

Sustainable Leaders in Action

April 2022

Volume 3 Issue 2



The Water Edition

TABLE OF CONTENTS

3

APRIL ACTION OF THE MONTH: MAKE A MEAL PLAN

5

THE REALITIES OF PLASTIC WATER BOTTLES

8

ARE BEAVERS THE SOLUTION TO OUR WATER CRISIS?

10

IMPACTS OF GLOBAL DROUGHTS

11

THE WATER PROBLEM THE SCARCITY OF CLEAN WATER IN DEVELOPING COUNTRIES

14

VEGAN BLUEBERRY WAFFLES

16

PSA FROM THE SUNFLOWER ALLIANCE: NEXT STEPS WE CAN TAKE



APRIL AOTM:

Make a Meal Plan

BY MADDY PARK & ABIGAIL STOFER

Have you ever intentionally or accidentally thrown away your phone? Probably not, since for many of us, our phones are among the most expensive or important items we own. Yet, every year, families throw away enough food to cover the cost of their phones and more! According to the US Environmental Protection Agency, an average American household of four wastes more than \$1500 worth of food! Take action against this food waste with SLIA through our April Action of the month: Make a Meal Plan.



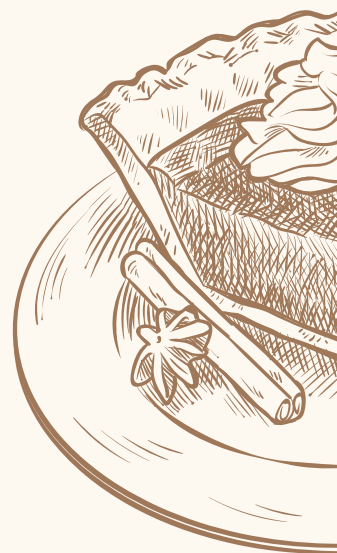
So, why is food waste such a big deal? Well, first of all, food is the single largest category of material in municipal landfills, and this waste creates methane, a powerful greenhouse gas that contributes to global warming. It is estimated that about 8% of global greenhouse gas emissions come from food waste. When food is wasted, so is the energy, water, labor, and land that went into growing, processing, and delivering that food to your table.



In order to combat this problem, an action that you can take is planning out your meals before buying groceries. Survey your pantry and fridge to take inventory of what you currently have, and then make your meal plan for the week. Take into consideration all your takeout, leftovers, and recipes with common ingredients. Based on this plan, make your grocery list!

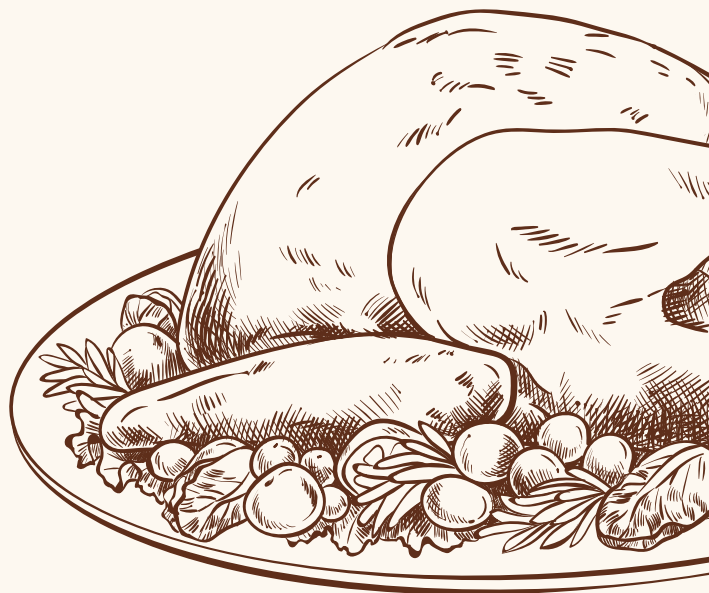


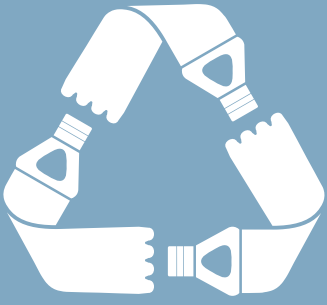
If you have to throw out food, consider composting it instead of simply chucking the waste into the trash. If you practice composting, the food will produce carbon instead of methane as it decomposes and turn it into a fertilizer that you can use in your garden! By using this method, you can save money by getting just what you need, save time at the grocery store, and save the Earth. You can also measure your waste before and after taking on this challenge to see just how much of an impact you are making. To figure out the amount you are throwing away, put your waste in a container and throw it out once it is full, keeping track of how many times you fill it up.



Keep doing this as you implement this action to see how much your food waste is decreasing. As a measuring standard, the average American family of four wastes 45 to 60 cups a week. Let's see how you measure up!

Americans today waste 50% more food than those who lived in the 1970s. Let's reverse this trend together! Make every meal count by joining the Cleaner Contra Costa Challenge and finding more information at <https://cleanercontracosta.org/action/make-meal-plan>.





THE REALITIES OF PLASTIC WATER BOTTLES

By Alison Chiu

When you think about one of the most unsustainable things a person can do, the first thing that may pop into your mind is drinking plastic bottled water. The reality is that there are many dimensions to this common item.

Unsurprisingly, plastic bottled water is extremely harmful to our environment. Not only in the sense that plastic does not decompose quickly (in fact, it takes up to 1000 years), but when it does decompose, plastic releases lots of different toxins into our environment. The negative impacts of plastic bottled drinking water range from the 2 million tons (4,000 pounds) of plastic water bottles in our landfills to releasing harmful chemicals like BPA into our ocean, to polluting the soil with microplastics. With all of the detrimental effects, plastic water bottles have on our environment, it is surprising how many people still choose to use one of these single-use bottles versus a reusable one.

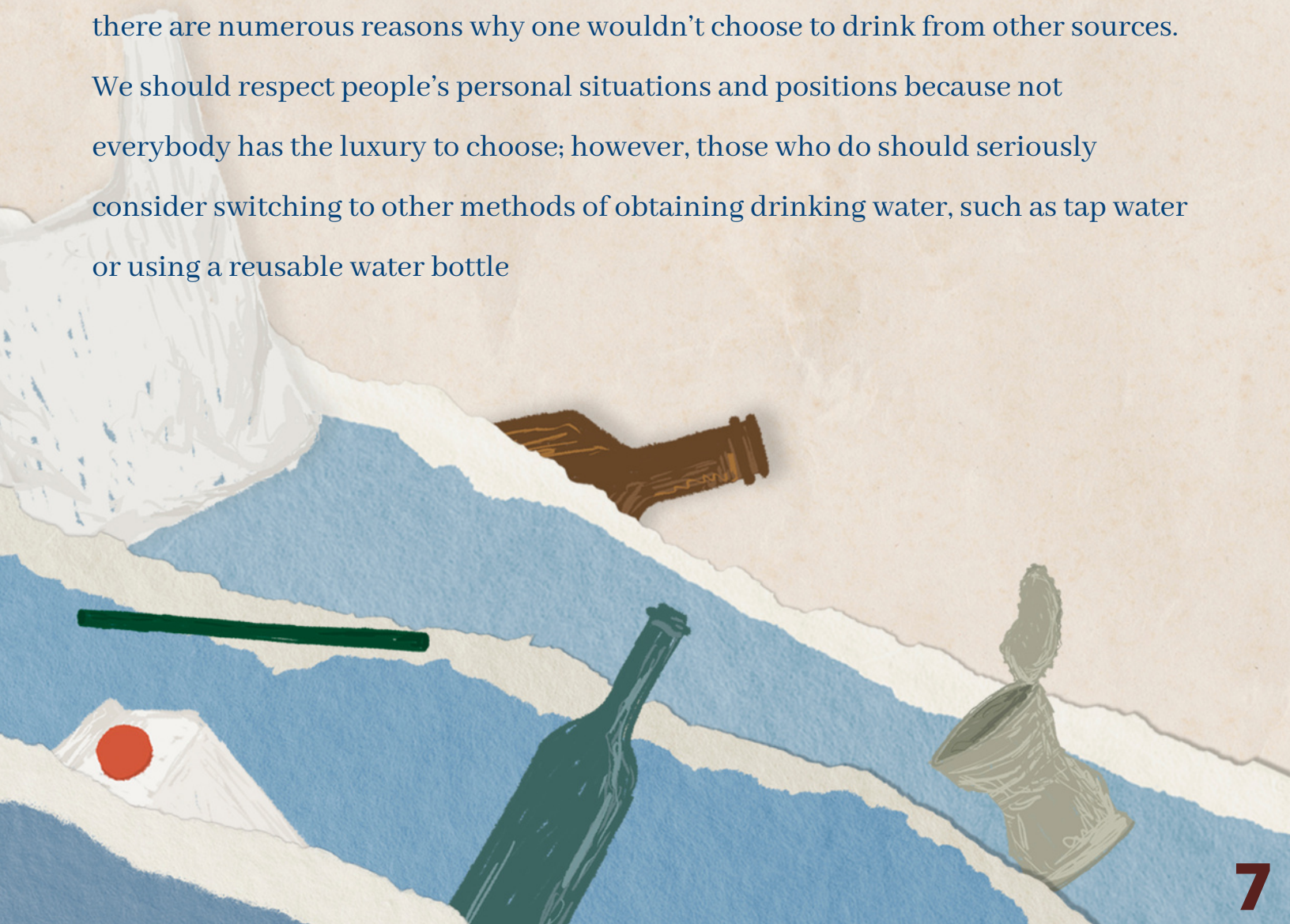
The bottled water industry plays a surprisingly big role in sustaining our economy in the United States. In 2019, the bottled water industry was responsible for providing about 700,000 Americans with jobs and providing the state and local governments with about \$6.9 billion dollars in taxes from their firms and employees!



For some reason, we as a society still rely on much of the bottled water industry despite it actively harming our environment and health on Earth.

Many people choose bottled water over other sustainable sources due to the myth that it is healthier or safer to drink. Public misinformation and stigma have led many to this conclusion, but it's simply not true. In fact, there have been studies showing that bottled water cannot be proven to be better or safer to drink than tap water, and it is estimated that about 25% of bottled water is just tap water.

But at the end of the day, we must acknowledge that some people just can't afford to drink other types of water. From serious health concerns to just plain accessibility, there are numerous reasons why one wouldn't choose to drink from other sources. We should respect people's personal situations and positions because not everybody has the luxury to choose; however, those who do should seriously consider switching to other methods of obtaining drinking water, such as tap water or using a reusable water bottle



ARE BEAVERS THE SOLUTION TO OUR WATER CRISIS?

By Russell Wang



Beavers! Fluffy, chubby and adorable. It's hard to believe that they could be the solution to droughts and wildfires. All over the country, people are creating new complex plans and strategies for tackling climate change and spending billions of dollars on dams, water facilities, etc. And yet, we have these rodents building thousands of reservoirs and creating new ecosystems, free of charge!

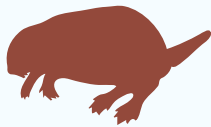


Beavers are widely known for chewing down trees to make dams, which seems counter-productive at first. However, the reintroduction of beavers to the environment has proven to be a brilliant success. The massive return on investment we receive from reintroducing beavers makes it easily worth it. Beavers have the ability to create new ecosystems, increase biodiversity, and attract a whole variety of organisms by collecting large amounts of water. But how are beavers able to accomplish such feats? It turns out the streams that beavers control are able to create ponds, which creates habitats for dozens of species. The newly flooded trees that die but remain standing become bare, making perfect nesting spots for birds. The newly blocked off river becomes a sheltered pond for fish migration. Many other species will begin appearing in habitats created by beavers. Beaver ponds can restore moisture in dry areas, and their dams slow down water in the event of floods. Compared with the huge concrete dams humans have created, it's hard to fathom that beavers can accomplish more just using some sticks.





Wildlife isn't the only thing beavers can help; they can also help combat climate change. With global warming wreaking havoc on the environment, scientists have had to consider new ways to protect our water supply. Man-made dams are effective, but they are expensive and destroy many ecosystems; however, beavers have it all under control. They store water with the dams they create, similar to man-made dams, but instead of destroying ecosystems, they create new ones! The dams beavers create give the water a chance to settle into the land and replenish groundwater. This way, it doesn't stay on the surface and potentially cause a flood. It also allows the water to stay cooler since there is more vegetation growth and colder groundwater temperatures. In addition to storing water, beaver dams can also filter water. As water drains through the dam, it acts as a filter, separating most of the sediment and debris from the water. This leads to purer water as it flows downstream. Also, the wetter environment beavers bring prevents wildfires from spreading so easily. Another interesting fact is that the ponds created by beavers store carbon, keeping the carbon from being released in large quantities.



The effect beavers have on the environment is something we can not take for granted. The U.S Wetland Reserve Program has already begun translocating beavers to help restore ecosystems and make them more resilient to climate change.

Unfortunately, there are still places where beavers are unprotected from hunting. We should be doing all we can to stop global warming and save species from endangerment.

Here we have an animal that has already been doing this for millions of years; all everyone has to do is let them do what they do best.





THE IMPACTS OF GLOBAL DROUGHTS



BY: ALIYAH RAMIREZ

For many residents living in California, droughts - a year with below average water supply - is nothing new. Living in a warm environment with little rainfall during the past few years, residents of California are always monitoring how much water we use and consume. However, globally, people are also realizing the impact droughts have on the environment and communities, leading to societal vulnerability for many.

Over the past three decades, droughts have been the second leading cause of an annual loss of 9 million dollars per year due to weather disasters. Droughts have become a serious hazard and have increased the risk of socioeconomic issues within the United States. Globally, residents have faced issues such as shrunken habitats and food supplies, increased wildlife risk, predicted harm to health and safety, and stunted dairy and agriculture productions.

With agriculture making up the majority of the nation's water consumption, water shortages leave farmers the most vulnerable when droughts occur as they cannot keep up with global demand. However, there are multiple irrigation processes that can help minimize water usage such as capture and storage of water, drip irrigation, and the implementation of more drought resistant crops.

"We cannot get out of water scarcity and the threat of water shortages if we can't reduce how much water we're using on irrigated farms...You can erase all the cities across the map in the Western U.S. and you'd still have water shortages on farms," said Brian Richter, [president of Sustainable Waters](#), a nonprofit based in Utah and Virginia.

Changes in the drought cycle have been monitored by [NASA](#) satellites to measure water availability to the U.S Drought Monitor. Despite yearly droughts as a normal part of the climate cycle, increased global temperatures due to the atmosphere's greenhouse effect have made droughts more frequent and severe.

"The worst-case scenarios don't have to come true. It's not a prediction...To prevent those worst-case scenarios from happening, greenhouse gas emissions will need to be reduced. That's the main determinant of drought risk in the future," said Kate Marvel, a research scientist at NASA.

This pressing issue can be combated in both big and small ways. Starting off with education, people can learn about the impacts droughts can have on the climate and how we can conserve enough water for future generations.

A couple of ways to save water in your household is by fixing leaky faucets, shutting off the faucet when washing dishes or brushing your teeth, and finding new ways to repurpose your water, such as cleaning or watering plants.

"Drought is different from tornadoes, hurricanes, and floods," stated the [National Drought Mitigation Center](#), "But just because drought is different from the other natural disasters doesn't mean we can't plan for it and take steps to help protect ourselves from the effects of drought."

By Joshua Odiase

THE WATER PROBLEM

The Scarcity of Clean Water in Developing Countries

Water contamination is an ever-growing worldwide concern that has plagued developing countries with perpetual water scarcity and the stagnation of economic progress, poverty eradication, and sustainable development. Out of the 7.753 billion humans that inhabit Earth, over 40% of the global population does not have access to clean water , 4.2 billion people do not have satisfactory sanitation services, and 3 billion lack basic hand washing facilities. These grim details can be attributed to increasing rainfall variability; growing water-intensive patterns of drought and pollution; and exponential population growth in countries like Rwanda, Niger, Trinidad, Nicaragua, Haiti, and Chad.

“By 2025, 1.8 billion people will be living in countries or regions with absolute water scarcity”

STATISTICAL ANALYSIS FROM UN-WATER

Developing countries are particularly affected by water shortage, flooding, poor water quality, and inadequate infrastructure to harness water distribution. A staggering 80% of illnesses in the developing world are correlated to inadequate water, sanitation, and hygiene, which disproportionately affect the women and girls in these countries.

Everyone is affected by the lack of clean water, but women and young girls are burdened with the primary role of gathering water and hauling it to their homes. They spend an estimated 200 million hours worldwide collecting water every day. Likewise, the average African woman walks six kilometers to haul 40 pounds of water each day. This monotonous routine exhausts their energy for other activities and robs them of the opportunity to spend this time with their family or pursue school or income ventures to improve their lives and current welfare. According to the World Bank, “Girls who attend school until adolescence are more likely to drop out when they start menstruating unless their school has clean water, latrines, sanitary supplies, and support for hygiene behavior change.”

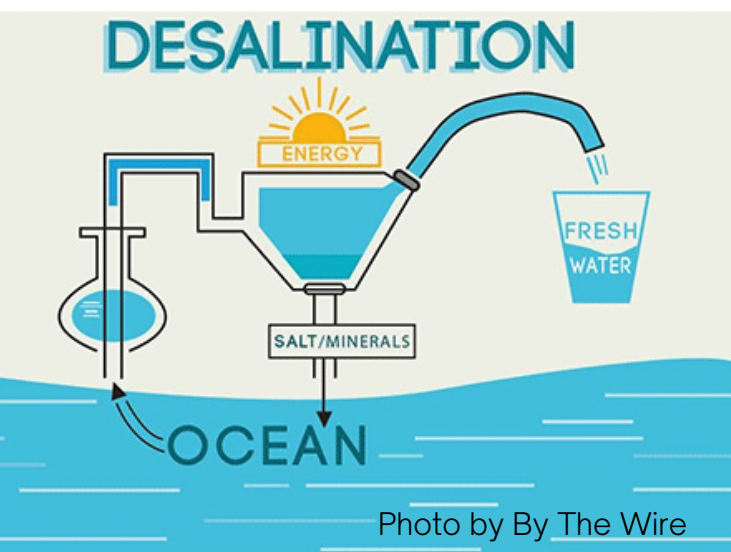
Even with the devastating realities families in these countries face each day, there are organizations whose entire objective is to deliver clean water to them.



Uploaded by Muhammed Ashrafal Alam

Since 99% of the water on Earth isn't drinkable, methods such as desalination are becoming a more prominent solution. Desalination is the purification of seawater or saltwater for human consumption. So far, the country that utilizes this method most frequently is Saudi Arabia, which produces 273 million gallons of water per day. A quarter of Israel's water supply is generated from desalination. Recycling is another primary way to supply water to developing countries. Another effective method is the SODIS method, which is an inexpensive way of providing safe,

healthy drinking water. The process involves sitting a PET bottle filled with clear water in sunlight for six hours. Heat and radiation from the sun reduces the number of potential viruses, bacteria, and diarrheal diseases in the water, limiting waterborne diseases and thus saving millions.



The U.S. has a tremendous water footprint because of the constant import of foods and goods. Government regulation or taxes on these imports could be a strong enough nudge to direct us as a country on a more sustainable path. Investing in irrigation technology could break the vicious cycle where water scarcity leads to the invasion of marginal lands near rivers, which in turn undermines the ability

of the river system to replenish its water resources, leading to further scarcity. We need to be cognizant that even though we have the luxury of fresh water in our homes, schools, stores, restaurants, etc., billions struggle daily because freshwater isn't readily available. So, limiting your water footprint, finding new ways to reuse water, and supporting initiatives and organizations whose mission is to provide water to these countries seeking to end the cycle of scarcity all help in the mission to end water scarcity.



Vegan Blueberry

Waffles

by Brooke Abbess

With a perfectly crispy exterior and fluffy interior, these waffles are absolutely ideal! It's one of my favorite waffle recipes, and the classic addition of blueberries never disappoints. Even better, they are vegan and only take a few simple ingredients!

Adapted from [Jessica in the Kitchen](#).

Ingredients

- 1 ½ cups plant milk
- 2 teaspoons apple cider vinegar
- 2 cups all purpose flour
- 1 tablespoon baking powder
- ½ teaspoon sea salt
- 1 tablespoon maple syrup
- ¼ cup coconut oil (melted)
- ½ teaspoon vanilla extract
- ½ cup frozen or fresh blueberries (add more or less to taste)



Directions

1. In a small bowl, mix together the plant milk, apple cider vinegar, and vanilla extract. Set aside for about 5 minutes to create a vegan buttermilk.

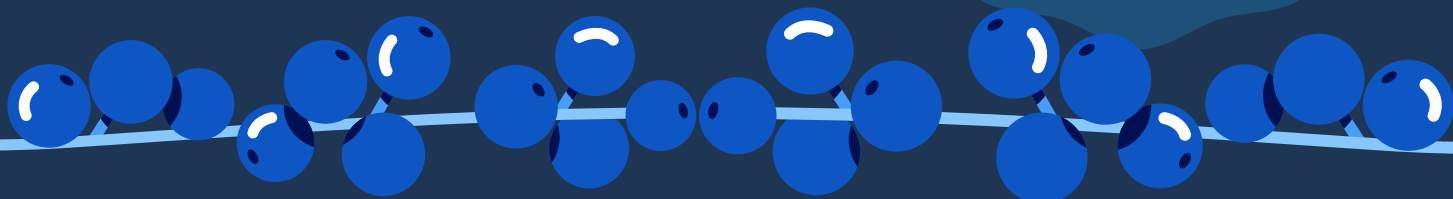
3. Add the buttermilk mixture, maple syrup, and melted coconut oil to the dry ingredients and gently mix together with a spatula until just combined. It's important to not overmix and some lumps are normal. Finally, mix in the blueberries.

2. In a large bowl, sift together the flour, baking powder, and salt.



4. Preheat a waffle maker according to its instructions.

5. Use about $\frac{1}{2}$ cup of the batter for each waffle, adding it to the greased waffle maker. Let cook according to your waffle maker and preference.



Next Steps We Can Take

Contra Costa County will soon release its new oil and gas policy in the Conservation Element of its draft General Plan, which will guide county policy for the next thirty years.

The previous General Plan, put into place in 1990, “encourages” oil and gas production! That dictate is what caused the County to approve the Deer Valley Road drill site in 2019. The still-pending Powerdrive/Sunset Exploration proposal for drilling outside Brentwood, submitted in 2020, will also be considered under the existing General Plan.

Once the new Conservation Element language is released for public review in early May, we’ll be sending the No Drilling petition to the County planners and supervisors as one big public comment. At this writing, there are over 3,000 signatures. But the more the stronger! Please sign (at www.sunflower-alliance.org) and spread the word.

Personal testimony is hugely important, too. Please show up at the Planning Commission meeting on May 11th to let them know we don’t want to see any half-measures. Let’s tell them how we feel about allowing any new oil and gas drilling—at whatever distance from human habitation—in a county that has already declared a Climate Emergency. Contra Costa, walk your talk!

- A recent study from Stanford shows negative health impacts for people living within a 2.5 mile radius of extraction sites, so requiring a mere 3,200’ (.6 mile) setbacks from new drilling is inadequate;
- The UN’s Intergovernmental Panel on Climate Change (IPCC) says that to maintain a livable planet we must phase out all new drilling—everywhere;
- Reviving oil and gas drilling in the county NOW after a 50-year hiatus only accelerates the climate crisis; and
- Contra Costa needs to become a real climate leader by reaching beyond the state’s own regulatory requirements.

Everyone who signs the No Drilling petition will receive email updates. The update will include where to send written comments and a zoom link for testifying at the meeting.

Info will also be available on the Sunflower Alliance website: sunflower-alliance.org . Sign up there for our Weekly Announcements.

Brentwood is still reviewing its municipal oil and gas policy. Join the No Drilling in Brentwood Facebook page for updates on City Council meetings, and stay tuned for Sunflower Alliance action alerts via the Weekly Announcements.



[VISIT OUR WEBSITE](#)



INSPIRE

DEMONSTRATE

COLLABORATE

EDUCATE

Writing & Editing Team

Brooke Abess

Alison Chiu

Maddy Park

Aliyah Ramirez

Josh Odiase

Russell Wang

Abigail Stofer

Art Team

Tatiana Torres

Valentina Barros

Assembly Team

Liezyl Ann Catahan

Navya Gupta

Abigail Stofer

Alison Chiu

Sierra Gorsuch

Promotion Team

Abigail Stofer

Sierra Gorsuch

Liezyl Ann Catahan

SUSTAINABLE



LEADERS IN ACTION