

**IMPACT OF
ENVIRONMENTAL
STRESSORS
IN
KETTLEMAN CITY**

BROUGHT TO YOU BY:

- GREENACTION FOR HEALTH AND ENVIRONMENTAL JUSTICE
- EL PUEBLO PARA EL AIRE Y AGUA LIMPIA
- DR. CLARE CANNON AND COLLEAGUES AT UC DAVIS

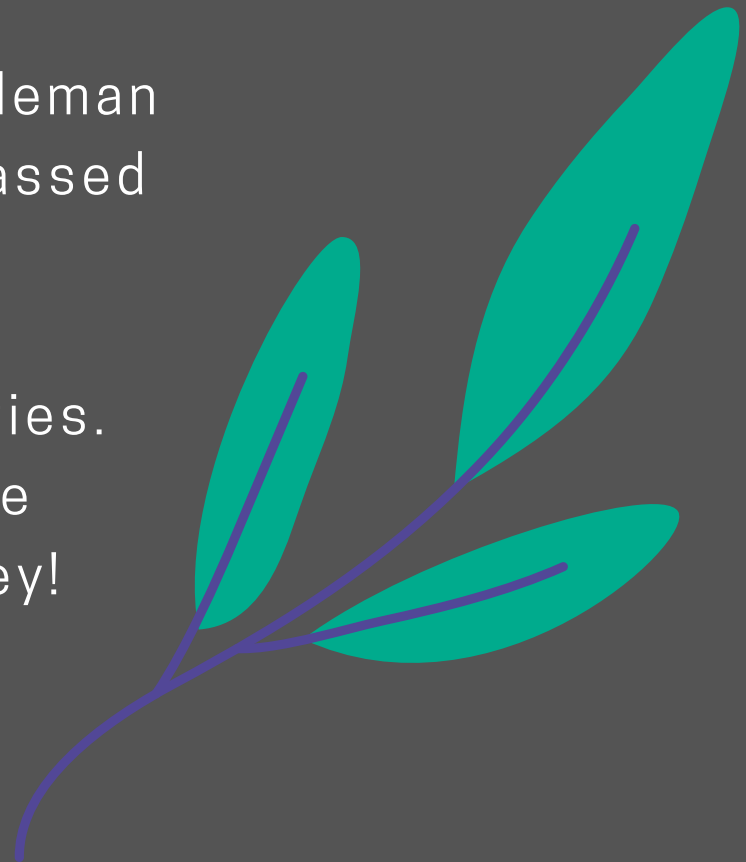


STEP 1

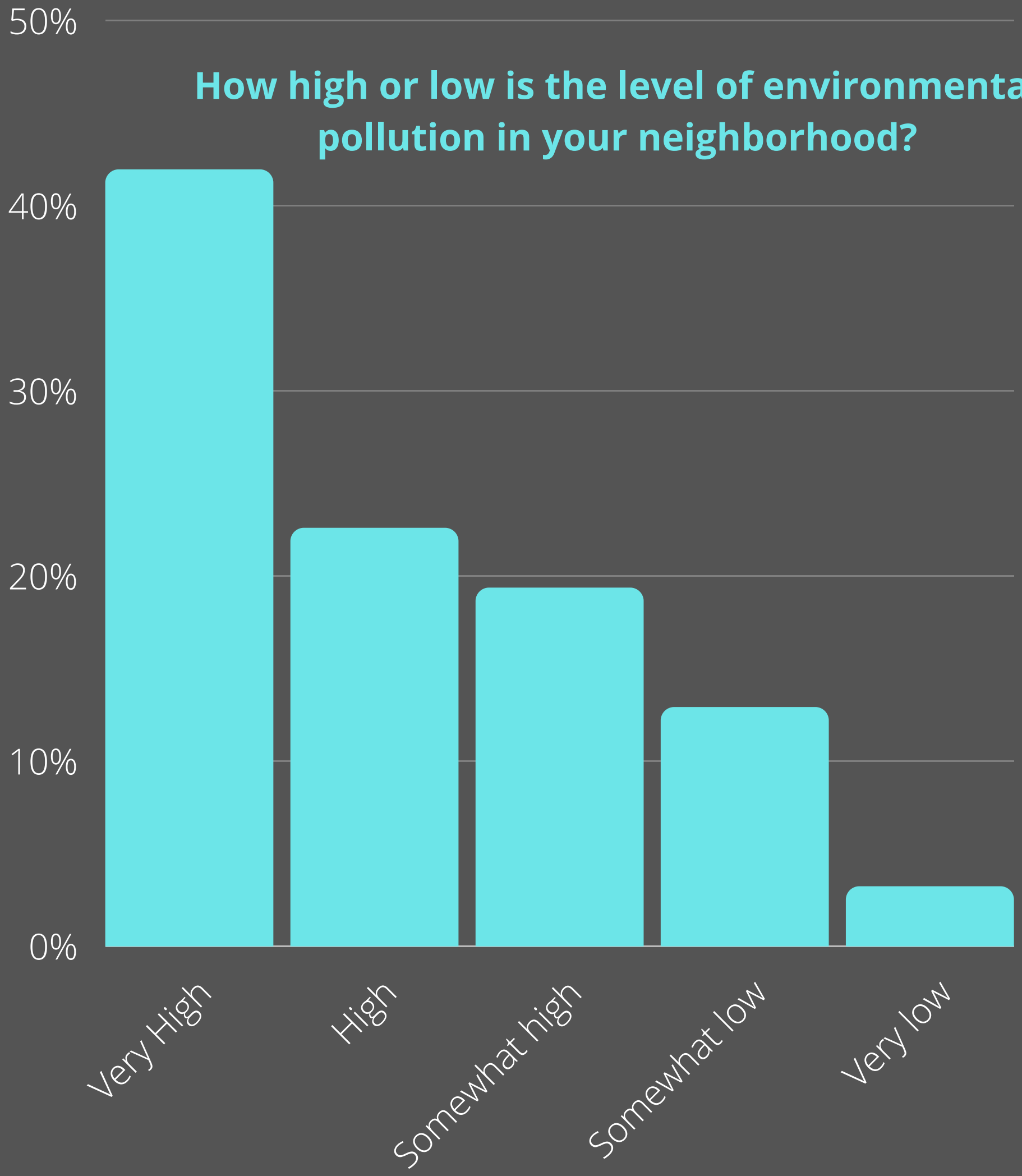
ENVIRONMENTAL HEALTH SURVEY

DETAILS AND RESEARCH METHODS

In 2018 a survey was delivered to Kettleman City households. Out of 300 surveys passed out, 31 were completed. Those survey respondents were asked 85 questions related to the health of their communities. Here are some of their responses to the questions and statements on the survey!



How high or low is the level of environmental pollution in your neighborhood?



Environmental pollution impacts your community's health.

75%

50%

25%

0%

Strongly Agree

Agree

Neutral/No opinion

Disagree

Strongly Disagree



STEP 2

AIR QUALITY TESTING

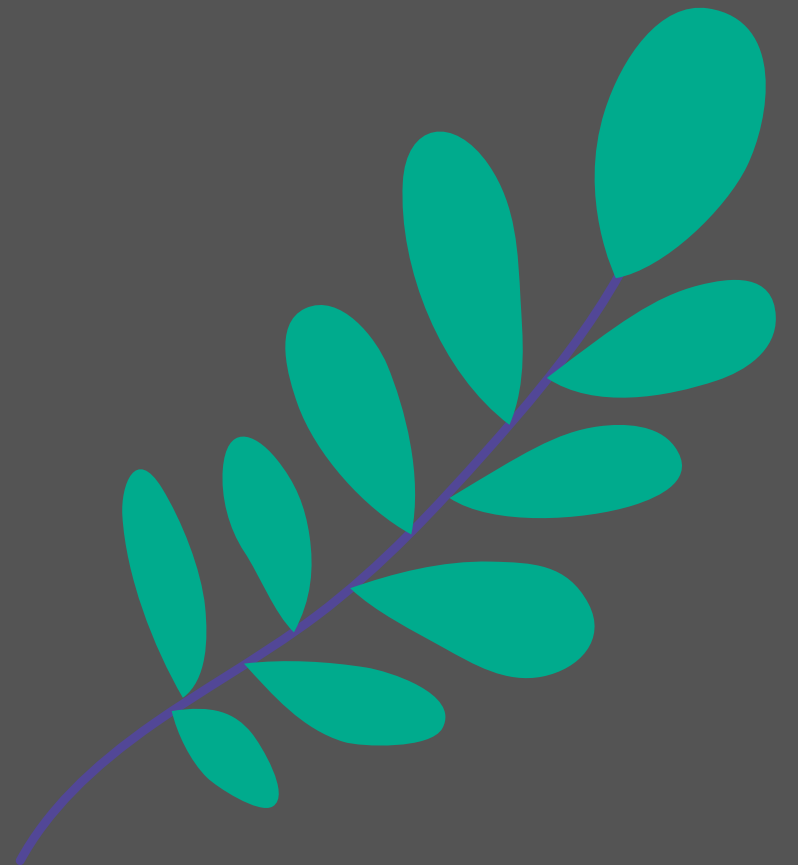
DETAILS AND RESEARCH METHODS

A special measurement method was designed by UC Davis EHSC, UC Davis Air Quality Research Center, the Bioinstrumentation and BioMEMS laboratory at UCD. These measured both particulate matter and VOC (Volatile Organic Compounds)



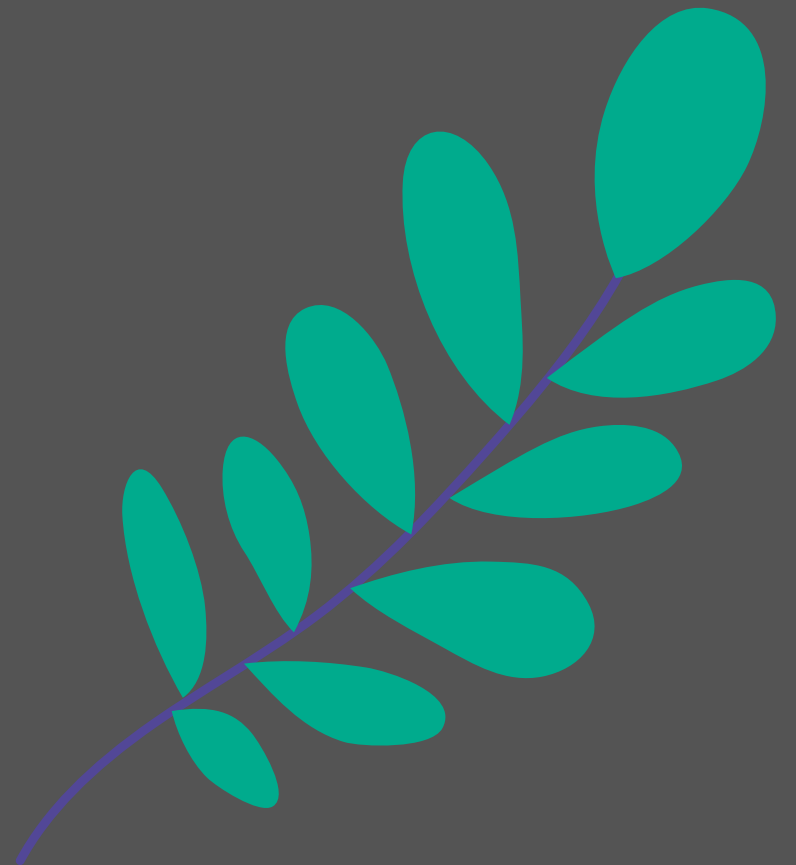
PARTICULATE MATTER

Definition: Microscopic particles
of solid or liquid matter
suspended in the air.



PARTICULATE MATTER

Results: Diesel pollution in
Kettleman City was on average
25x more than in Fresno.



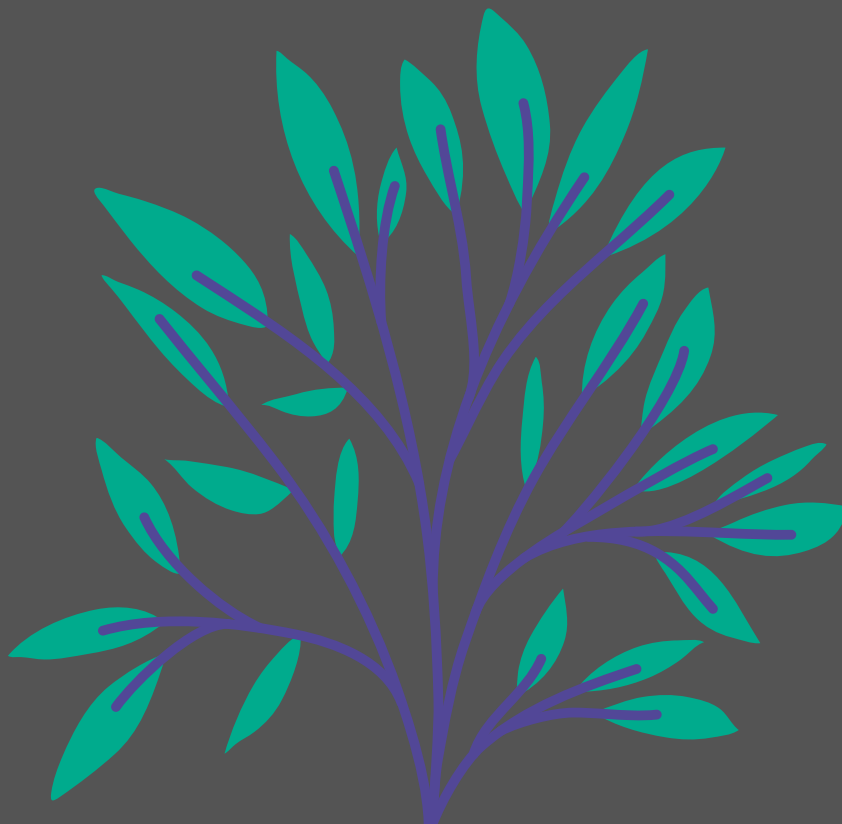
VOCs

Definition: Volatile Organic Compounds are organic chemical compounds whose composition makes it possible for them to evaporate under normal indoor atmospheric conditions of temperature and pressure



VOCs

Results: Some initial results were found using a new method of measurement but further work needs to be done to properly measure VOCs



STEP 3

WATER QUALITY TESTING

DETAILS AND RESEARCH METHODS

To complement existing water monitoring, this study measured local water supplies for trihalomethanes (THMs) and haloacetic acids (HAAs). THMs and HAAs are byproducts formed from chlorine, which is used to kill coliform bacteria in municipal water sources. Ten household water samples were collected in July 2019 in order to analyze for THMs and HAAs.



**Kettleman City has
since changed their
water source. A
huge win for
community!**

RESEARCH WILL CONTINUE

STEP 4

BIOLOGICAL MONITORING

DETAILS AND RESEARCH METHODS

In order to monitor PCBs (polychlorinated biphenyls) we reached out to community members for their participation in a study that analyzed blood samples for PCB concentrations. Ten community members joined our study. This analysis is important because the neighboring landfill is one of the only in the state that is licensed to accept PCBs.

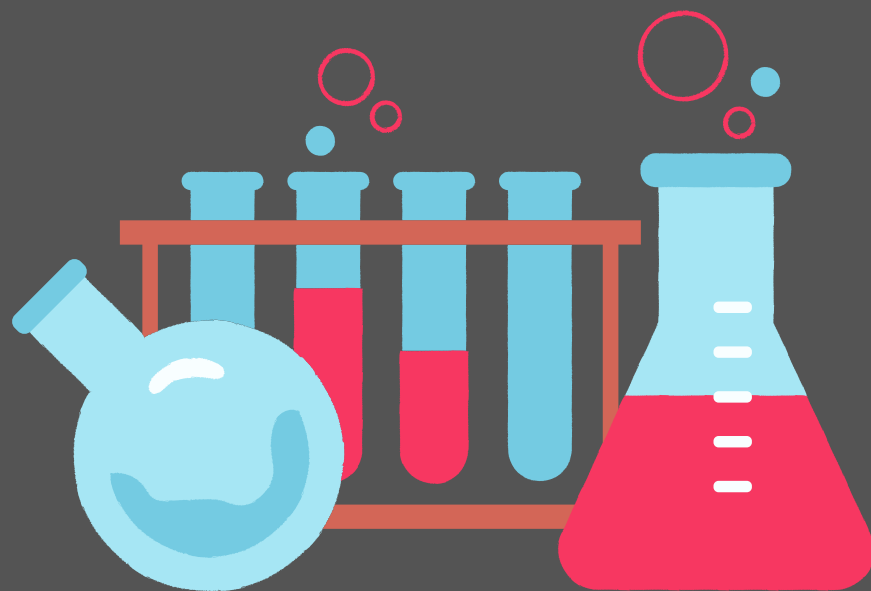


So what are PCBs?

1. polychlorinated biphenyls
2. PCBs have been linked with many kinds of adverse health outcomes including cancers and birth complications (Baibergenova et al., 2003). Research also suggests elevated concentrations of PCBs have been associated with type 2 diabetes (Tornevi et al., 2019).

RESULTS

PCBs were found in participant's blood samples but further studies are necessary in order to understand the health impacts and source of the PCBs. We plan to do additional research and gather the data necessary to overcome limitations in participant group size and a lack of baseline data



WHAT CAN YOU DO?

1. **Get Involved!** Contact Greenaction for Health and Environmental Justice or El Pueblo para el Aire y Agua Limpia
2. **Stay Informed.** Schedule regular doctor's visits and stay informed about the toxins present in your community.

WHAT CAN YOU DO?

3. Contact UC Davis Researchers if you have further questions about the research or if you'd like to learn about opportunities to participate

4. Ask questions and voice concerns! Community concerns drive research and policy change. Continue voicing yourselves and making research and policy change

WHAT ARE YOUR QUESTIONS?

