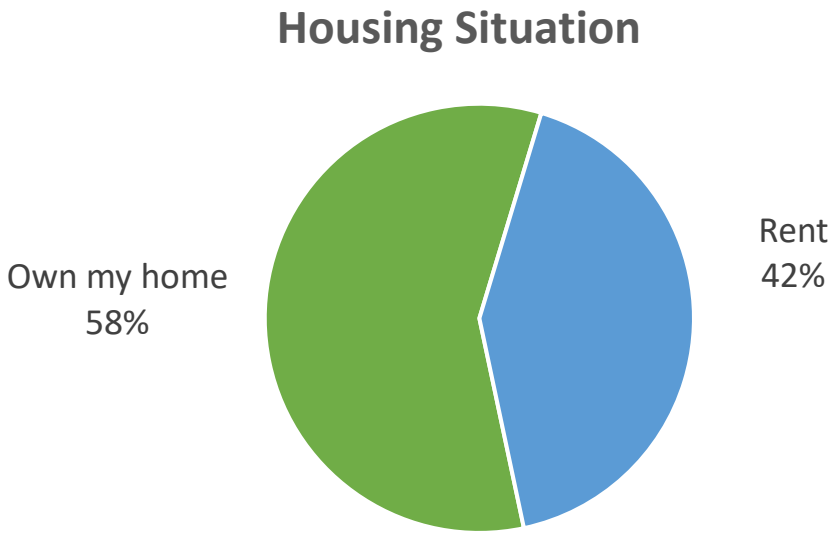
Quotas were used to ensure the mix of respondents by home county was approximately representative of the US Census data.



County of Residence	Total
Maricopa County	600
Pima County	198
Pinal County	63
Mohave County	34
Yuma County	30
Yavapai County	28
Cochise County	17
Navajo County	8
Coconino County	7
Santa Cruz County	7
Apache County	4
Gila County	4
Total	**1,000**

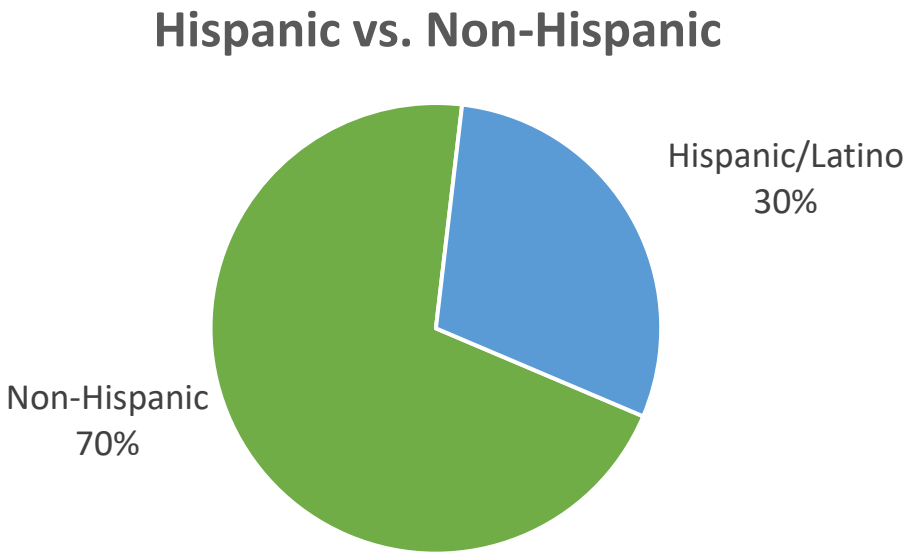
Quota: Housing Situation

Nearly six out of ten respondents owned their home and the remaining 42% were renters.



Quota: Hispanic vs. Non-Hispanic

Thirty percent of the survey respondents identified as Hispanic/Latino, which closely mirrors the US Census data. All respondents had the option of taking the survey in Spanish.



About 1% of respondents took the survey in Spanish.

Methodology – Survey Flow

Perceptions of Arizona Water Situation

- Biggest challenges
- Severity
- Urgency
- Top concerns
- Sources of information

Current Water Consumption

- Types of water consumed
- Reasons for aversion to tap water

Perceptions of AWP

- Initial reaction to educational video
- Favorability / likelihood of drinking AWP water
- Safety of AWP
- AWP as a source to address water situation

Barriers to AWP Adoption

- Overall objections
- Concerns about AWP safety
- Reasons for aversion to drinking AWP water

Information Sources, Naming & Opportunities

- Preferred sources of information about AWP
- Preferred name for AWP
- Best influencers / spokespeople to share AWP benefits

Executive Summary

AWP Perceptions & Potential Adoption in Summary

Widespread concern about the current and future water supply.

Household water consumption is primarily from filtered or bottled sources.

AWP received positive feedback and is considered a viable part of the solution.

The main barriers to adopting AWP are concerns about safety, the "yuck factor," and the cost.

Educational outreach programs can help overcome barriers to AWP adoption.

Key Findings

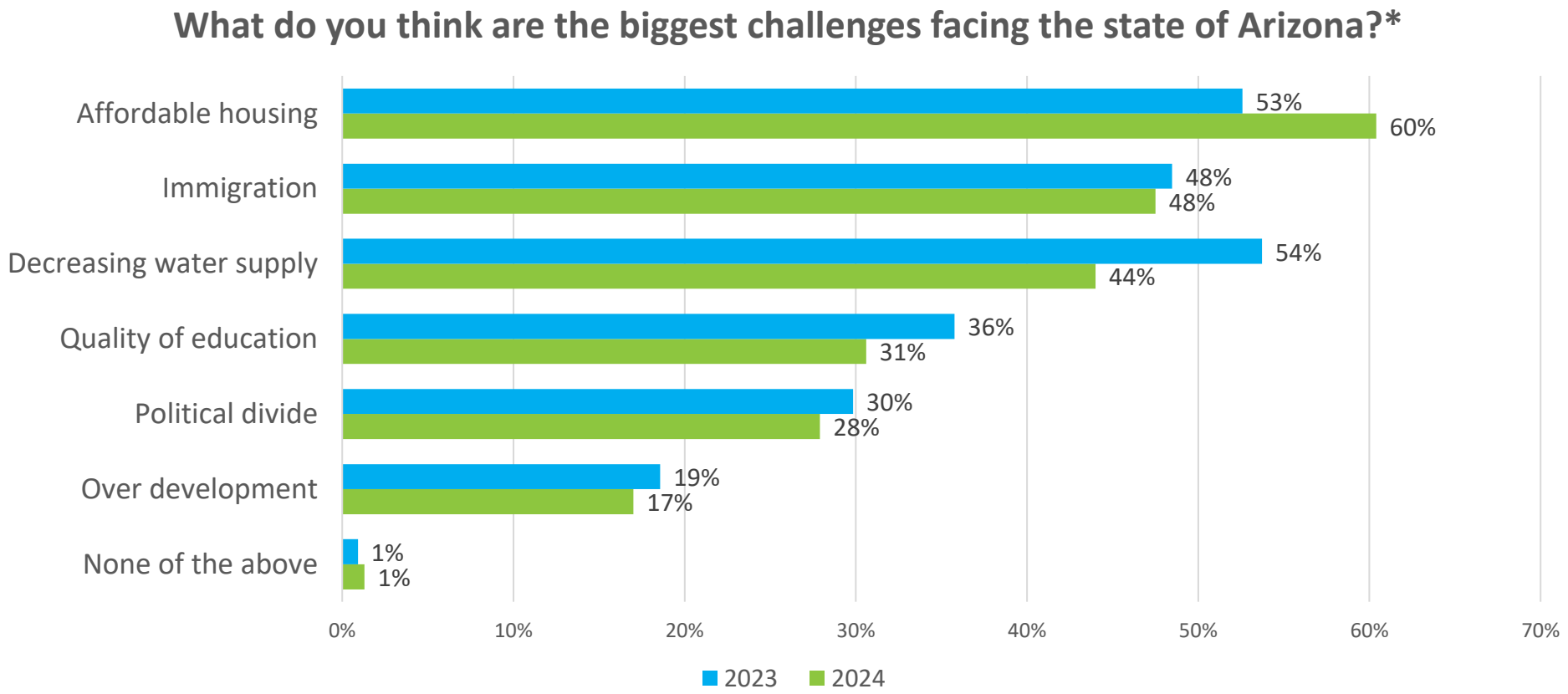
Perceptions about the Arizona Water Situation

Section Summary – Perceptions of Arizona Water Situation

- Regarding the water supply situation in Arizona:
  - Arizona's water supply is a top concern, although it did lose some prominence in 2024 vs. the previous year.
  - About half of respondents view the current water supply issue as very serious.
  - Very few (9%) perceive recycled water as the primary source for their own use.
  - More than half (53%) feel a water supply crisis will happen within 5 years, down from 64% last year.
  - Climate change and threats to the water supply are seen as the most concerning issues for Arizona's water.
  - Local TV news is the most trusted source of information about Arizona's water, well ahead of other channels.

Affordable Housing and Immigration are biggest concerns

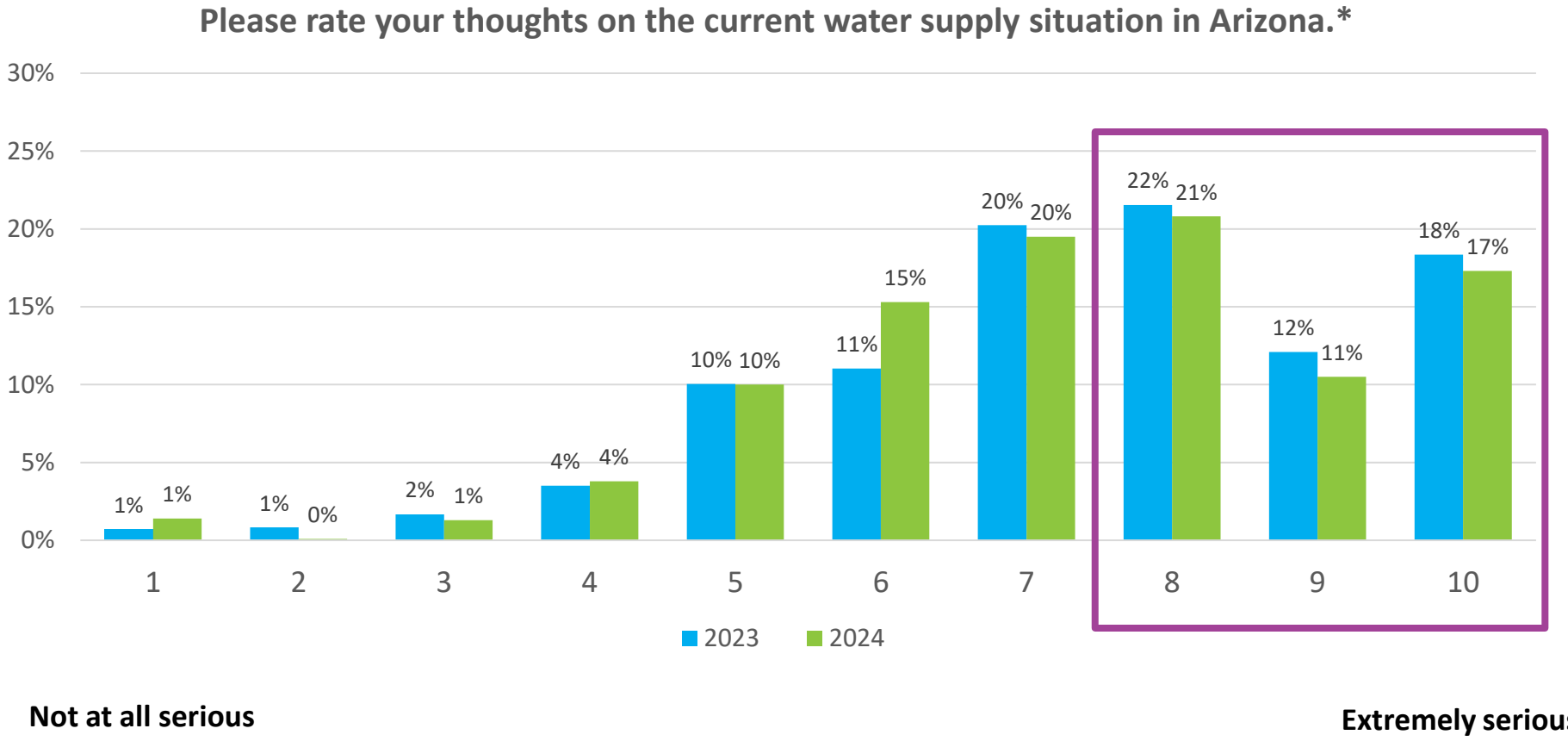
Decreasing water supply, which was the biggest concern in 2023, dropped to #3 in the 2024 survey results, 10 percentage points lower in the most recent survey.



**Respondents were allowed to select multiple responses; therefore, the total exceeds 100%*

Most respondents rate Arizona's water supply situation as serious

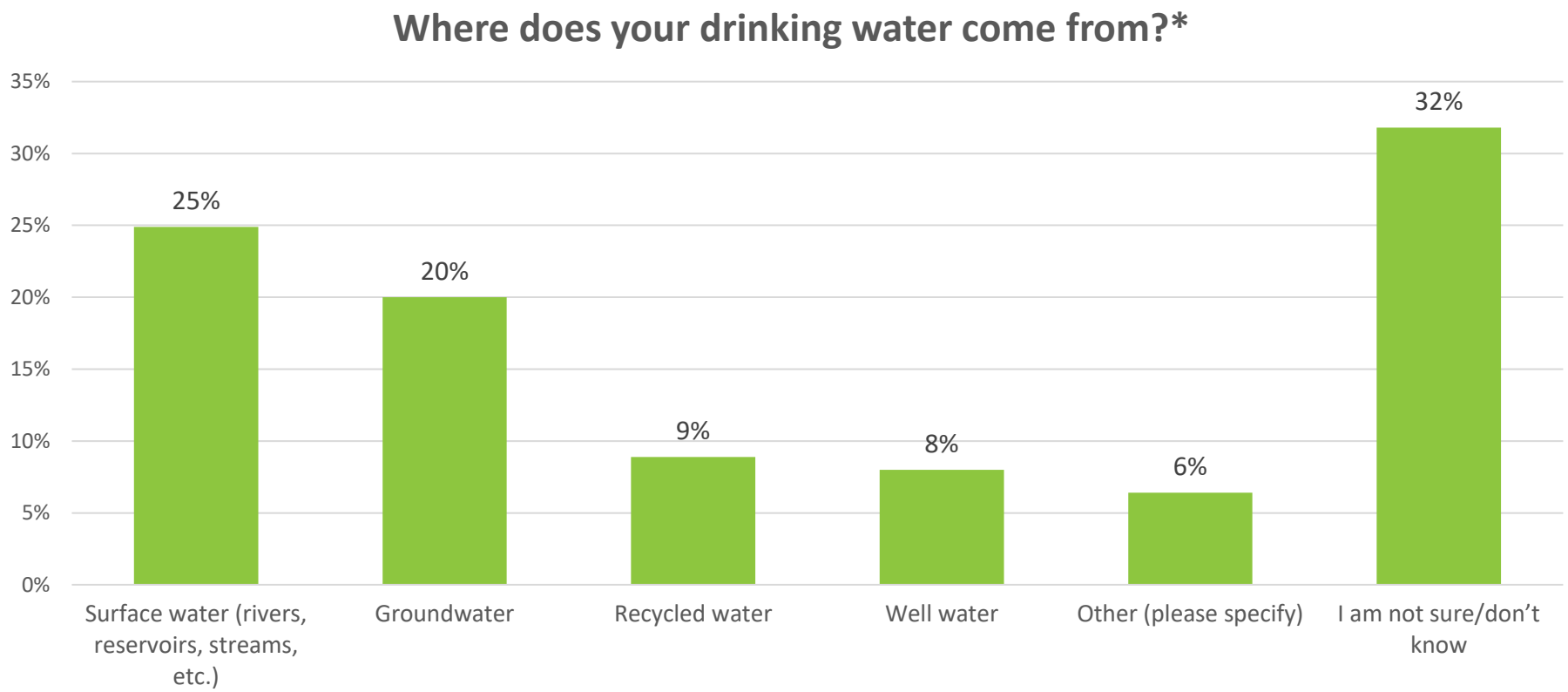
About half (49%) provided a "Top 3 Box" score (8-10 on the 10-point rating scale), down from 52% in 2023, suggesting about half see the state's water supply situation as very serious.



**Respondents rated on a scale of 1-10 where 1 was not at all serious and 10 was extremely serious*

Surface water was the most identified source for AZ

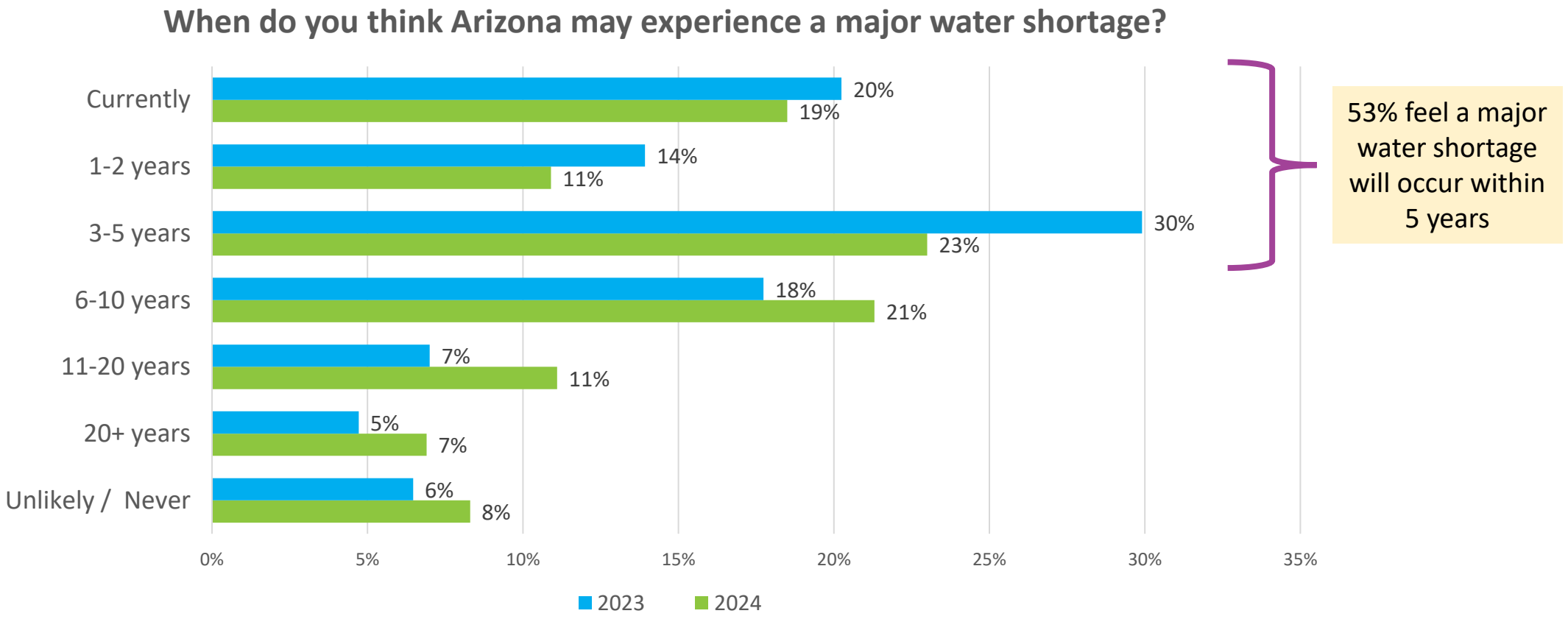
About one in four felt surface water was the primary source of drinking water, followed closely by groundwater. Close to one in three did not feel they knew enough to select a response.



**This question was asked for the first time in 2024*

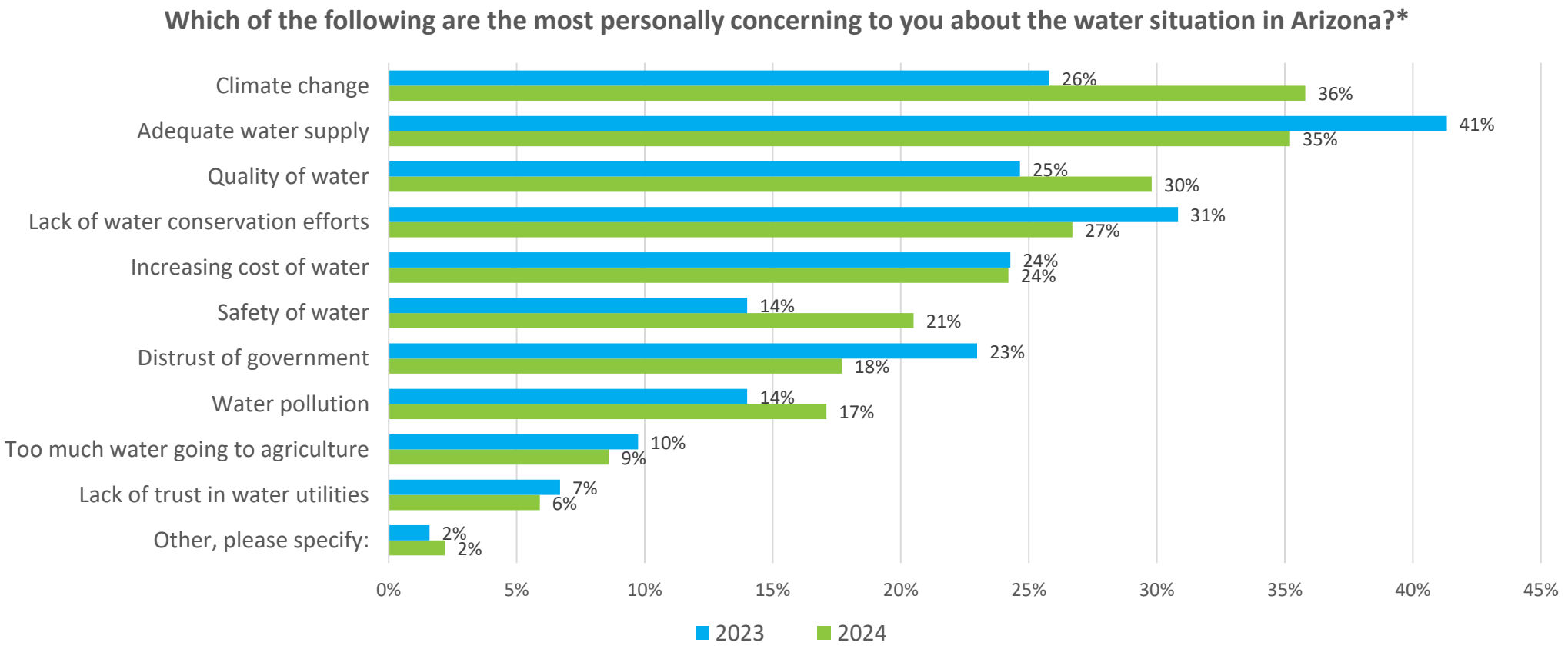
Most foresee a major water shortage in Arizona within 5 years

Most respondents feel a major water shortage in Arizona either already exists or will happen within five years, but the proportion who felt this way dropped from 64% in 2023 to 53% in 2024.



Top 2024 water concerns were climate change and lack of supply

Climate change was a considerably bigger concern in 2024 than in the 2023 survey; this year's respondents were also less likely to identify lack of water conservation efforts or distrust of government.

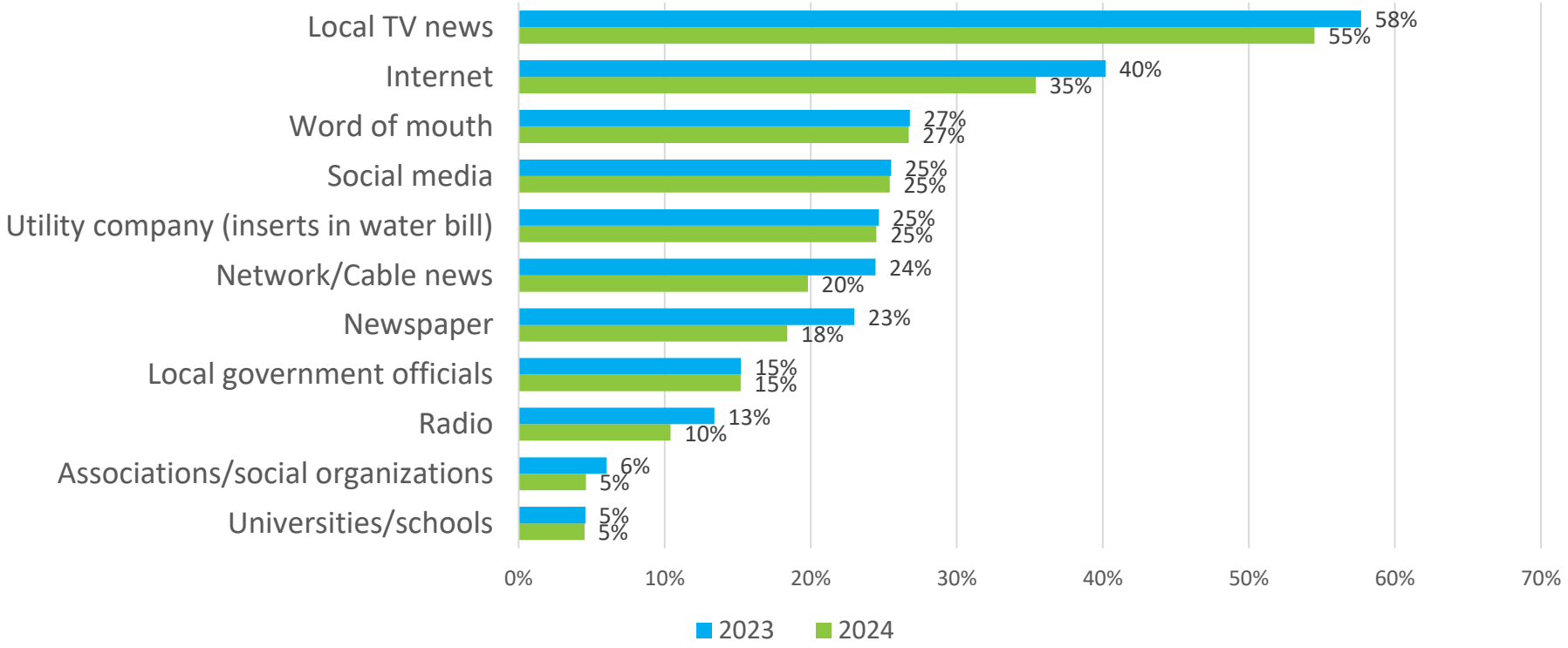


**Respondents were allowed to select up to three responses; therefore, the total exceeds 100%*

Local TV news & the Internet are primary sources of AZ water info

A majority of respondents identified local TV news, placing it far ahead of any other option; responses in 2024 were closely aligned with those from 2023, although some categories (Internet and newspapers in particular) were lower this year.

Where have you traditionally gotten information about the water situation in Arizona?*



**Respondents were allowed to select up to three responses; therefore, the total exceeds 100%. Only categories selected by 5% or more of the respondent base are shown.*

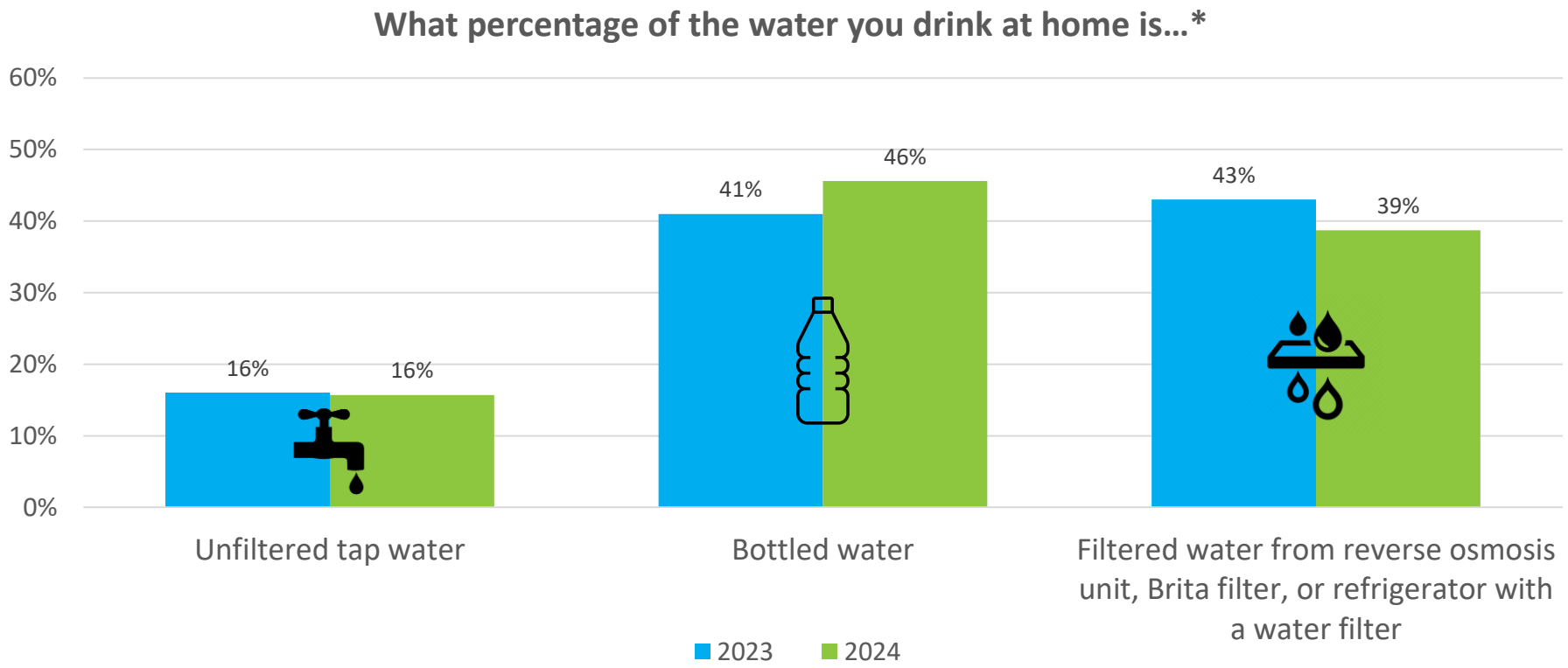
Current Water Consumption

Section Summary – Current Water Consumption

- Current water consumption:
  - Close to 85% of drinking water is bottled or filtered; relatively little comes directly from the tap.
  - Concerns about taste and safety are the key barriers to drinking tap water.

Bottled water was the most used source in 2024

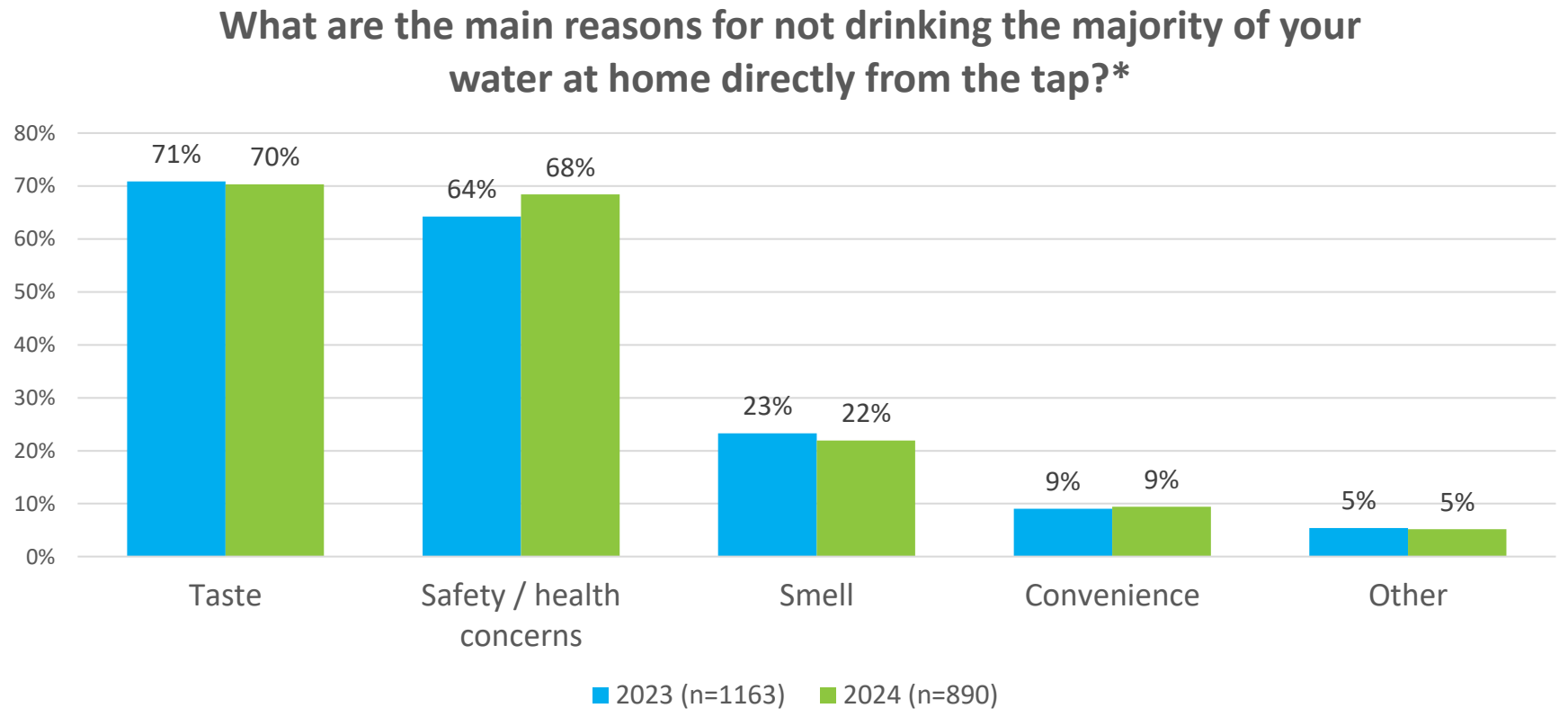
Nearly half of the survey respondents' drinking water on average was bottled; relatively little was drawn directly from the tap.



**Respondents were asked to assign a percentage to each drinking water source for their home; the total was checked to ensure it was exactly 100% for each person.*

Avoiding tap water was largely driven by taste and safety concerns

Virtually mirroring the results from a year earlier, about 70% indicated they avoid tap water due to taste, while another 68% cited health and safety concerns.



**Only respondents who consumed 50% or less of unfiltered tap water were asked this question*

Perceptions about

Section Summary – Perceptions about AWP water

- Close to 70% reacted favorably to the video explaining AWP water.
    - They appreciated learning new information, keying in on sustainability and safety.
- Among those unfavorable toward the video, there was hesitation to fully believe in the safety of the process and to overcome an instinctual distaste for re-using waste water.
- Nearly universally, respondents believed AWP would help the water situation in AZ.
- About three-quarters expressed willingness to drink AWP water.
    - This was driven by a sense of trust in the reported process described in the video by which the water could be renewed.
- Among the approximately 25% who were unlikely to drink it:
    - There was skepticism about the effectiveness and reliability of AWP.
    - Some felt they needed more information, or could not resolve their instinctual “yuck factor” when considering the waste water’s origins.

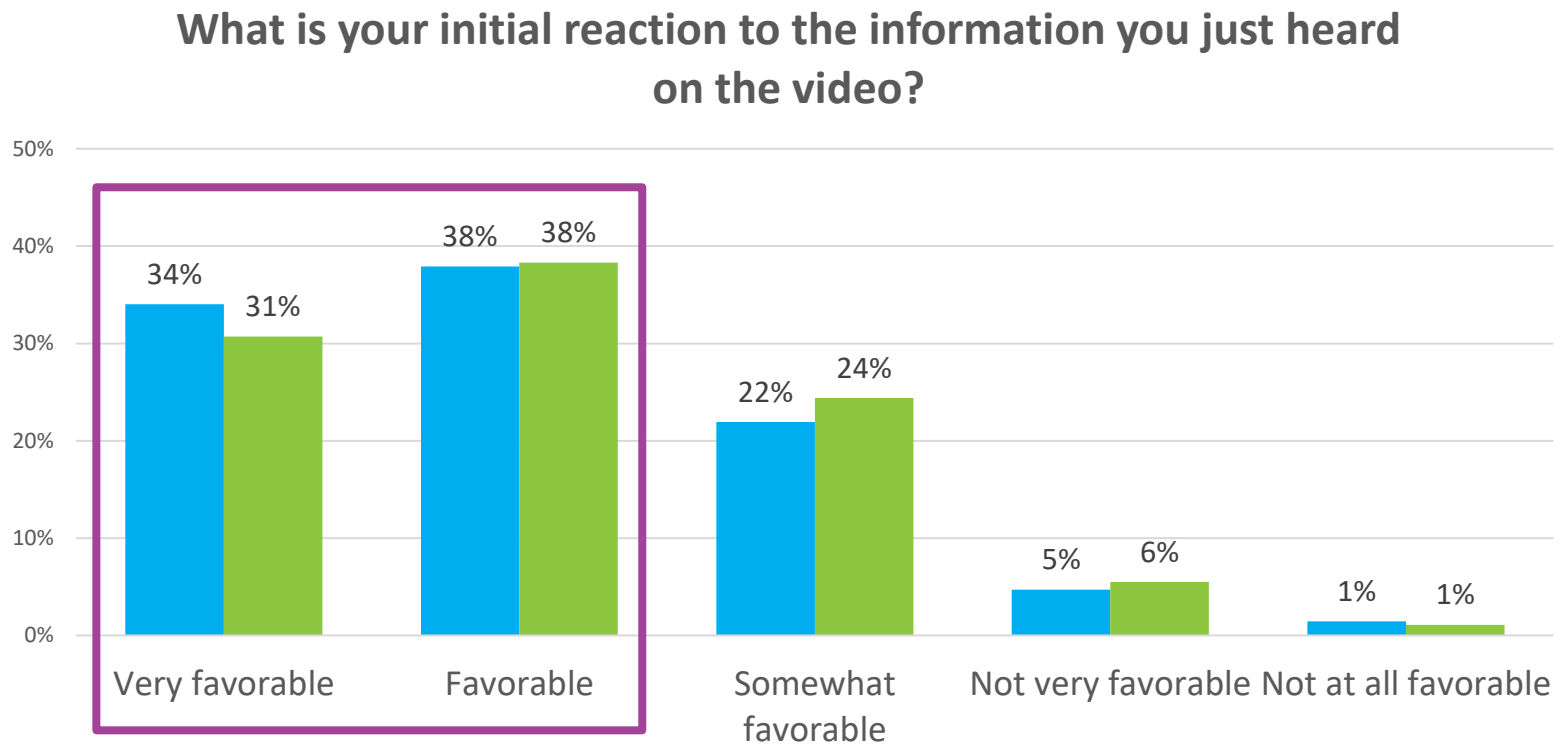
Video Embedded in Survey

To ensure that all respondents were equally informed about Advanced Water Purification (AWP), an educational video was embedded into the survey. The content of the video described the process by which household wastewater was converted into drinkable water through various scientific processes.

- The video was one minute and 13 seconds long (1:13).
- The video was narrated in English.
- Spanish subtitles were available through the YouTube settings, and instructions were provided for those wishing to access them.

Initial reaction to AWP information was largely favorable

69% selected one of the two most favorable responses in 2024, down slightly from 2023 (with a slightly different video about DPR). Very few provided a negative impression.

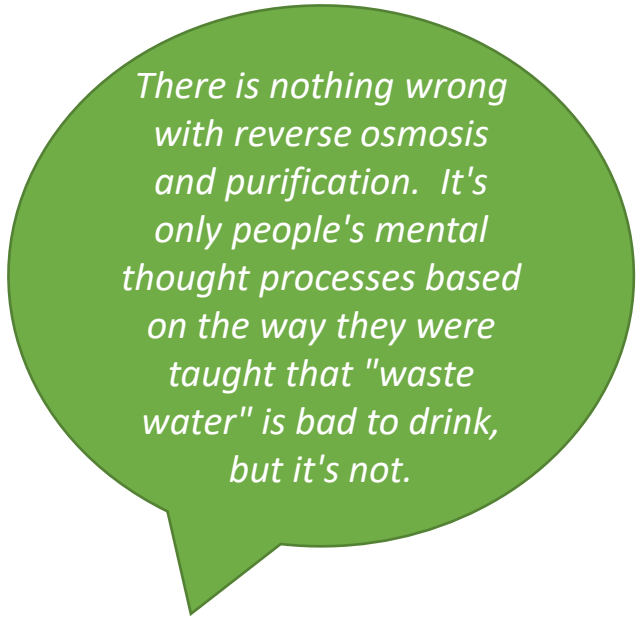


The video was changed in 2024 to discuss AWP rather than DPR

UNAIDED: Reasons for *favorable* reaction to the AWP video and information

Respondents appreciated learning new information and relayed surprise that these processes are already in place. Those reacting favorably like that AWP represents a sustainable solution, and that the process makes the water safe to drink.

UNAIDED: Why was your initial reaction 'favorable' or 'very favorable'? (n=690)*	
Didn't know/new information	34%
Sustainable water source	31%
Safe to drink	21%
Interesting info	10%
Positive	8%
Skeptical about safety	4%
Familiar with	2%
Need more info	2%



*Only comments that were made by 2% or more of the respondents are shown in the table.

UNAIDED: Reasons for *unfavorable* reaction to AWP video & information

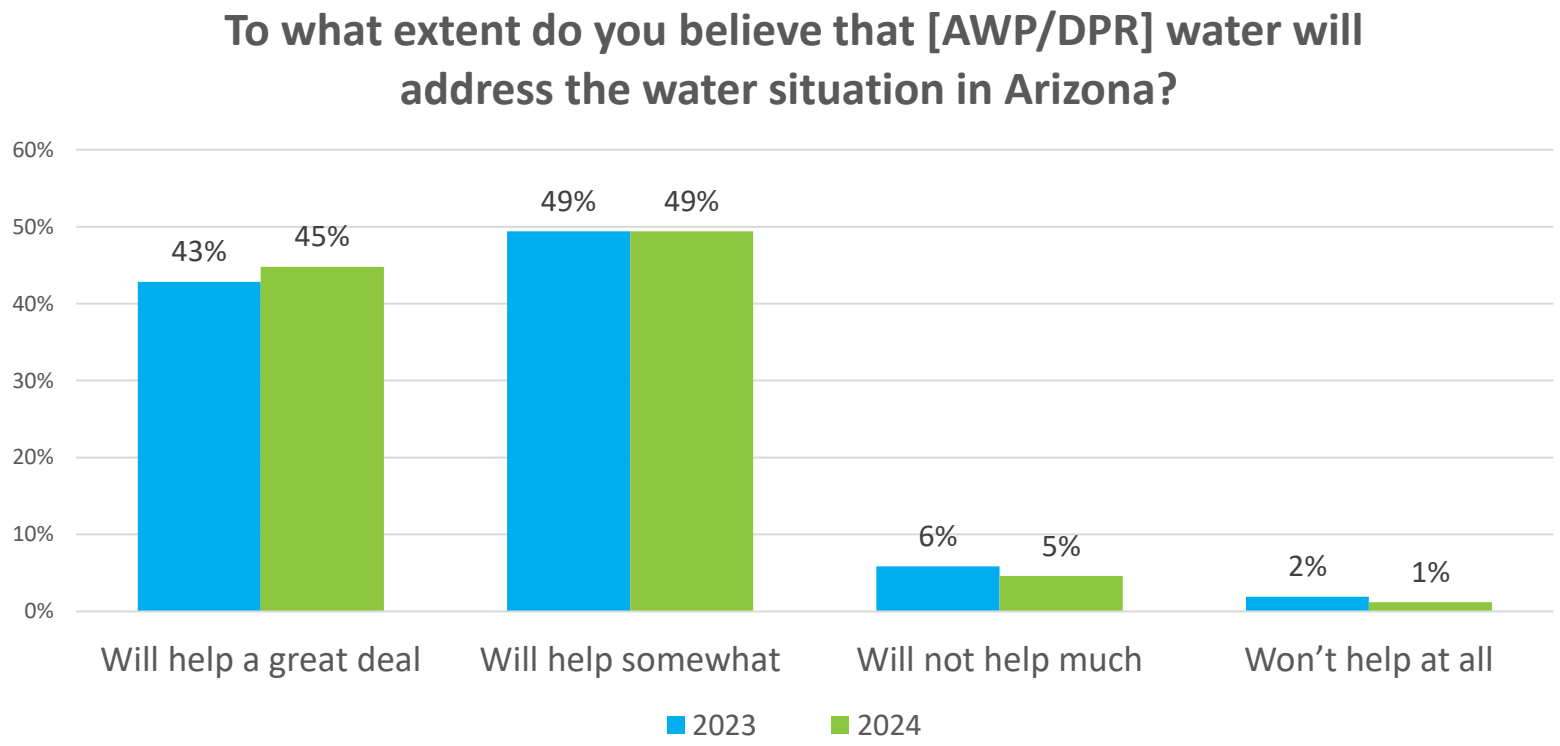
The most common source of hesitation or unfavorable views of AWP water is skepticism that the process truly makes waste water safe and healthy. Other respondents brought up the yuck factor (especially hearing about the water's origins) as a reason for concern.

UNAIDED: Why was your initial reaction 'somewhat favorable,' 'not very favorable' or 'not at all favorable'? (n=310)*	
Skeptical about safety	24%
Yuck factor	14%
Didn't know/new information	13%
Need more info	11%
Sustainable water source	9%
Safe to drink	7%
Negative	6%
Interesting info	4%
Familiar with	4%
Positive	4%
Other uses	3%
May dislike taste	3%
Untrustworthy	3%

**Only comments that were made by 3% or more of the respondents are shown in the table.*

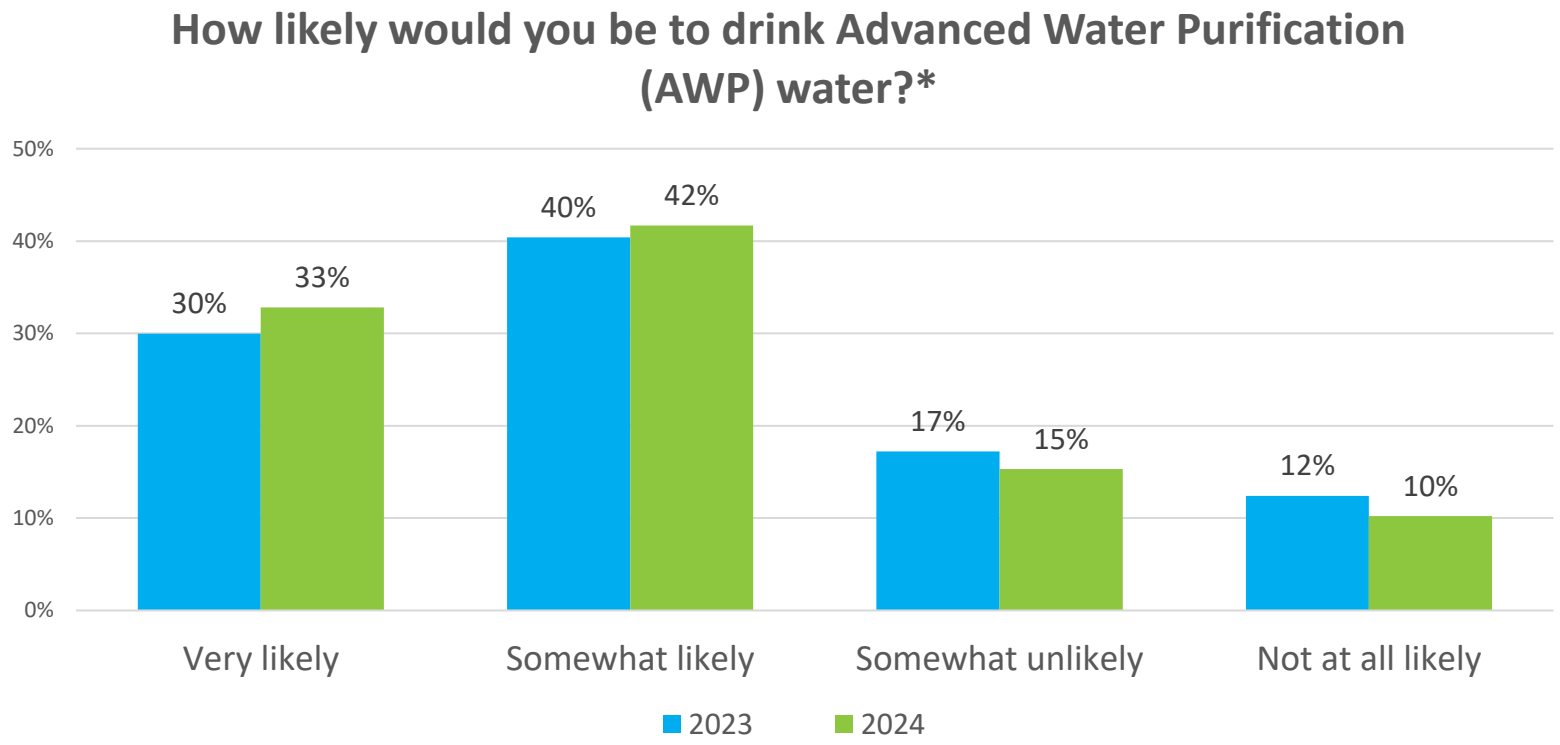
Nearly all feel that AWP will help address the Arizona water situation

94% feel AWP will either help a great deal or will help somewhat, in addressing concerns around the water supply in Arizona. This was slightly higher than the 92% selecting those responses in 2023 for DPR.



About one-third expressed high likelihood to drink AWP water

In total, about 75% were either ‘somewhat’ or ‘very’ likely to drink AWP water, up slightly from the 70% who selected those options for DPR water in 2023.

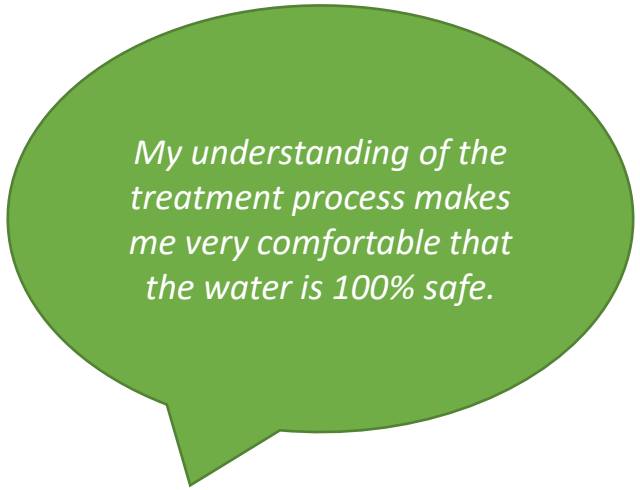


**This question was asked about DPR water in 2023.*

UNAIDED: Reasons for *being likely* to drink AWP water

While respondents who were positive about drinking AWP water largely expressed confidence about it being safe to drink, there was a contingent with lingering concerns in that area, and some hesitation about taste and the overall process.

UNAIDED: Why are you likely to drink AWP water? (n=745)*	
Safe to drink	38%
Skeptical about safety	13%
Depends on taste	8%
Need more information	7%
Positive	6%
Use personal filtration system	5%
Sustainable water source	5%
Drink bottled water	3%
Yuck factor	3%
No other option	3%
Saves money	3%
Already consuming this water	3%
Access	3%



**Only comments that were made by 3% or more of the respondents are shown in the table.*

UNAIDED: Reasons for *being unlikely* to drink AWP water

Those unlikely to drink AWP water predominantly cited concerns about safety, and that the process is thorough and reliable enough to trust. Nearly one in five conveyed some level of distaste over the idea of using water that had previously been unsanitary.

UNAIDED: Why are you unlikely to drink AWP water? (n=255)*	
Skeptical about safety	38%
Yuck factor	18%
Only drink bottled water	10%
May dislike taste	7%
Untrustworthy	7%
Need more information	6%
Use personal filtration system	5%
Avoid tap water	4%
Depends on taste	3%
Negative	3%

**Only comments that were made by 3% or more of the respondents are shown in the table.*

AWP Adoption
Barriers & Influencers

Section Summary – AWP Adoption Barriers & Influencers

- Community barriers to broad adoption of AWP
  - The most prevalent factors overall are skepticism about safety and, again, the “yuck factor.”
  - There was concern about the cost of using this process, both individually and to municipalities/the state.

- Influencers to support adoption of AWP
  - Statements about the rigorousness/thoroughness of water testing held the most sway in convincing respondents to use AWP.
  - Respondents also felt influenced by statements conveying the urgency of adopting AWP in the face of significant shortage and drought.

Barriers to AWP adoption

More than a quarter of respondents identified “cost to me” as their #1 barrier; when viewed in total, skepticism about safety and the yuck factor were the most commonly identified overall (most often included in respondents’ top three).

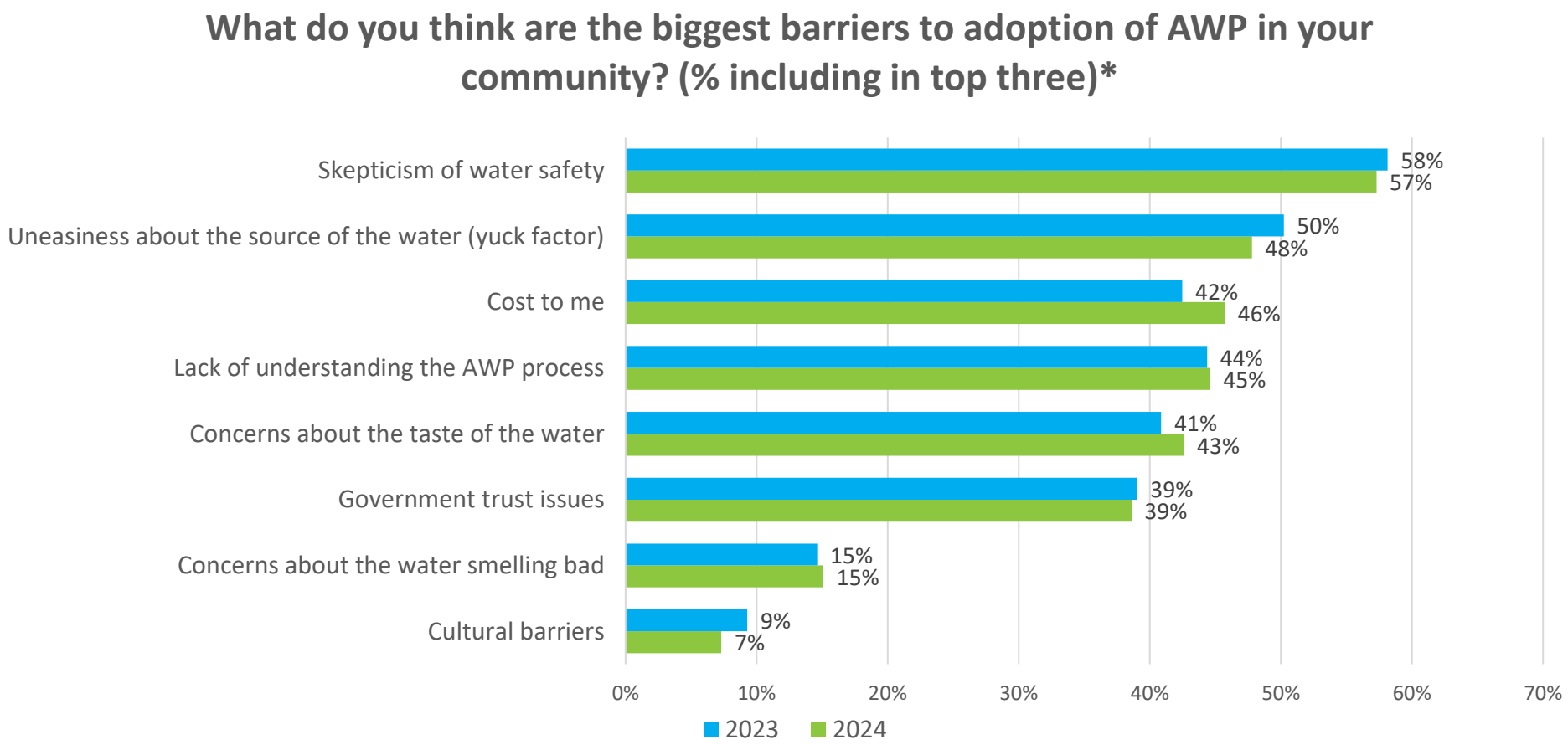
What do you think are the biggest barriers to adoption of AWP into your community?*

Barriers to AWP Adoption	Barrier #1	Barrier #2	Barrier #3	% Including in Top Three
Skepticism of water safety	14%	27%	17%	57%
Yuck factor	13%	13%	21%	48%
Cost to me	28%	8%	10%	46%
Lack of understanding the AWP process	17%	15%	13%	45%
Concerns about the taste of the water	8%	16%	19%	43%
Government trust issues	17%	12%	10%	39%
Concerns about the water smelling bad	1%	6%	8%	15%
Cultural barriers	3%	3%	2%	7%

**Respondents were asked to rank their top three barriers in order.*

Skepticism about safety was the biggest perceived barrier

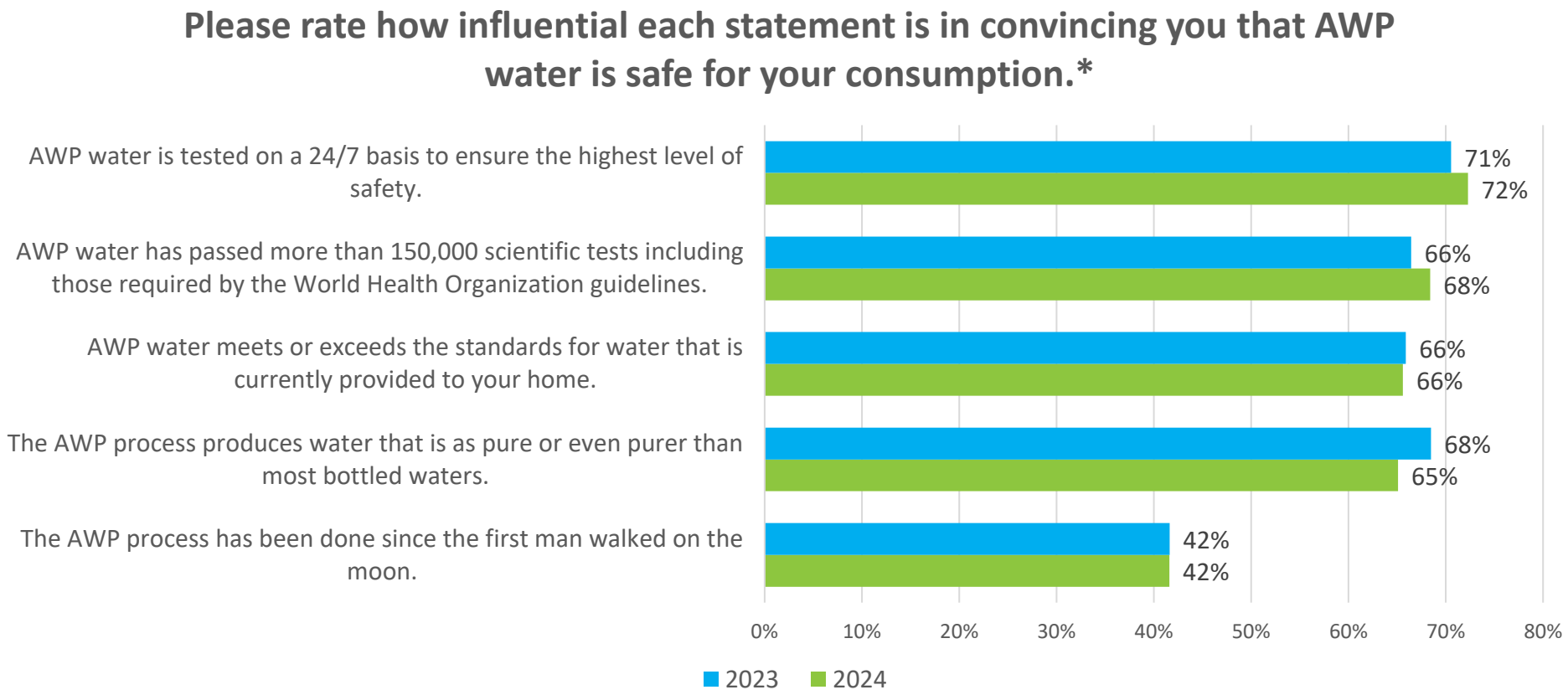
Nearly half included uneasiness about the source of the water in their top three.



**Percentages reflect the proportion of respondents who included each item in their top three barriers; as each person selected three items, percentages do not sum to 100%.*

Statements about rigorous testing hold the most sway

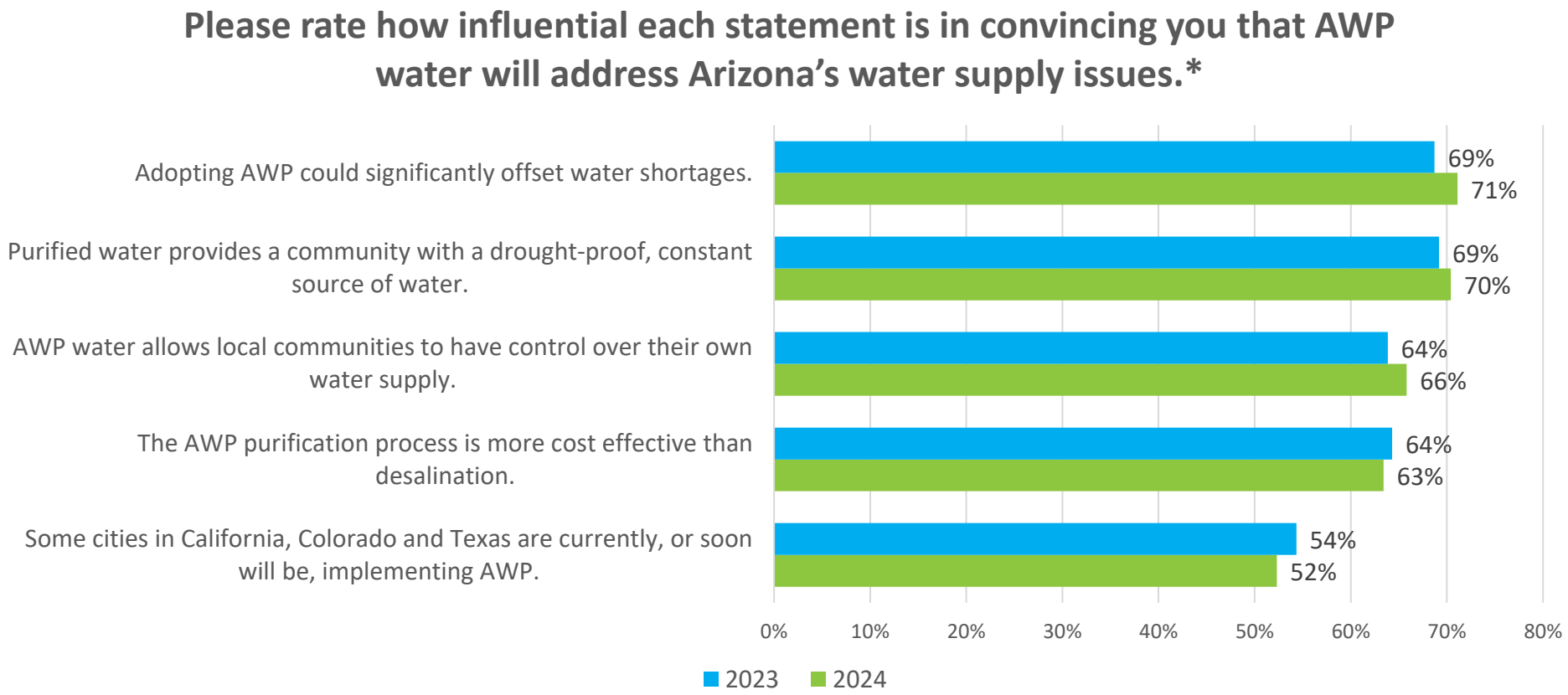
Approximately two-thirds of respondents identified each of the statements as influential, with the exception of the statement about the AWP process being used since the moon landing. The results were remarkably consistent with those from last year.



**Percentages in the chart are "Top 2 Box" scores, reflecting the proportion selecting either 4 or 5 on a rating scale where 1 was 'not at all influential' and 5 was 'very influential.' 2023 data is based on statements about DPR water with some slight wording changes.*

The most effective statements referenced shortage and drought

Upwards of 70% identified the statements with the greatest urgency (referencing shortage and drought) as influential. Referencing similar programs in other states had a notably lower level of influence.



**Percentages in the chart are "Top 2 Box" scores, reflecting the proportion selecting either 4 or 5 on a rating scale where 1 was 'not at all influential' and 5 was 'very influential.' 2023 data is based on statements about DPR water with some slight wording changes.*

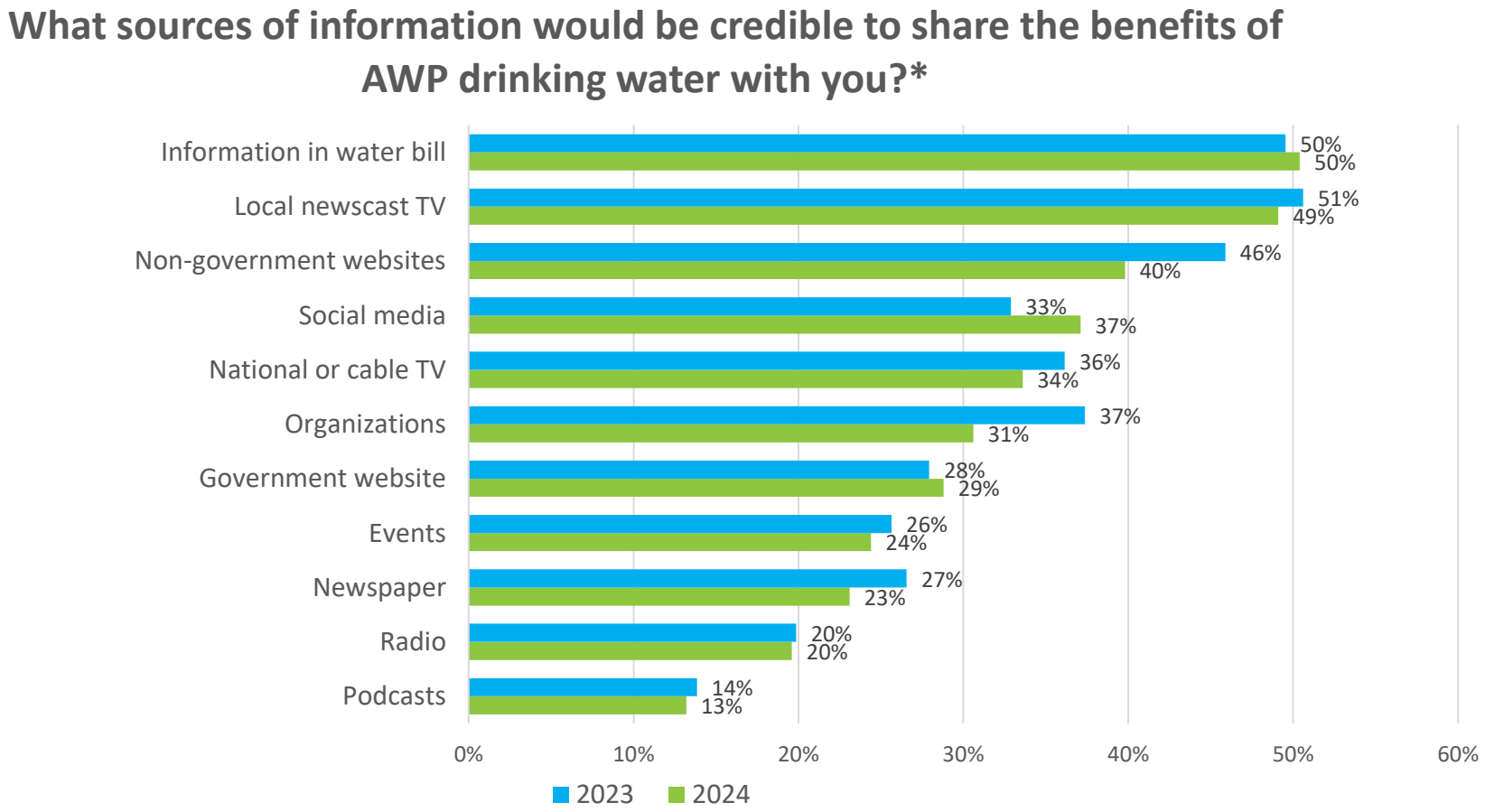
Outreach Strategies

Section Summary – Outreach Strategies

- The most credible sources of information about AWP:
  - Local news, utility bill inserts and non-government websites
  - Social media and national/cable TV were also relatively highly ranked sources
- Most trustworthy influencers or spokespeople to discuss AWP:
  - Scientists and water department officials were predominant
  - To a lesser degree, local government, academic and educational leaders were also identified
- Naming preferences for AWP water were varied and lacked consensus
  - The most often selected names were Advanced Treated Water and Purified Water

Utilities and local news were most credible sources for AWP

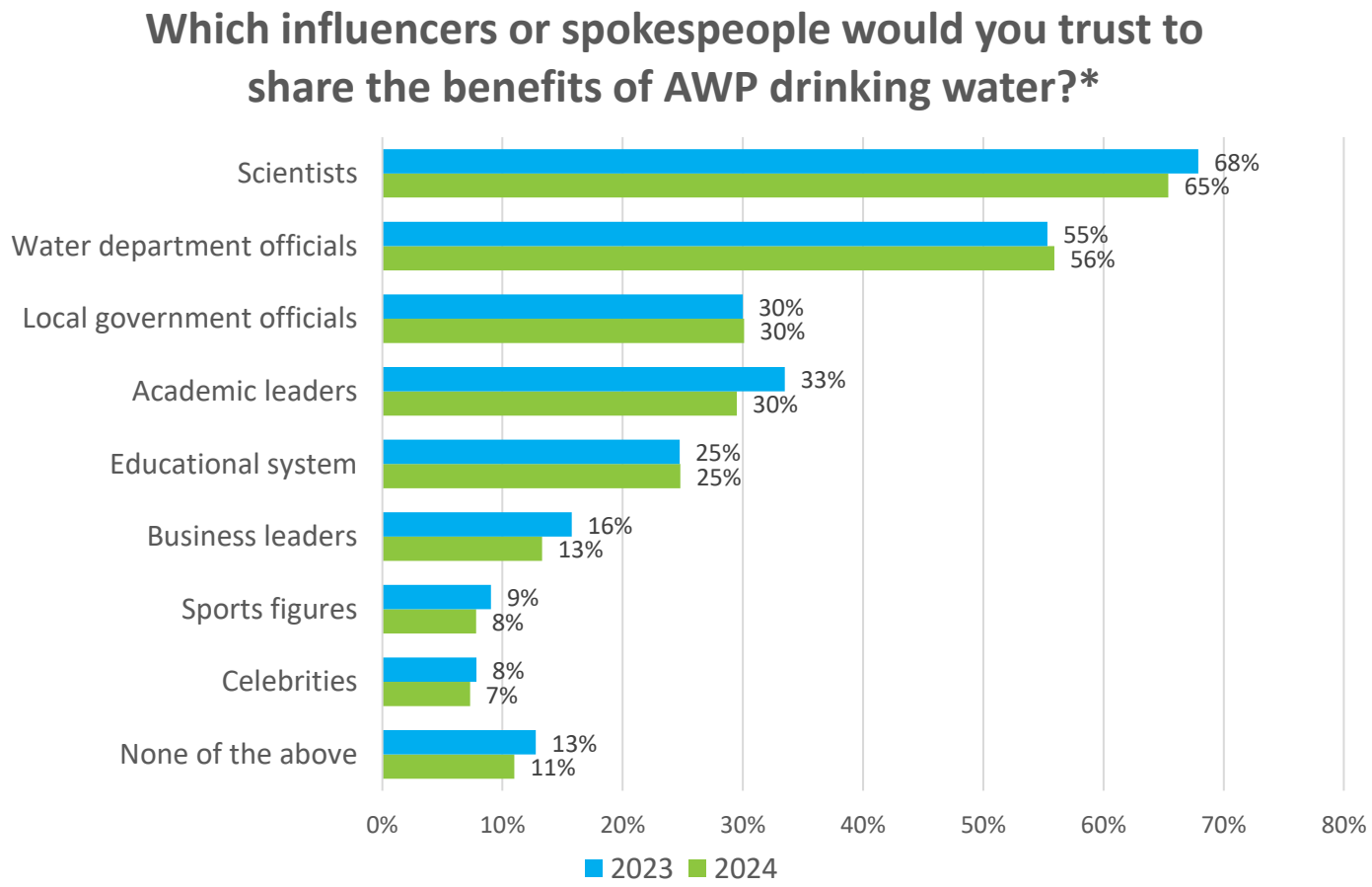
Non-government websites and social media rounded out the top four most credible sources of information.



**Respondents were allowed to select multiple responses; therefore, the total exceeds 100%.*

Scientists and water officials were most trusted

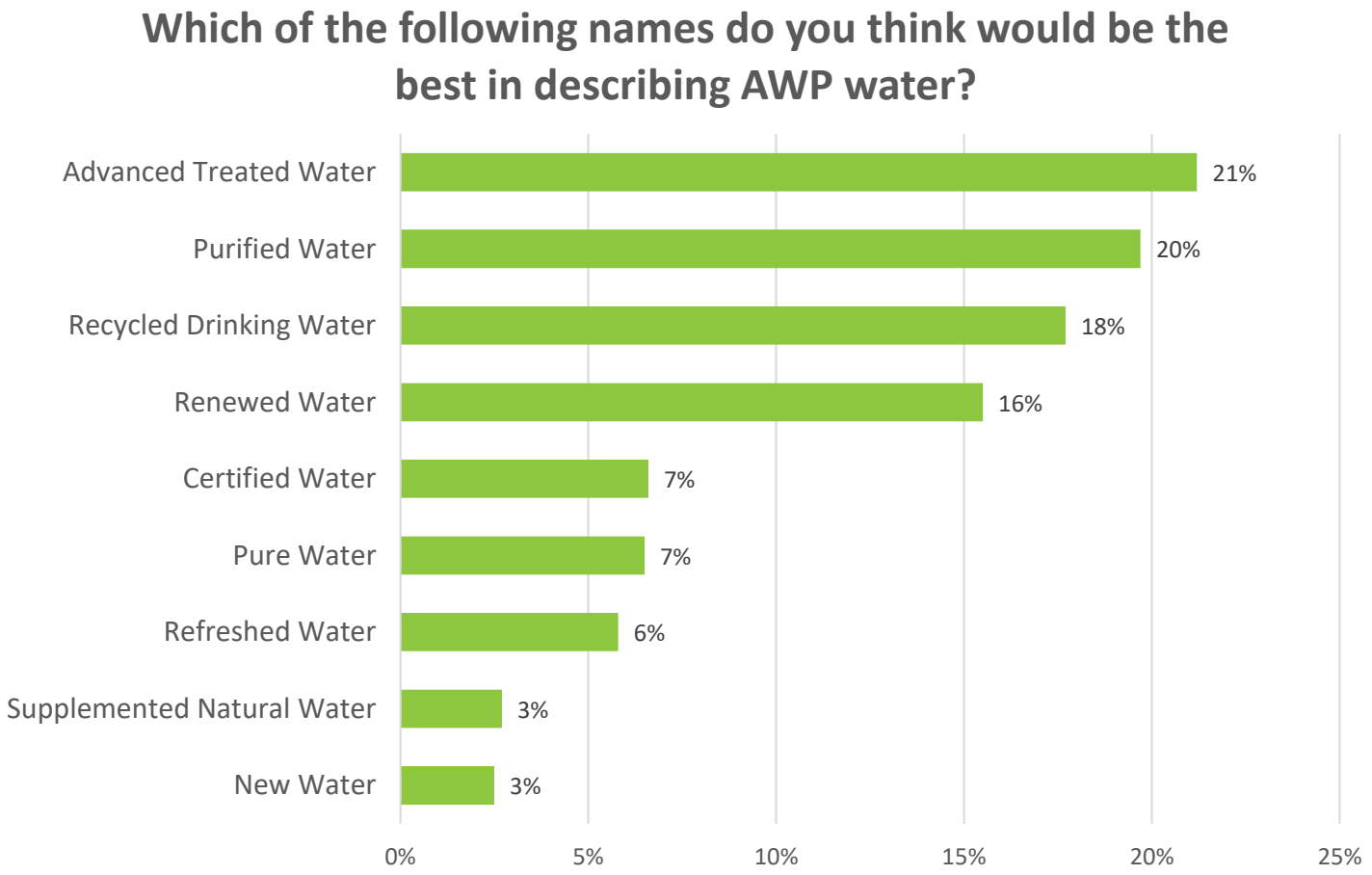
About two-thirds identified scientists as a trusted source of AWP information, with water department officials following closely behind; all remaining categories were significantly less trusted.



**Respondents were allowed to select multiple responses; therefore, the total exceeds 100%.*

Advanced Treated Water or Purified Water were most popular names

Recycled Drinking Water and Renewed Water were also identified by a similar percentage of Arizonans, leaving no clear overall choice.



Analysis by Sub-Populations

Likely adopters tended to be younger

37% of those likely to drink AWP water were under the age of 40 (25% under 40 among unlikely drinkers). Those unlikely to drink AWP were significantly more likely to identify concerns about safety and smell.

	Likely to drink AWP water (N=745)	Unlikely to drink AWP water (N=255)
Age		
18-20 years old	3%	1%
21-29 years old	12%	7%
30-39 years old	22%	17%
40-49 years old	14%	19%
50-59 years old	16%	22%
60-69 years old	16%	17%
70 and above	17%	17%
Reasons for not drinking directly from tap		
Safety / health concerns	65%	77%
Taste	69%	75%
Smell	19%	30%
Convenience	11%	5%

GREEN BOX: Significantly higher at a 95% confidence interval.

Likelihood of drinking AWP water impacted preferred names

Those unlikely to drink AWP water preferred Recycled Drinking Water at a much higher rate than those likely to drink. Likely drinkers chose Purified Water and Certified Water to a significantly greater degree.

	Likely to drink AWP water (N=745)	Unlikely to drink AWP water (N=255)
AWP Water Names		
Purified Water	22%	12%
Advanced Treated Water	21%	22%
Renewed Water	16%	14%
Recycled Drinking Water	14%	28%
Certified Water	8%	4%
Pure Water	7%	4%
Refreshed Water	6%	5%
Supplemented Natural Water	3%	3%
New Water	2%	4%

GREEN BOX: Significantly higher at a 95% confidence interval.

Water supply concerns are greater among Non-Hispanics

Hispanic respondents were significantly more likely to rent when compared to Non-Hispanics.

Hispanics were also significantly more concerned about affordable housing, and relatively less concerned about immigration, the water supply, and political divide.

	Hispanic (N=295)	Non-Hispanic (N=705)
Housing Situation		
Own my home	40%	66%
Rent	60%	34%
Biggest Challenges Facing AZ		
Affordable housing	73%	55%
Immigration	40%	51%
Decreasing water supply	34%	48%
Political divide	21%	31%
Quality of education	33%	30%
Over development	15%	18%

GREEN BOX: Significantly higher at a 95% confidence interval.

Hispanics were less likely to sense an urgency around AZ water supply

Hispanic respondents were also more optimistic about the degree to which AWP will help address Arizona's water issues, and were a bit more likely to drink AWP water.

	Hispanic (N=295)	Non-Hispanic (N=705)
Expected AZ Water Shortage Timing		
Within 2 years	23%	32%
3-10 years	45%	44%
More than 10 years/unlikely	32%	24%
Degree to Which AWP Will Help Shortage		
Will help a great deal	54%	41%
Will help somewhat	41%	53%
Will not help much	4%	5%
Won't help at all	1%	1%
Likelihood to Drink AWP Water		
Likely	77%	73%
Unlikely	23%	27%

GREEN BOX: Significantly higher at a 95% confidence interval.

Hispanics were relatively more likely to rely on info from social media

Non-government websites were more often viewed as credible by Non-Hispanics.

Hispanic survey participants were more prone to view water department officials, local government officials and educational spokespeople as credible when learning about AWP.

	Hispanic (N=295)	Non-Hispanic (N=705)
Credible Sources of AWP Information		
Local newscast TV	49%	49%
Information in water bills	54%	49%
Non-government websites	31%	44%
National or cable TV	29%	35%
Social media	47%	33%
Organizations (AARP, Sierra Club, etc.)	28%	32%
Government website	34%	27%
Events	25%	24%
Newspaper	25%	22%
Credible Spokespeople for AWP Information		
Scientists	64%	66%
Water department officials	63%	53%
Academic leaders	27%	31%
Local government officials	37%	27%
Educational system	31%	22%
Business leaders	13%	13%

GREEN BOX: Significantly higher at a 95% confidence interval.

Younger respondents more concerned about drinking water safety

Younger respondents were also much more likely to focus on affordable housing as a major issue facing the state, and were significantly less likely to identify the water supply as a pressing concern.

Older respondents were most focused on immigration and water supply.

	Under 40 (N=337)	40-59 (N=330)	60+ (N=333)
Reasons for Aversion to Tap Water			
Taste	69%	72%	69%
Safety / health concerns	78%	67%	59%
Smell	21%	26%	18%
Convenience	10%	6%	12%
Biggest Challenges Facing AZ			
Affordable housing	79%	59%	43%
Immigration	36%	48%	59%
Decreasing water supply	31%	46%	55%
Quality of education	37%	30%	24%
Political divide	22%	28%	34%
Over development	18%	16%	17%

GREEN BOX: Significantly higher than one or more other segments at a 95% confidence interval.

Younger respondents are most likely to drink AWP water

Likelihood to drink AWP water was lowest among the 40-59 age group (other age segments were both significantly higher).

Purified Water was especially popular among older respondents, while younger age groups were more positive on Renewed Water.

	Under 40 (N=337)	40-59 (N=330)	60+ (N=333)
Preferred Name for AWP Water			
Advanced Treated Water	21%	19%	24%
Purified Water	17%	17%	25%
Recycled Drinking Water	18%	20%	16%
Renewed Water	19%	16%	11%
Certified Water	4%	7%	9%
Pure Water	9%	6%	5%
Refreshed Water	6%	7%	5%
Supplemented Natural Water	4%	3%	2%
New Water	2%	4%	2%
Likelihood to Drink AWP Water			
Likely	81%	68%	74%
Unlikely	19%	32%	26%

GREEN BOX: Significantly higher than one or more other segments at a 95% confidence interval.

Social media is prominent for those under 40

Older respondents had greater trust in local news, non-government websites, and organizations. They were also particularly prone to rely on information about AWP coming from scientists.

Younger respondents were also a bit more likely to trust local government and academic spokespeople.

	Under 40 (N=337)	40-59 (N=330)	60+ (N=333)
Credible Sources of AWP Information			
Information in water bills	46%	49%	56%
Local newscast TV	37%	51%	60%
Non-government websites	36%	35%	48%
Social media	53%	38%	20%
National or cable TV	30%	33%	38%
Organizations	26%	27%	39%
Government website	31%	29%	26%
Events	23%	26%	24%
Newspaper	19%	24%	27%
Credible Spokespeople for AWP Information			
Scientists	60%	64%	72%
Water department officials	59%	56%	53%
Local government officials	34%	26%	30%
Academic leaders	28%	28%	32%
Educational system	30%	27%	18%
Business leaders	13%	14%	13%

GREEN BOX: Significantly higher than one or more other segments at a 95% confidence interval.

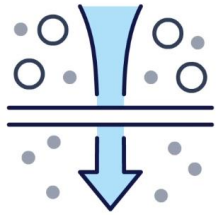
Recommendations

Recommendations

- Develop educational initiatives to show how AWP can help with Arizona water supply issues.
  - Use messaging that is authoritative and conveys:
    - The urgency of the situation
    - The effectiveness and thoroughness of the AWP Process

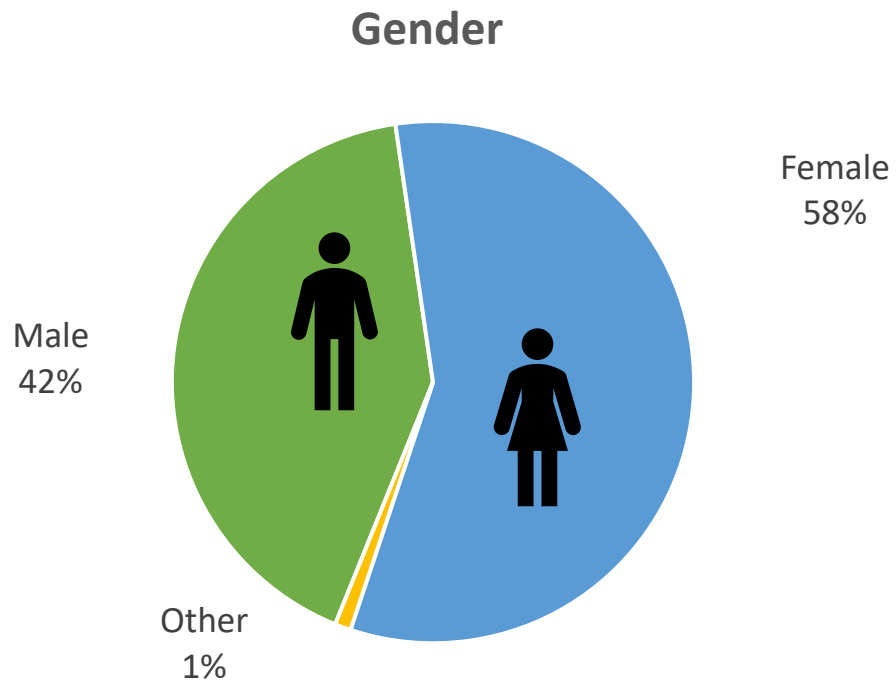
Recommendations

- Share additional information about the specifics of the AWP process, focusing on the degree to which the process purifies the water.
  - Reinforce continuous and rigorous testing of the end-product water
  - If possible, demonstrate that the water has been proven to be safe, both in the near- and long term
  - Reassure that the taste and smell of the water is on par with current bottled and filtered options

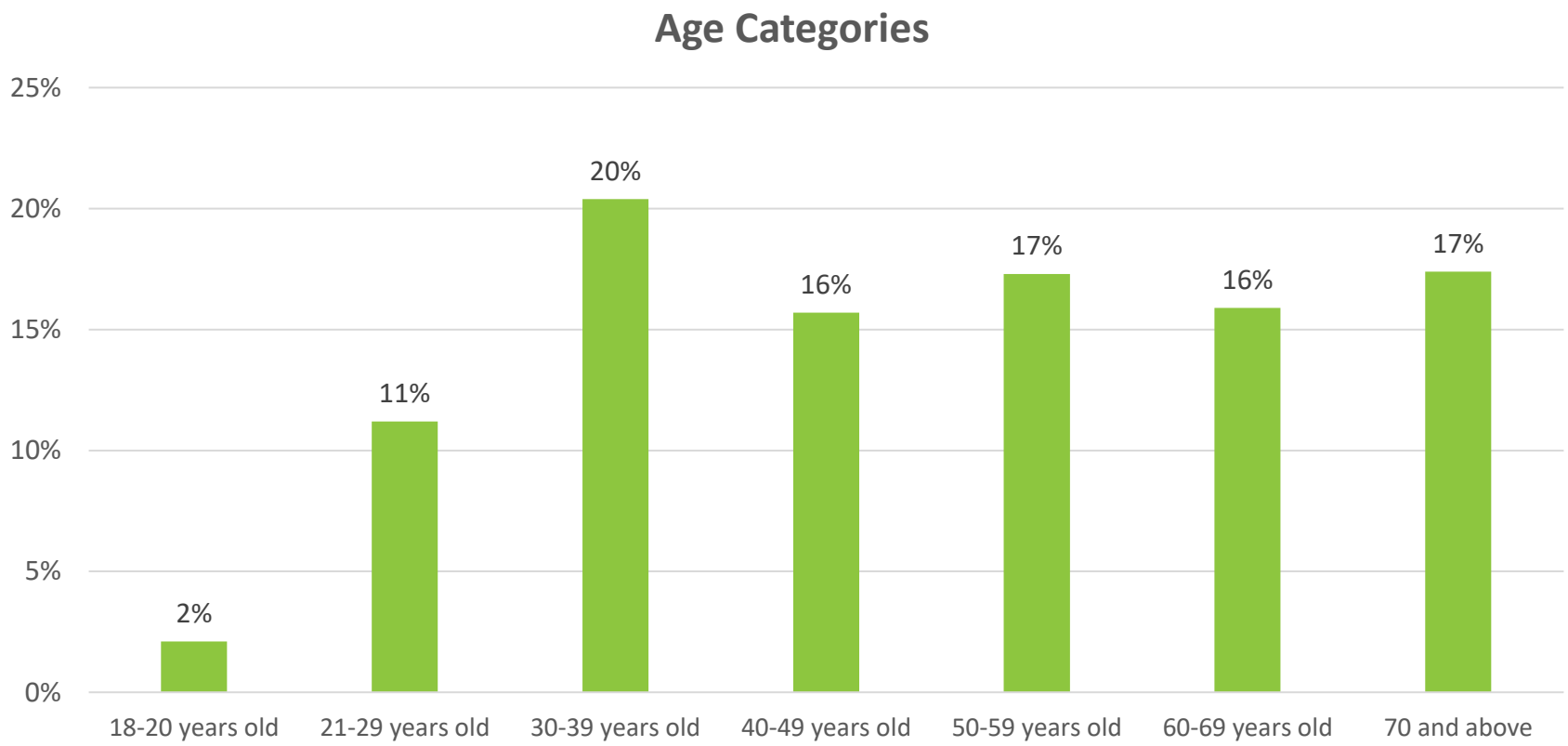


Demographics

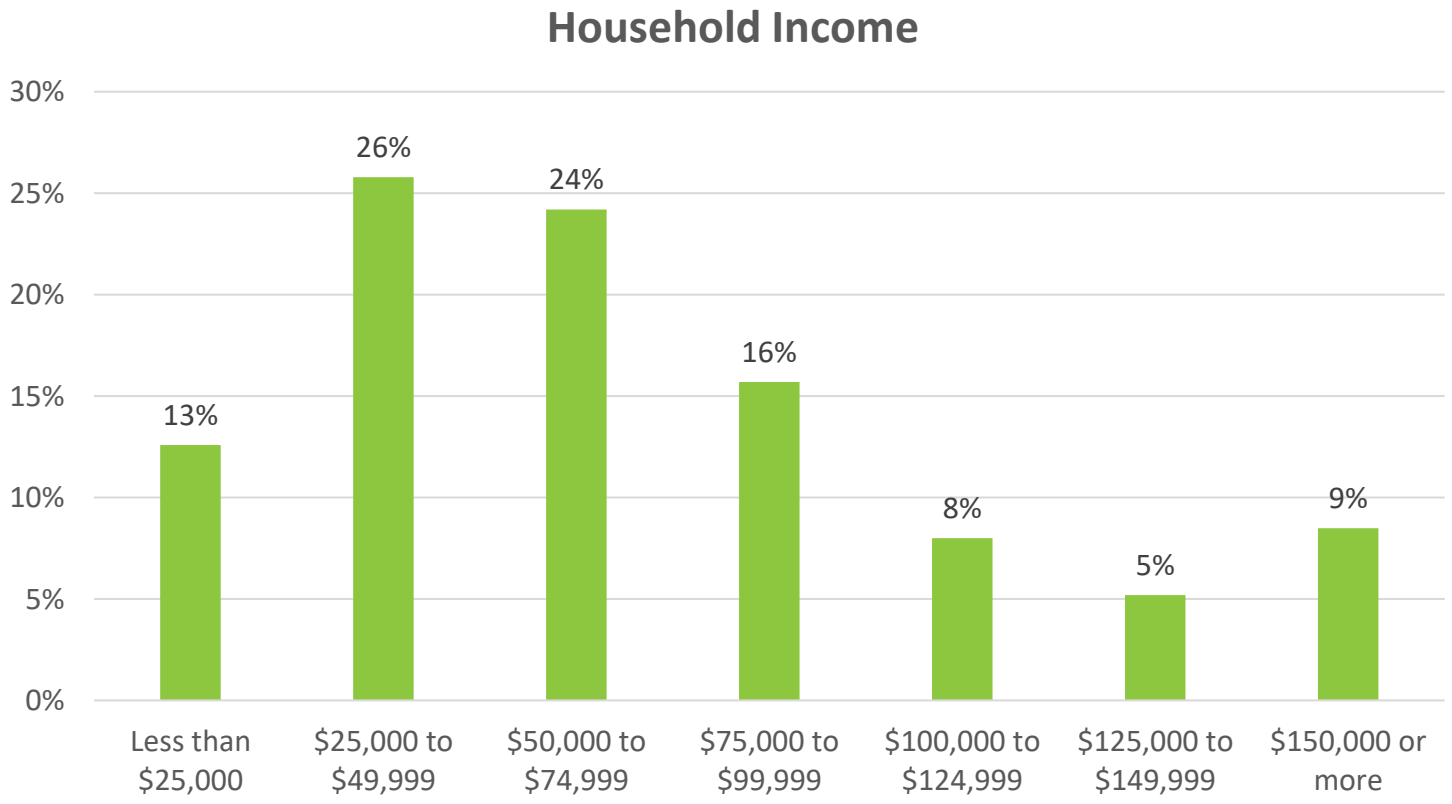
Gender



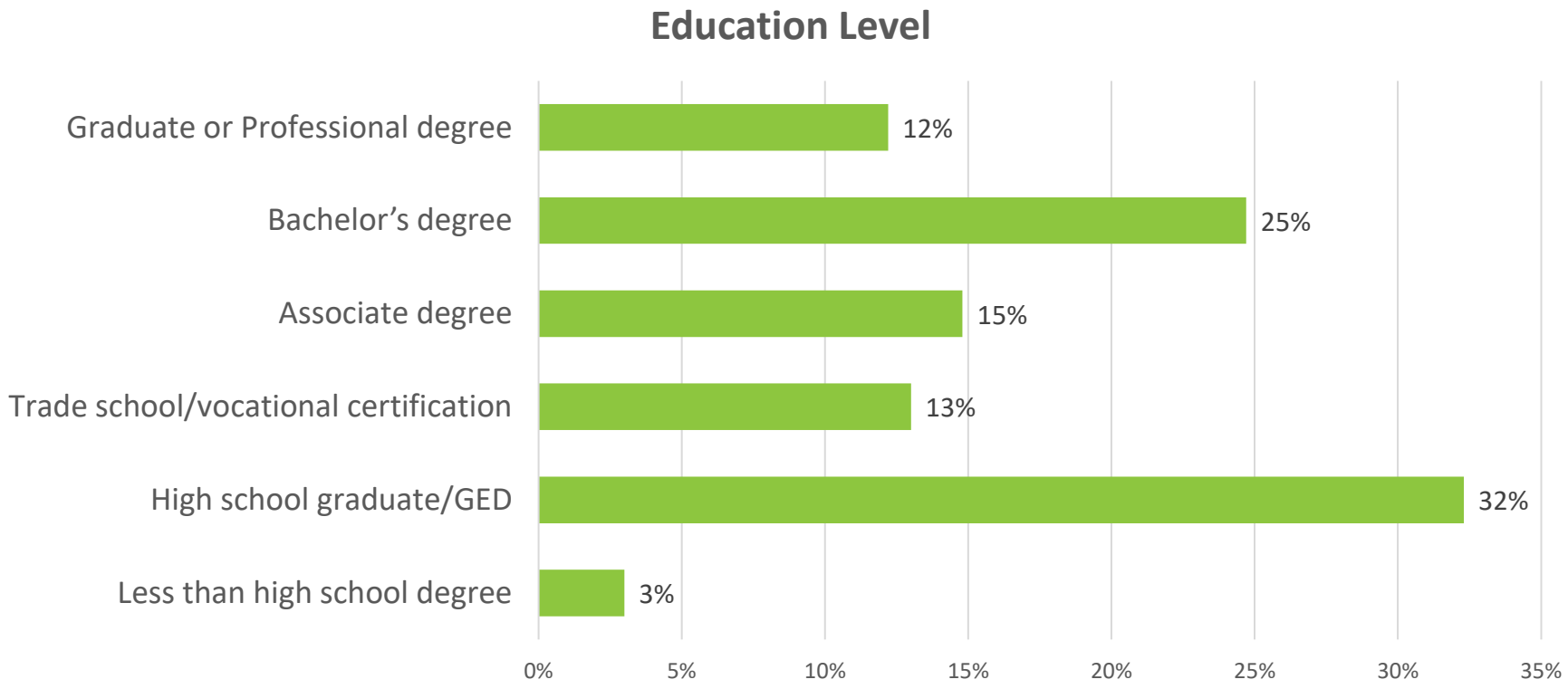
Age Categories



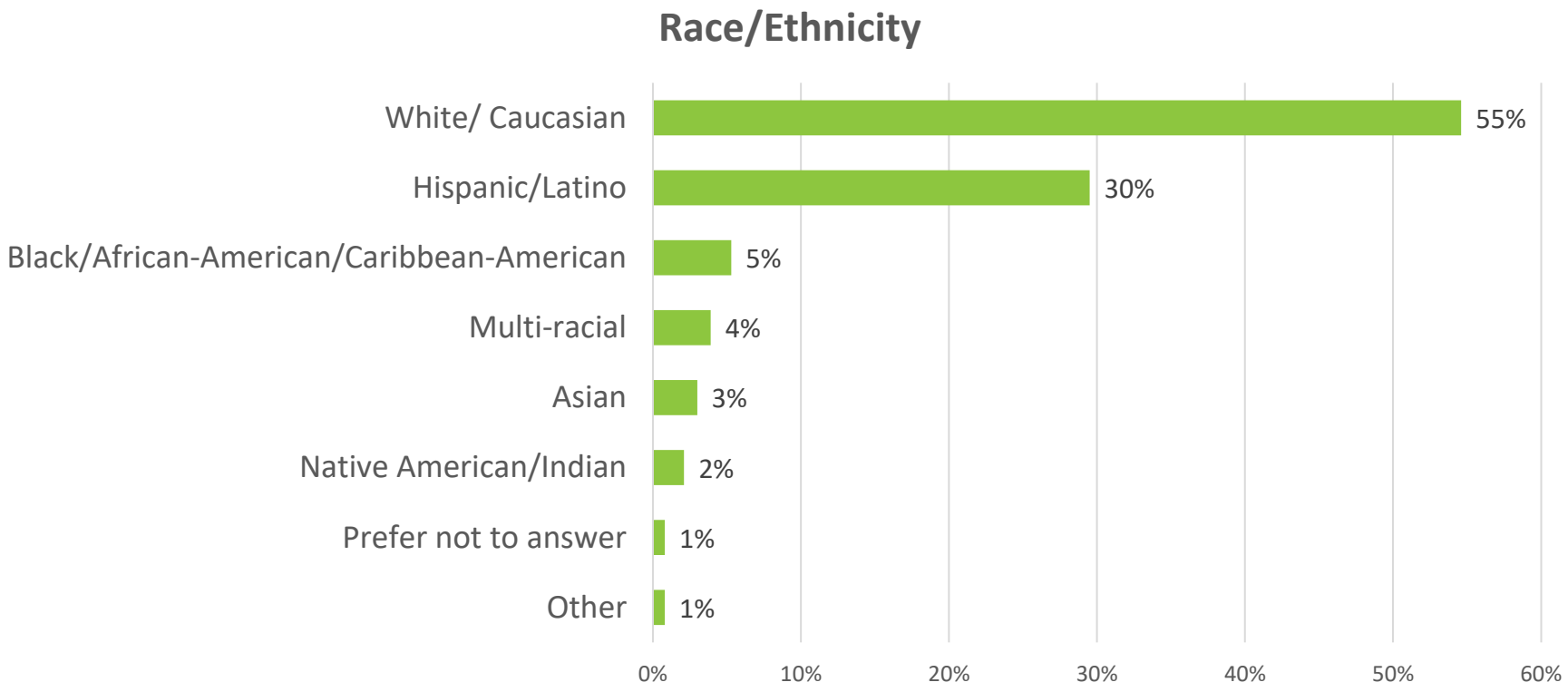
Household Income



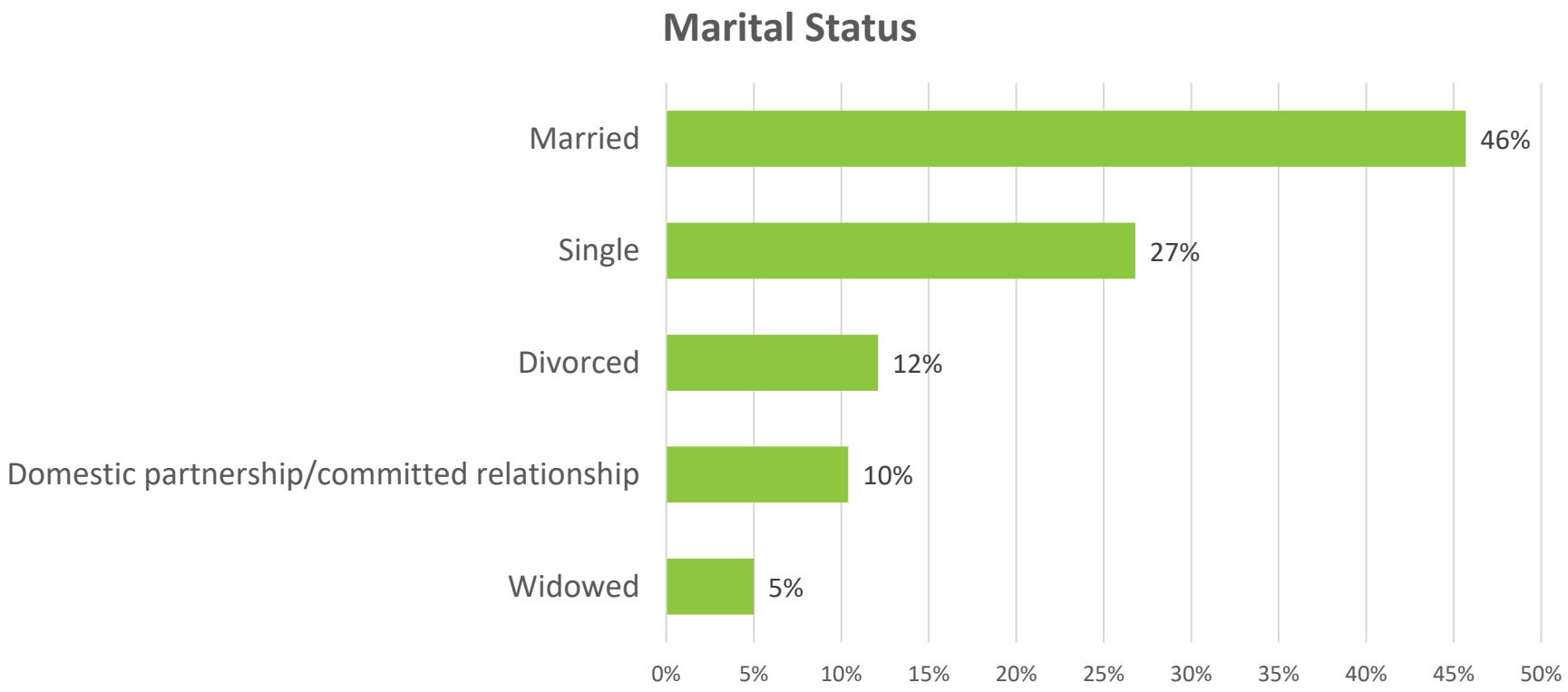
Education Level



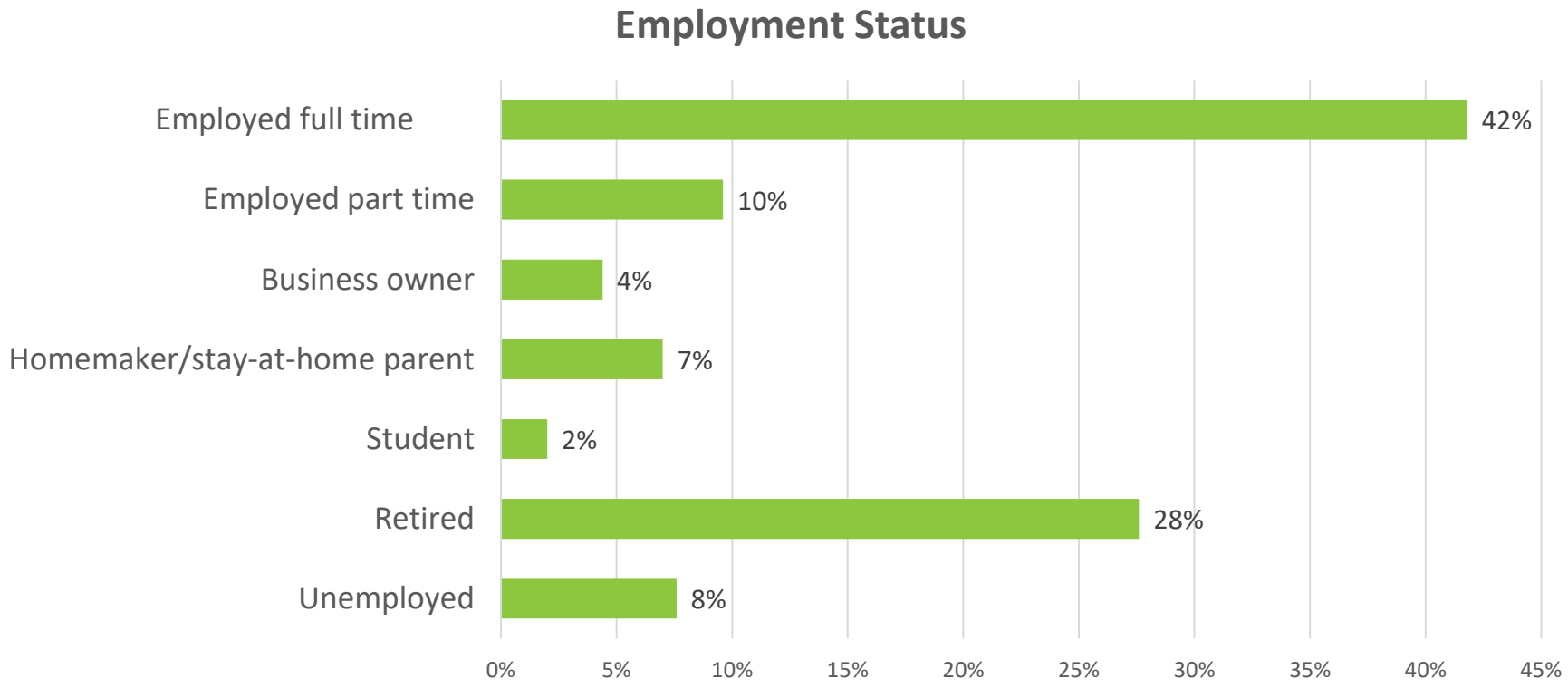
Race/Ethnicity



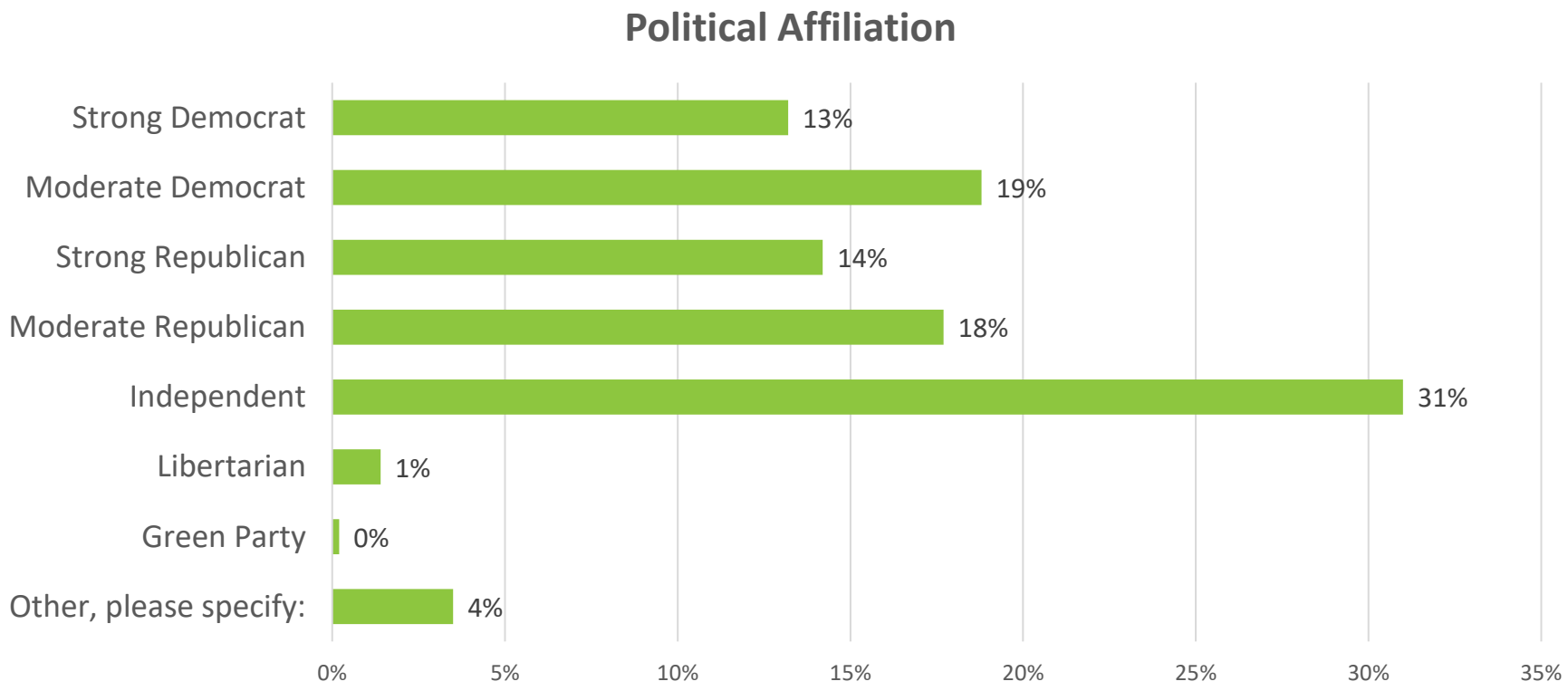
Marital Status



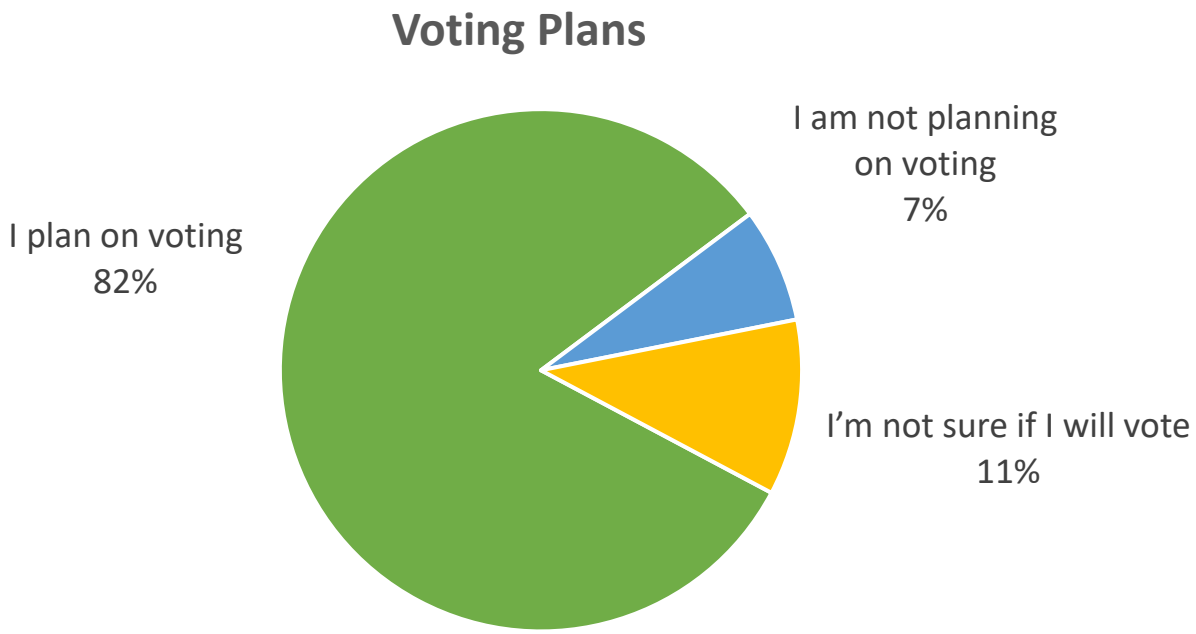
Employment Status



Political Affiliation



Voting Plans



For Reference

2024 AWP Survey

AWP Video Link

Ctrl+click to play

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