



Community Views of Carbon Capture and Geologic Storage Projects

*Key Findings from Voter Surveys and
In-Depth Interviews with Stakeholders
in the Delta and Kern County,
October 2020 to February 2021*





Qualitative In-Depth Interview Findings

In-Depth Interview Methodology

- ✓ FM3 researchers completed more than 30 in-depth interviews with leaders in the Delta region and Kern County, including:
 - elected officials, landowners, agriculture, conservation and grassroots environmental groups, business, labor, academia and regulatory agencies.
- ✓ Each interview took 30 to 50 minutes and was conducted by phone or via videoconference.
- ✓ The interviews followed a 12-question guide covering attitudes about the local community, climate change, and carbon capture and geologic storage.
- ✓ Most were recorded and transcribed with interviewee consent; simultaneous notes were taken during each interview.

Views of the Future

- ✓ Many were concerned about their region's future given the economic, regulatory and climate-change driven pressures it faces.
- ✓ Water was a recurring concern in both regions: shoring up levees, sea-level rise and saltwater intrusion were the most pressing water issues in the Delta; groundwater was a concern in Kern County.
- ✓ Air pollution was also a concern in Kern County.
- ✓ Kern and the Delta interviewees expressed mixed views of growing sprawl, which led to displacement and changes in quality of life but also opportunities for economic growth.
- ✓ A number of interviewees were hopeful that Kern County could reinvent itself as an industry leader in renewable energy.

Delta Respondent Reactions to CCGS

- ✓ **Why are these projects necessary?** What drives the need for CCGS?
- ✓ **Why the Delta?** Why not the desert, or someplace not home to people, agriculture, and wildlife?
- ✓ **What are the risks?** Because so much of the area is covered by water, they inevitably felt the project could threaten surface and groundwater. Earthquake safety was another key concern, along with the potential for spills in transport.
- ✓ **How can we guarantee that it will stay in the ground?** What impacts would it have if it leaked?
- ✓ **Are there examples of other places where this has been implemented successfully?** For how long? Are these places like the Delta (geologically, culturally, seismically, etc.)?
- ✓ **What kinds of jobs might it produce?** How many? For how long? Requiring what kind of training?
- ✓ **How would this impact infrastructure?** Truck traffic was a concern for a few; barges were seen as a no-go by those with experience on Delta waterways.

Kern County Reactions to CCGS

Given the broader familiarity with CCGS and the oil and gas industry among interviewees, these respondents had fewer questions. Common themes in their reactions included:

- ✓ **A chance for Kern County to be a leader.** Some see this as a way for Kern County to build upon its deep experience with energy while maintaining stable, good-paying jobs for local residents.
- ✓ **Possible economic and industry benefits.** Interviewees expressed cautious optimism about taking a leadership role in the energy industry as it shifts; still, they urged setting realistic expectations for the scale and sorts of jobs CCGS will provide.
- ✓ **Confidence in safety.** Many interviewees expressed confidence in the safety of CCGS given their experience with oil and gas, but believed educating the public would be key.



Quantitative Survey Research Findings

Quantitative Methodology

Kern County

- 603 interviews with Kern County voters
- Conducted January 23-28, 2021, online and via landline and cell phones
- Interviews in English and Spanish
- Margin of sampling error of $\pm 4.0\%$ at the 95% confidence level
- Due to rounding, some percentages do not add up to 100%

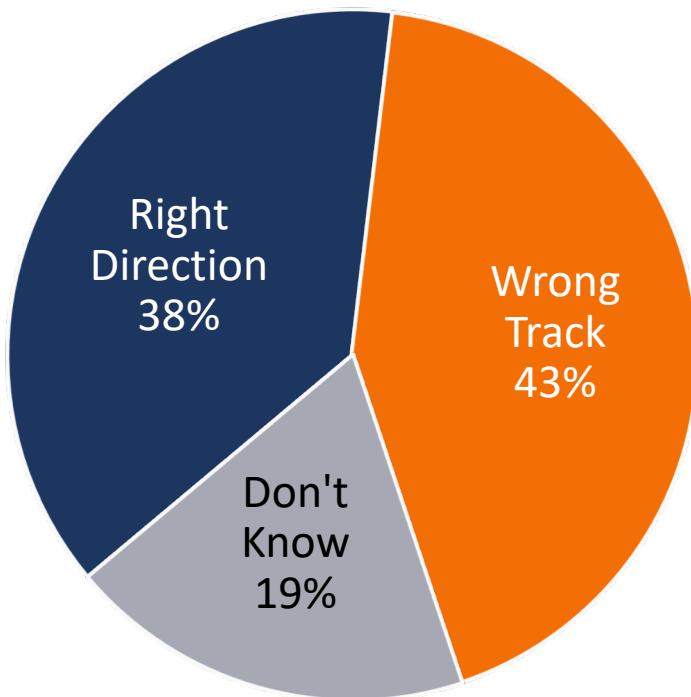
Delta Region

- 648 interviews with registered voters, segmented by geographic area (Stockton, Antioch/Rio Vista/Lodi, and remainder)
- Data weighted to reflect the true geographic distribution of voters in the region
- Conducted October 22-29, 2020, online and via landline and cell phones
- Margin of sampling error of $\pm 4.0\%$ at the 95% confidence level
- Due to rounding, some percentages do not add up to 100%

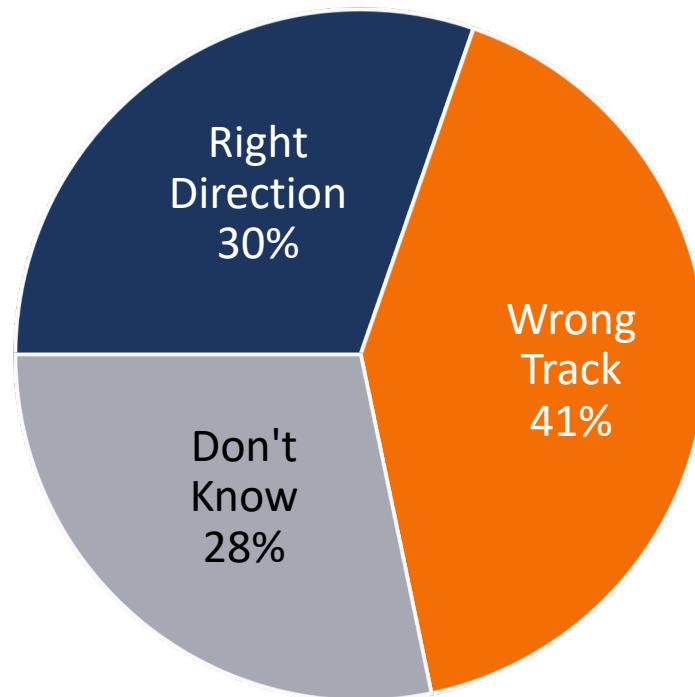
Pluralities in each region feel things are headed in the wrong direction.

Would you say that things in _____ are generally headed in the right direction or do you feel that things are pretty seriously off on the wrong track?

Kern County



The Delta Region



COVID, the economy and water issues are major concerns.

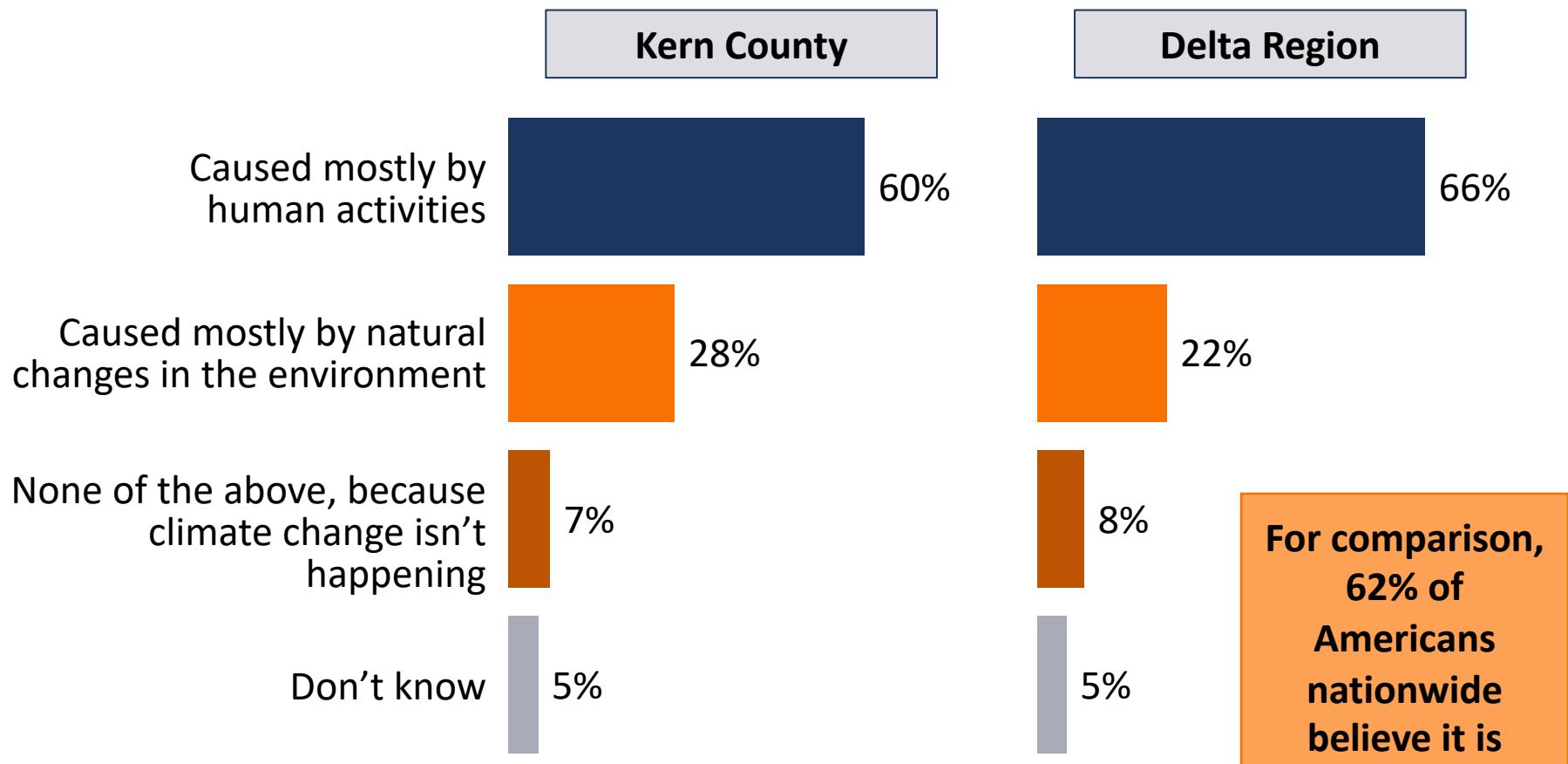
(% Rating Each Issue an “Extremely” or “Very Serious” Problem)

Top Concerns in Kern County	Top Concerns in the Delta Region
The economic impacts of the coronavirus (86%)	The economic impacts of the coronavirus (84%)
Crime (75%)	Pollution of rivers, lakes and streams (71%)
Poor air quality (74%)	Transfer of Delta water to Southern California (70%)
The health impacts of the coronavirus (69%)	Drought (69%)
Long-term water shortages (69%)	The cost of healthcare (68%)
Drought (69%)	Long-term water shortages (67%)
Unemployment (67%)	The health impacts of the coronavirus (67%)
Lack of water rights for local farmers (64%)	Risk of wildfire (66%)
Loss of jobs in the oil industry (61%)	Unemployment (64%)
The cost of healthcare (61%)	

Q2. I am going to read you some problems facing your region that other people have mentioned. Please tell me whether you think it is an extremely serious problem, a very serious problem, somewhat serious problem, or a not too serious problem in Kern County. ^Not Part of Split Sample

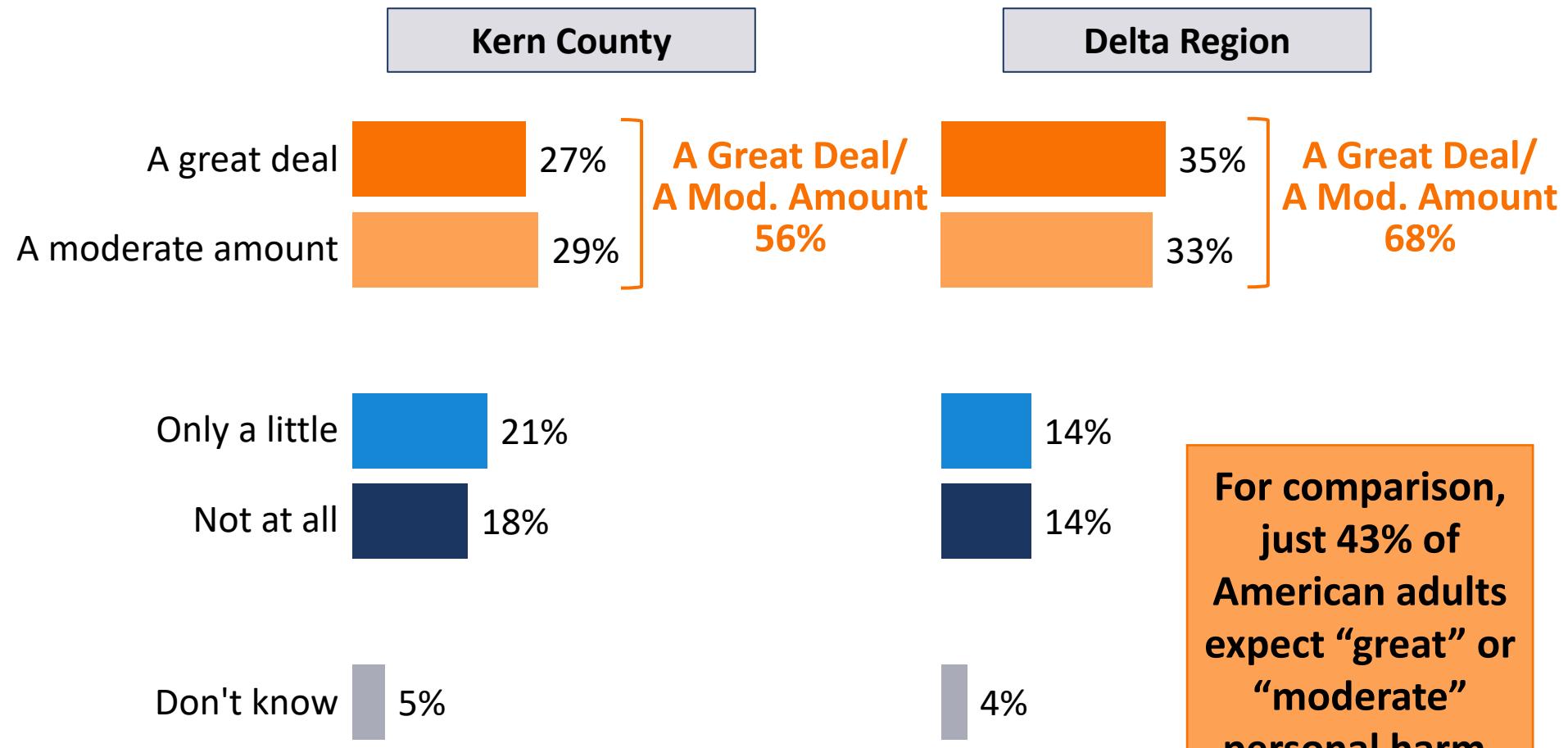
Majorities in both regions understand that climate change is caused by humans.

Assuming that climate change is happening, do you think it is...



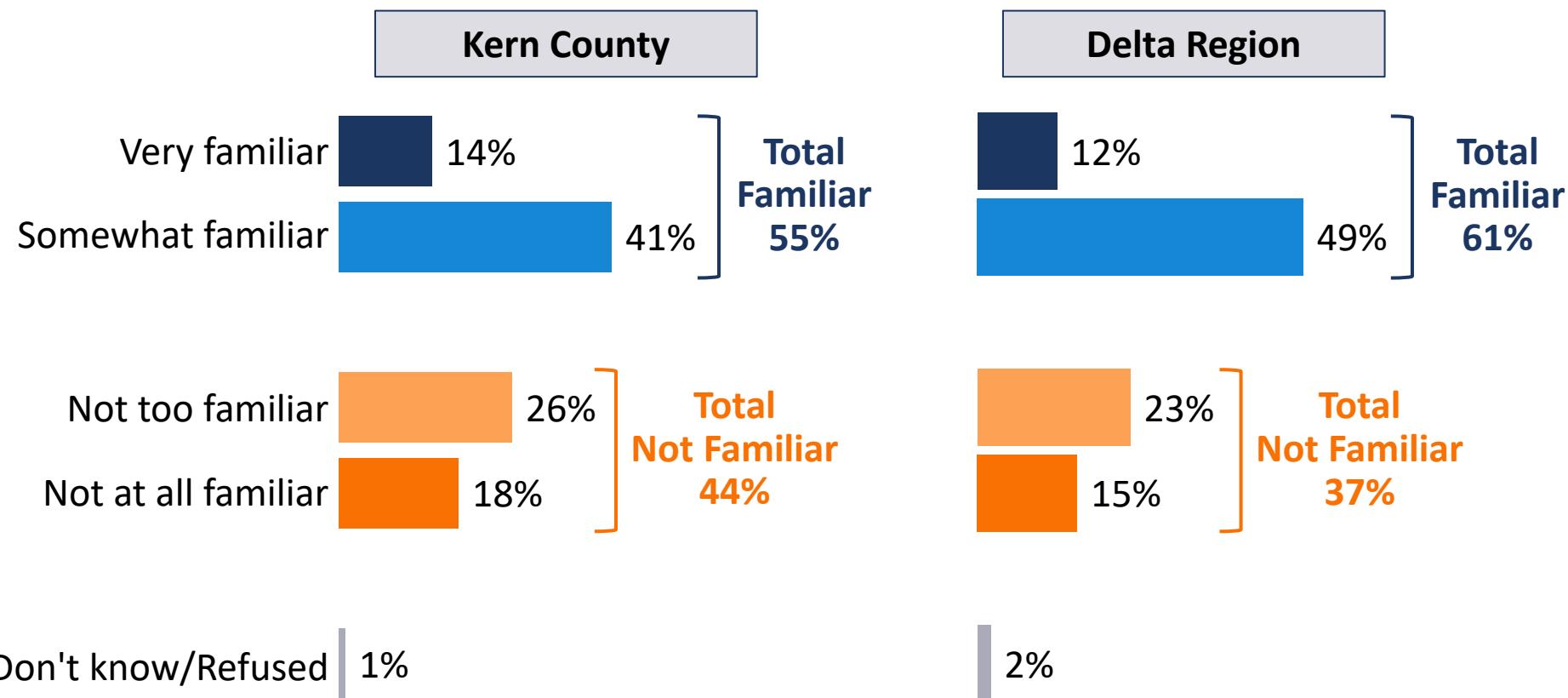
Delta residents are more likely to predict climate change will harm them personally.

How much do you think climate change will harm you personally?



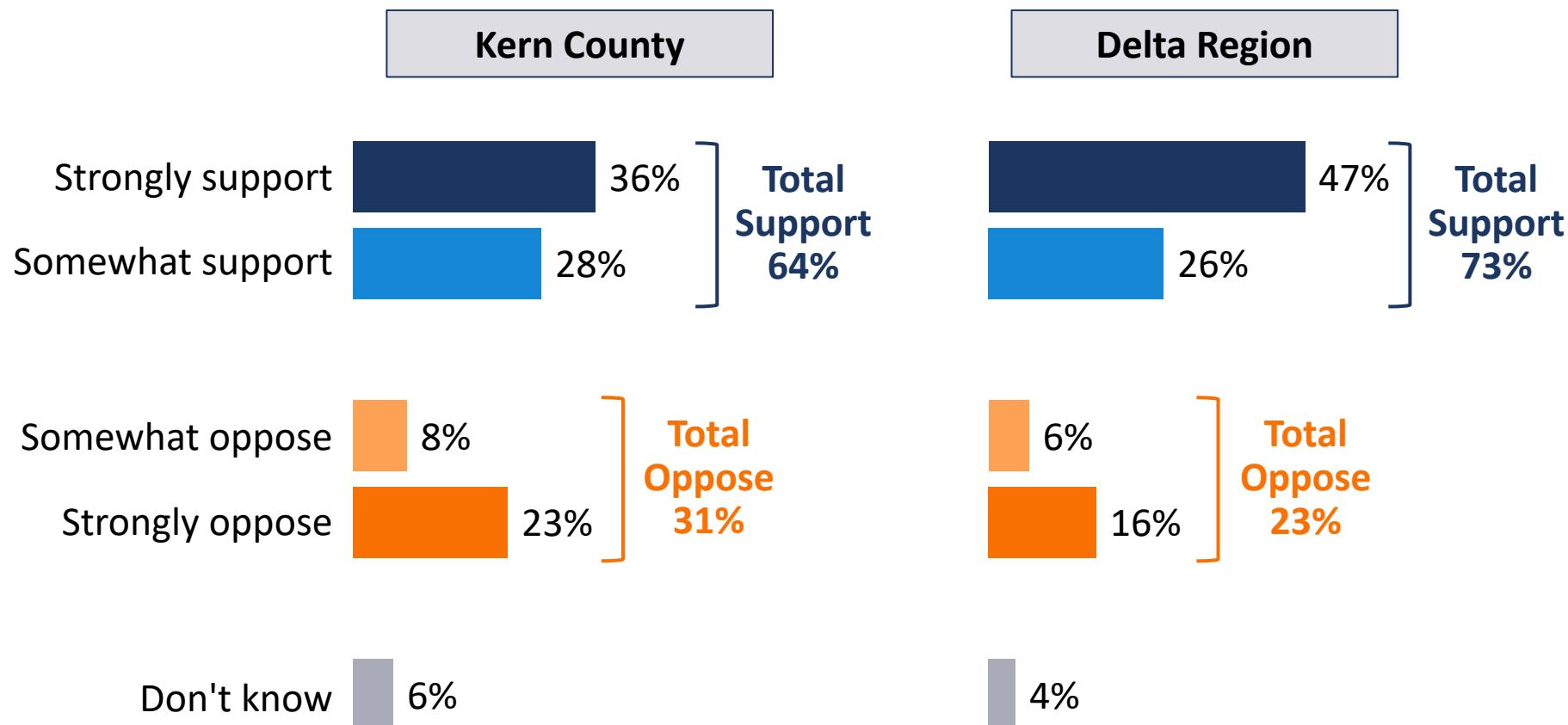
Delta voters are slightly more likely to say they are familiar with state climate goals – though few in either region are “very familiar” with them.

How familiar are you with the goals the State of California has set for reducing climate change?



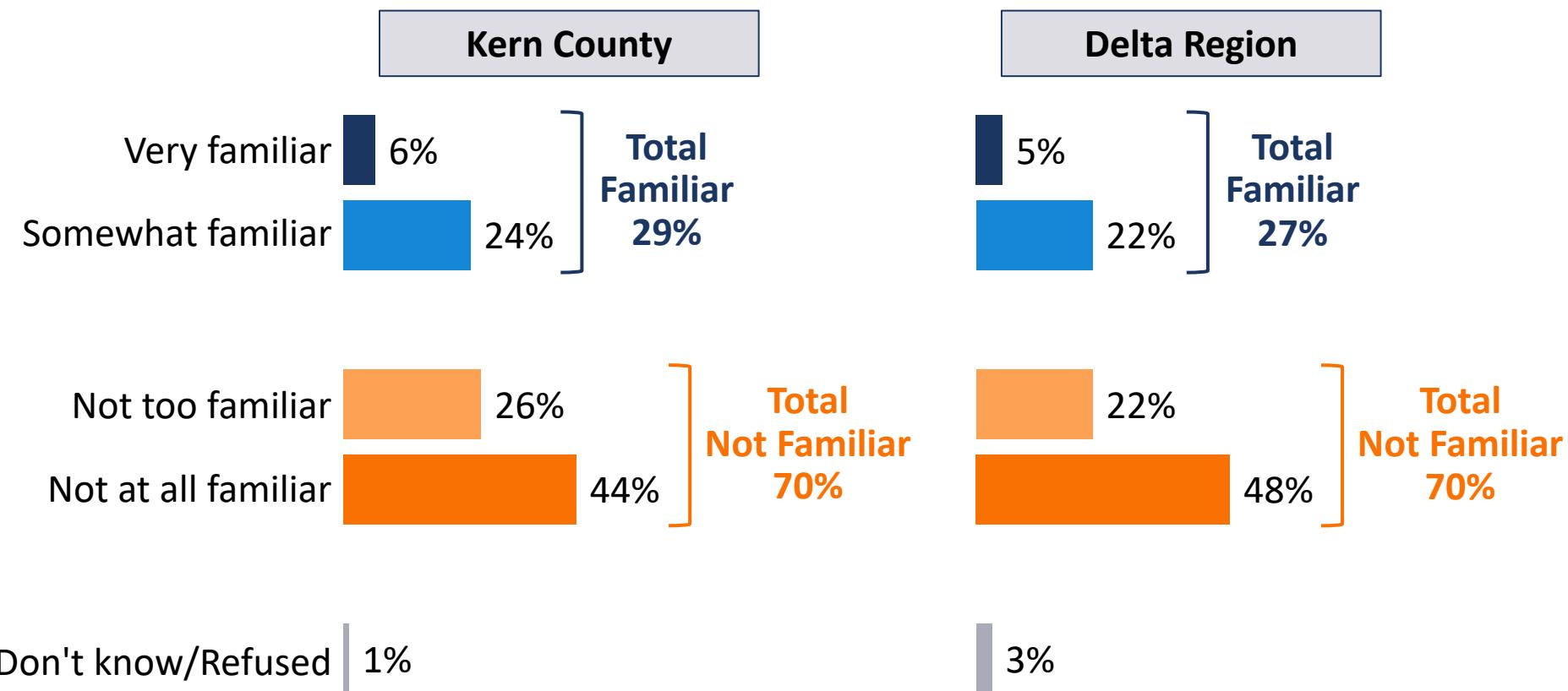
Broad majorities support the State's carbon neutrality goal, though more strongly in the Delta.

As you may know, the State of California has set a goal of becoming carbon-neutral by 2045 – meaning that the state, as a whole, will emit no more carbon pollution than it removes from the air. Does this sound like something you support or oppose?



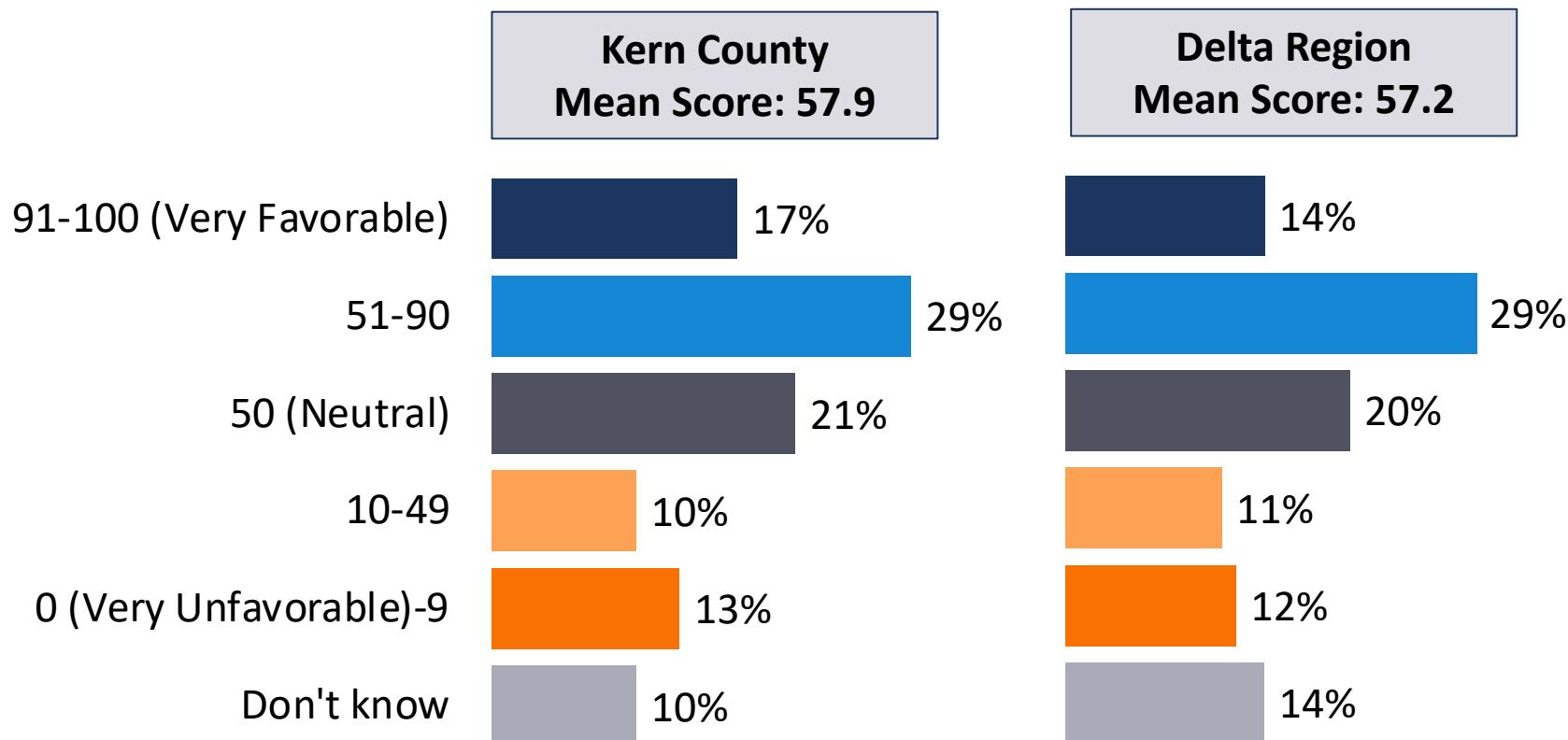
Voters in Kern County and the Delta are largely unfamiliar with carbon capture and storage.

How familiar are you with a type of technology called carbon capture and storage?

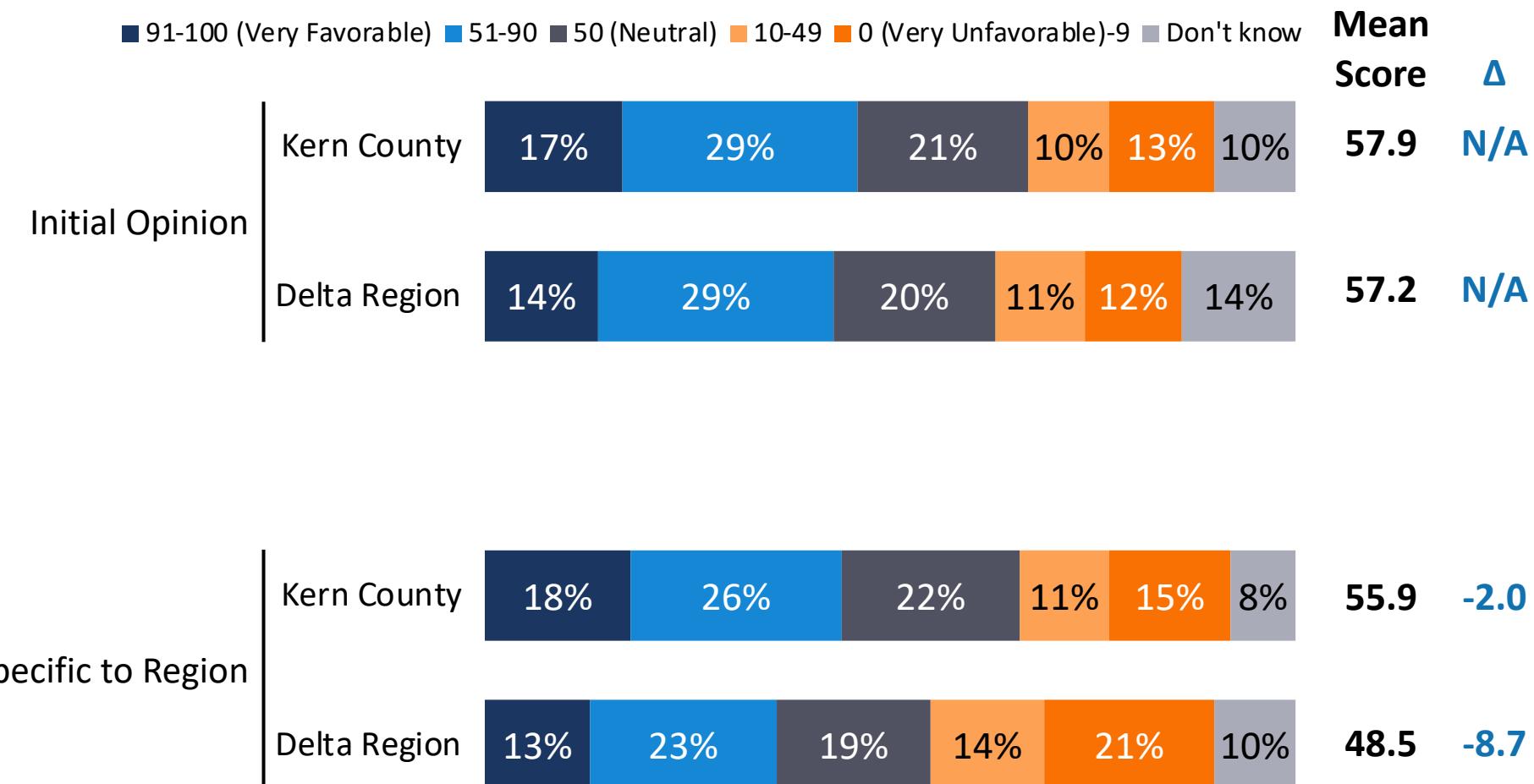


Reactions to a description of CCGS were mostly positive, though with little intensity, in both regions.

Please tell me how you feel about this idea. Please use a scale from 0 to 100, where 0 means you have a very unfavorable reaction to the idea and 100 means you have a very favorable reaction, with 50 being neutral.



When voters were then told these projects could be located in their region, Delta voters were especially likely to reduce their favorability ratings.



Q5 & Q6. Please tell me how you feel about this idea. Please use a scale from 0 to 100, where 0 means you have a very unfavorable reaction to the idea and 100 means you have a very favorable reaction, with 50 being neutral.

In both regions, new jobs, public input and strict protections are key elements.

(Total % Support for Each Component, by Region)

Component	Kern County	Delta Region
Would be subject to a detailed public input and review process before moving forward	72%	79%
Would create new permanent jobs	70%	69%
Would require strict protections for land, water, and wildlife in Kern County/the Delta	70%	77%
Would help to reduce the pollution that causes climate change	67%	68%
Could generate millions of dollars in revenue every year that could fund public works, community needs and Kern County/Delta landowners directly	63%	62%
Would only be implemented under rigorous state and federal safety requirements	57%	64%
Would help California meet its climate change goals	57%	60%
Would make Kern County/the Delta a model for this innovative technology worldwide	56%	49%
Would store carbon dioxide obtained from power plants that burn fossil fuels	55%	52%
Each facility would likely involve two to three injection wells, similar to the gas and groundwater wells in Kern County/the Delta today	51%	44%

Q8. A carbon capture and storage project in Kern County may have several components. I will read a few of these, please tell me whether you would support or oppose that part of the project. If it makes no difference to you, you can tell me that too. Spit Sample

Slim majorities in Kern County support new pipelines; Delta voters are more skeptical.

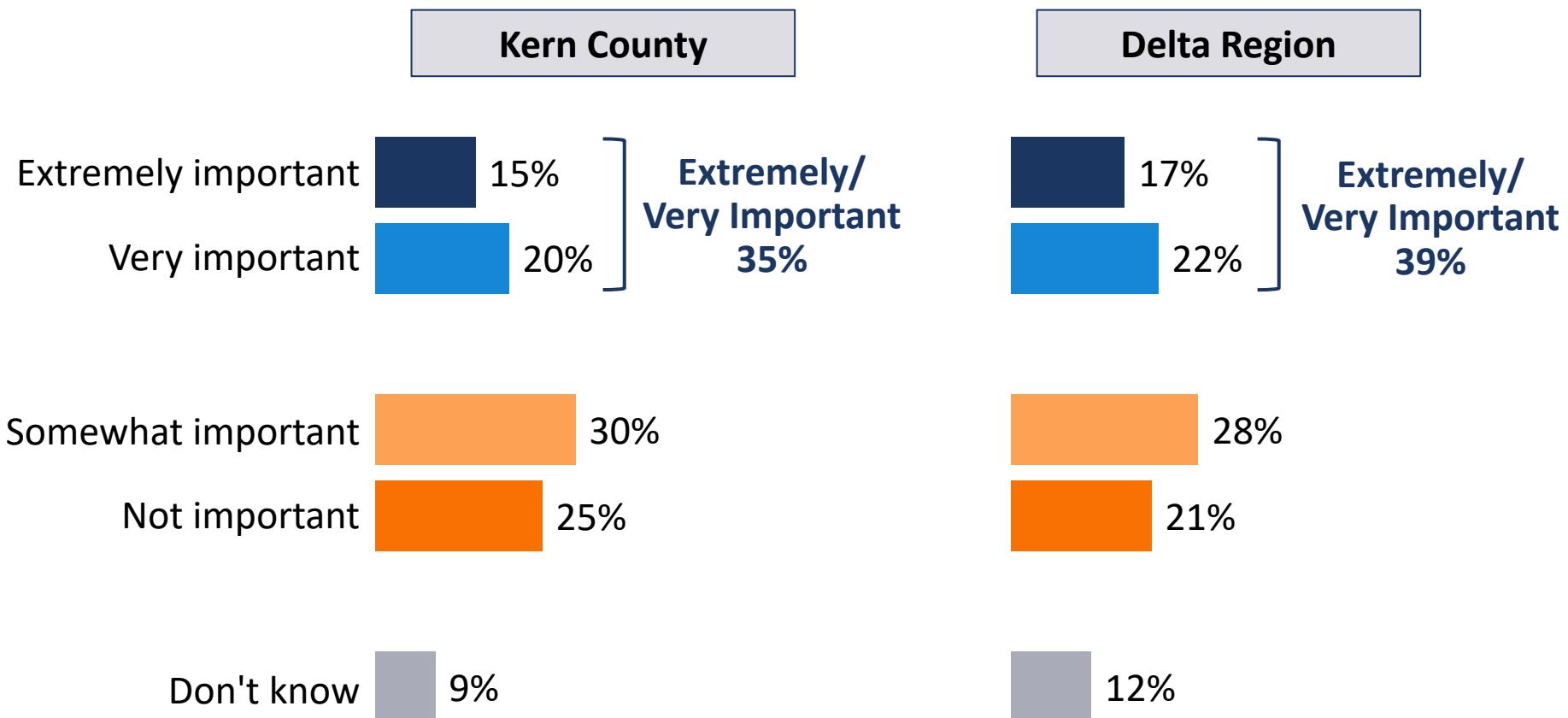
(Total % Support for Each Component, by Region)

Component	Kern County	Delta Region
Would safely store liquid carbon dioxide thousands of feet underground	50%	48%
Would store carbon dioxide obtained from power plants that burn biomass fuels, like those obtained from forests and farms	50%	43%
New pipelines would be built through Kern County/the Delta to transport the carbon	50%	35%
New wells would be drilled to inject the carbon dioxide	43%	--
Existing rail lines would transport the carbon dioxide to Kern County/the Delta	43%	44%
Would inject liquid carbon dioxide thousands of feet underground	39%	37%
Trucks would transport the carbon dioxide to Kern County/the Delta	35%	30%
Could be located within a few miles of where you live	30%	32%
Could be located within a mile of where you live	27%	25%
Barges would transport the carbon dioxide to the Delta	--	36%

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Voters in each region view these kinds of projects as important, but not necessarily urgent.

How important is it to you that carbon capture and storage projects be undertaken?



Local firefighters and farm and ranching families are compelling messengers in both regions.

(Total Trust)

People/Organization	Kern County	Delta Region
^Scientists, researchers at universities and National Labs	--	75%
Local firefighters	72%	69%
Local farming and ranching families	70%	69%
Doctors and nurses	68%	71%
Save the Delta	--	66%
^University scientists and researchers	65%	--
Local small business owners	63%	57%
Hospital officials	60%	57%
Local hunting and fishing organizations	60%	--
^Farm Bureau	57%	--
Local hunting and fishing guides	--	54%
Conservation organizations	--	57%
Local environmental organizations	52%	--
Environmental organizations	50%	60%

Q18. Here is a list of people and organizations that may take a position on carbon capture and storage projects. Please tell me whether you would trust each person or organization's opinion on this issue a great deal, trust them somewhat, be somewhat suspicious, or be very suspicious. If you have never heard of the person or organization, or do not have an opinion, you can tell me that instead. ^Not Part of Split Sample

Project developers and electeds are less trusted.

(Total Trust)

People/Organization	Kern County	Delta Region
Organizations dedicated to diversity and equality	49%	--
Social justice and human rights organizations	46%	--
Your neighbors	45%	50%
Audubon California	--	39%
[^] The oil industry	34%	--
[^] Unions	33%	--
State or federal regulators	33%	30%
Local tourism businesses	--	33%
Your local elected officials	26%	25%
[^] Carbon storage and capture project developers	25%	25%

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Conclusions

- Voters in Kern County and the Delta region start out largely unfamiliar with the concept of carbon capture and geologic storage.
- Given more context, they have positive but cautious reactions. Their ambivalence is driven by the fact that most are hearing about the idea for the first time during the survey.
- Projects located close to their home are less appealing the closer they are proposed to be (especially in the Delta).
- Requirements for extensive regulation and public input and the potential for permanent jobs are broadly supported elements of the projects.
- The most-trusted messengers are those perceived as neutral experts without an ideological or economic stake: farming and ranching families, doctors and nurses, firefighters. National Labs are seen as highly credible messengers in the Delta.

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