The background of the cover is a large, circular photograph of a diverse group of young people, mostly in their late teens or early twenties, wearing olive green t-shirts and white gloves. They are outdoors in a grassy area with trees in the background, appearing to be participating in a community cleanup or environmental activity. The photo is framed by a large, semi-circular yellow and orange arc that matches the MCE logo's colors. The title 'Youth Climate Education Toolkit' is overlaid in white, bold, sans-serif text.

Youth Climate Education Toolkit

This toolkit contains educational resources to help young people learn about climate change and ways to live sustainably.



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The concepts you need to know

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A photograph of a diverse group of students in a classroom setting. In the foreground, a young man and woman are focused on a textbook. The man, with dark hair and a black jacket, is looking down at the book. The woman, with brown hair and a red plaid shirt, is also looking at the book and holding a blue pen. In the background, other students are visible, some looking towards the camera and others looking away. A large, semi-transparent white circle is overlaid on the left side of the image, partially obscuring the students. The overall atmosphere is one of quiet study and learning.

Learn

**The concepts you
need to know**

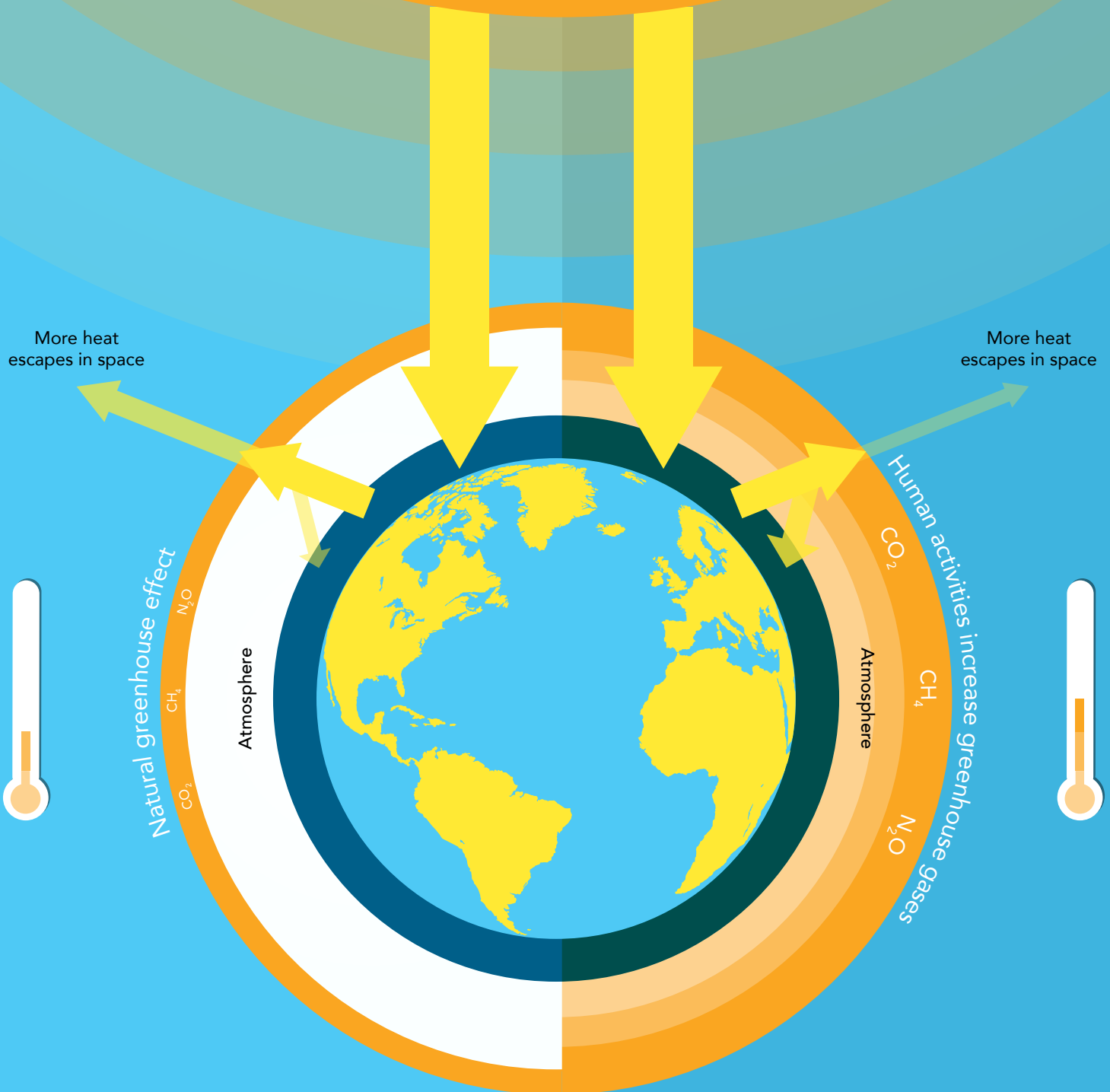
LEARN

What is Climate Change?

The earth's atmosphere is full of greenhouse gases (GHGs) such as carbon dioxide, methane, and nitrogen oxides. At normal levels, these gases trap heat and keep our planet at just the right temperature. This is known as the **greenhouse effect**.

Human activity such as burning fossil fuels has added GHGs to our atmosphere, increasing the greenhouse effect and causing climate change.

While the global climate changes naturally over long periods of time, human activity is causing our climate to change at a drastically faster rate. The result is catastrophic impacts to the environment and human populations.



LEARN

What Causes Climate Change?



Energy

- The use of fossil fuels for electricity and heat accounts for 25% of GHG emissions in the United States.¹
- Fossil fuel energy sources include natural gas, coal, and oil.
- These sources of fossil fuels formed over millions of years as carbon accumulated in the ground and have been depleted by human use in just the last century.²



Transportation

- Transportation produces 27% of GHG emissions in the United States through the use of cars, buses, trains, trucks, ships, and planes.¹
- The majority of transportation emissions come from burning gasoline or diesel, which is the leading cause of air pollution.



Agriculture

- Agricultural uses represent 11% of nationwide emissions through nitrous oxides from soil and fertilizers, methane gases produced by farm animals, and the emissions associated with food processing and transportation.¹
- Clearing trees for agriculture also releases stored carbon into the atmosphere.

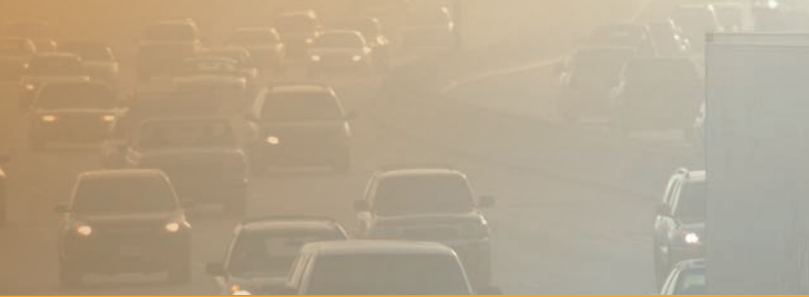


Waste

- The breakdown of waste in landfills accounts for around 15% of human-related methane emissions.³
- Plastics are created from fossil fuels and the majority of plastics in the U.S. end up in landfills. It takes hundred of years for plastic to break down and it never fully decomposes.

LEARN

What are the Effects of Climate Change?



Air Pollution

The burning of fossil fuels creates poor air quality, which can pose serious health complications, especially for children, those with preexisting conditions, and communities located closest to pollution sources. Climate change has increased the prevalence of wildfires, and smoke from these fires raises the air quality index (AQI) as far as hundreds of miles away.

Sea Level Rise

Climate change causes sea level rise by warming oceans and melting ice sheets and glaciers.

Approximately 30% of the global population lives in a zone that will be impacted by coastal flooding due to climate change.⁴ Models predict that the water level in the San Francisco Bay will increase by 1.9 feet by 2050 and 6.9 feet by 2100.⁵



Loss of Wildlife

Due to shifting climates, many plants and animals will be forced to relocate and adapt to new environments or face extinction. The migration of at-risk species may disrupt food chains, decrease biodiversity, and ultimately lead to the collapse of delicate ecosystems.

Water Scarcity

A 2020 study indicated that California may be entering the worst prolonged drought in over 1,200 years.⁶ **Our fresh water reservoirs will continue to be depleted** as rainfall becomes increasingly intermittent, and warmer temperatures speed up the rate of evaporation.



LEARN

What are the Effects of Climate Change?



Ocean Acidification

About 1/3 of carbon dioxide emissions are absorbed by the ocean.⁷ **Increased emissions increase the acidity of the ocean**, putting ocean habitats in jeopardy. Ocean acidification will lead to a decline in fisheries, food supply, and the ocean's ability to absorb our emissions.

Human Health

Climate change increases the spread of disease, causes food and water insecurity, and increases the frequency of natural disasters. The World Health Organization estimates that climate change will cause 250,000 additional deaths per year by 2030.⁸



Weather

Climate change causes dramatic shifts in global weather patterns, creating extreme weather events.

The heating of our atmosphere increases land and ocean temperatures, creating extreme weather events like sea level rise, prolonged drought, more severe wildfire seasons, unprecedented flooding, and strong tropical storms. Since 2010, weather-related events have displaced an average of 23.1 million people every year worldwide.⁹

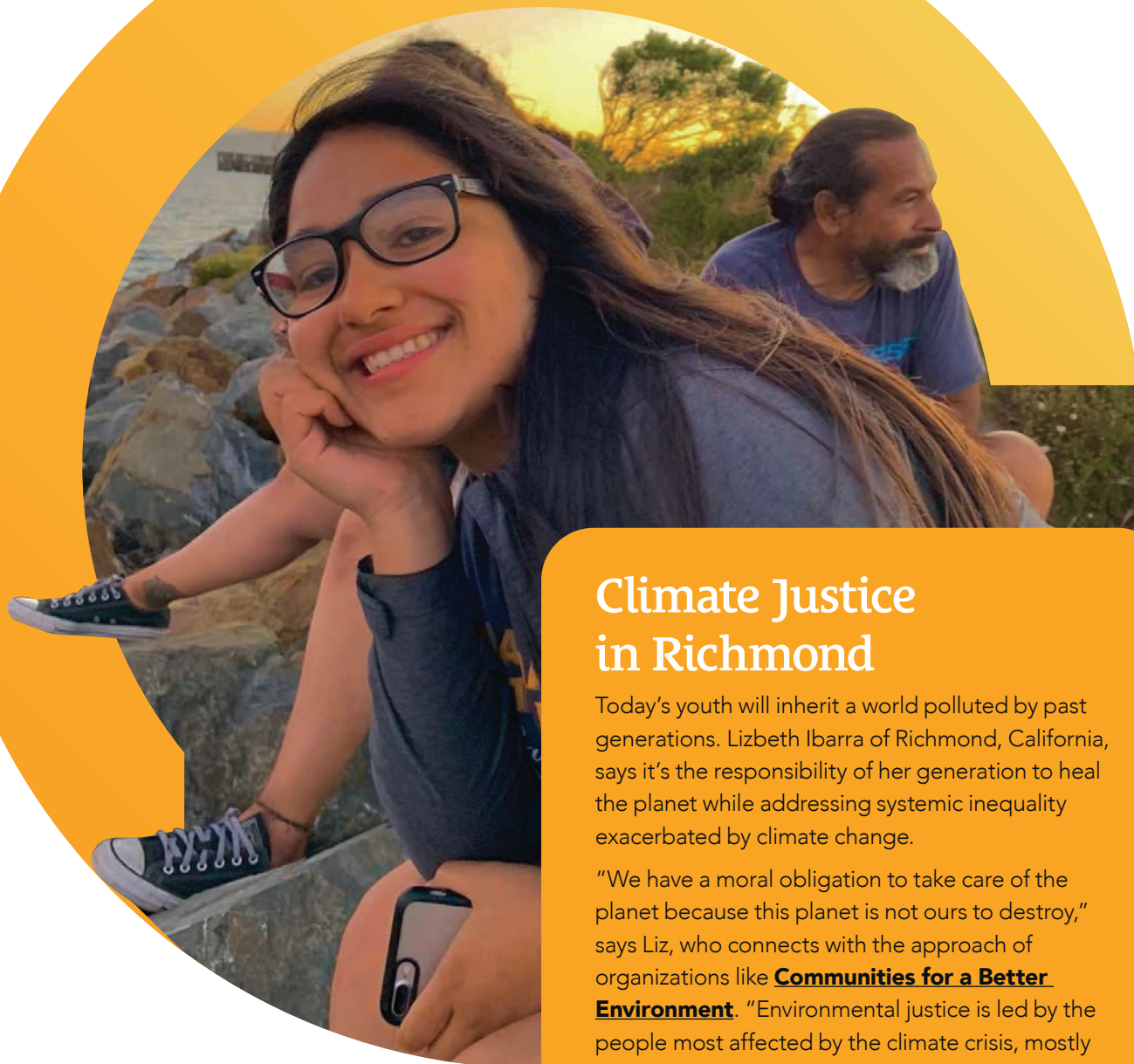


Economic Impacts

The impacts of climate change, including decreased agricultural productivity and destroyed property, **are set to have an extreme impact on the world's economy.** According to the World Economic Forum, climate change could reduce the worldwide GDP up to 18% by 2050 if no mitigating actions are taken.¹⁰

LEARN

Local Spotlight



Learn more about
local youth environmentalists at
mcecleanenergy.org/youth-education

Climate Justice in Richmond

Today's youth will inherit a world polluted by past generations. Lizbeth Ibarra of Richmond, California, says it's the responsibility of her generation to heal the planet while addressing systemic inequality exacerbated by climate change.

"We have a moral obligation to take care of the planet because this planet is not ours to destroy," says Liz, who connects with the approach of organizations like **Communities for a Better Environment**. "Environmental justice is led by the people most affected by the climate crisis, mostly Black, Indigenous, people of color, young people, and low-income people."

Liz has found community in the groups she works with: "It is very empowering to be surrounded by other youth who look like me and are passionate about making a change."

A hand wearing a purple nitrile glove holds a clear glass jar over a body of water. The water is covered with patches of bright green algae. The background is a blurred view of the water and algae. The text 'LEARN' is in the top left corner, and 'Global Perspective' is in large white letters across the top.

LEARN

Global Perspective

Indigenous Resistance in Alaska

Not only are Indigenous peoples among the first to feel the effects of climate change, despite being some of the lowest emitters of GHGs, but Indigenous peoples around the world are also leading the resistance to protect the environment. Tribes native to the Arctic region, including the Yupik, Inuit, Iñupiat, Tlingit & Haida, and Aleut communities of Alaska, have already had to adapt to coastal erosion from sea-level rise and harmful algal blooms exacerbated by warming oceans.¹¹

Despite the challenges, Indigenous activists continue to defend their land against further commercial exploitation. Members of the **Gwich'in Nation**, for example, led a grassroots campaign that prevented oil drilling on **Arctic National Wildlife Refuge** land. While some Arctic tribes have been forced to relocate, many are tapping into the traditions their ancestors have used for thousands of years to readapt and preserve their environment, culture, and home.¹¹

LEARN

Carbon Footprint

Carbon emissions leave a long-lasting impact on the environment. We can estimate how much carbon dioxide is emitted by people's activities; referred to as carbon footprint. If we choose sustainable options for energy, transportation, food and consumption, and water usage, we can reduce not only our **carbon footprint** but also our total expenditure of the Earth's resources.



A close-up photograph of several children's hands and forearms. Two children have green and blue Earth-themed tattoos with faces on their forearms. One child wears a blue wristband with the word 'RICHMOND' and a white paw print. Another child has a green wristband. A box of colorful beads is visible in the background. A large, semi-transparent white circle is overlaid on the image, framing the text.

Take Action

Tips to live sustainably and
reduce your carbon footprint

TAKE ACTION

Water

Can you think of other ways to save water?
Are these actions you are already taking or
plan to do from now on?



1

Take shorter showers and install a water-saving shower head to cut the flow of water in the shower from as high as 5 gallons per minute (GPM), to as low as 1.5 GPM.¹²

2

Turn off the faucet when you wash your hands, brush your teeth, and wash your dishes.

3

Repair drips and leaks immediately.



4

Fully load your dishwasher and washing machine before running the cycle.

5

Rethink landscaping by watering your lawn sparingly or replacing grass with drought-resistant plants.

Check out MCE's **Home Energy Savings** offerings and the **Rising Sun Center for Opportunity's Green House Calls** program, which offers free energy-saving kits.

TAKE ACTION

Transportation

Which of these actions
can you see yourself taking?

What other changes
can you make?



- 1** **Walk or bike** whenever possible, or try “e-rides” like electric scooters, bikes and skateboards.
- 2** When you need to use a car, **carpool** to **keep more cars off the road**.



- 3** **Commute by public transportation** to reduce the total number of vehicles on the road.
- 4** **Talk to your parents about considering an electric vehicle**, which can be more affordable than you might think thanks to rebates and incentives.

TAKE ACTION

Energy

Which of these actions can you motivate friends and family to take?



1

Replace gas appliances with electric ones.

Electrifying technology will reduce greenhouse gas emissions.¹³ Electric cooktops also produce less ambient heat and air pollutants.

2

See if your parents or a neighbor owns a home or retail storefront that is **eligible for solar panels.**

3

Conserve electricity from 4 pm to 9 pm every day when demand for electricity peaks and less renewable energy is available.



4

Turn off unnecessary lights and unplug

vampire appliances that drain energy when they're not in-use.

5

Utilize power strips with an on/off switch to easily turn off many vampire appliances at once.

6

Use fans instead of an air conditioner or set your A/C to 78°F or higher.



7

Replace incandescent light bulbs with LED

bulbs, which use 70–90% less energy.¹³

MCE and **BayREN** offer programs to help you invest in electrifying your home in the Bay Area.

Visit the **SwitchIsOn.org** to find qualified contractors and learn more about electrification incentives.

Learn more energy-smart pro tips at

mcecleanenergy.org/4-9-energy-savings

TAKE ACTION

Waste & Consumption



- 1** **Properly dispose of waste** by sorting items into their designated containers. Visit your local waste haulers website to learn what is and isn't compostable and recyclable.



- 2** **Donate or sell items** in fair condition that you no longer need.



- 3** **Recycle and upcycle used materials.** Avoid discarding items to the landfill when you can, and be creative in reusing them.



- 4** Whenever possible, **use reusable items** (like shopping bags, utensils, and water bottles) instead of single-use plastics. Go a step further by demanding that your favorite business reduce their excess packaging.



- 5** **Consider alternatives to fast fashion**, which harms garment workers and the planet.



- 6** **Use less.** When you do need something new, opt to buy lightly used clothing and home goods from a local thrift shop, a consignment store near you, or a second-hand online retailer.

TAKE ACTION

Food Systems

What's one thing you can start doing today?



1

Cut down on the amount of meat in your diet.

Over 50% of food-related emissions come from animal products.¹⁴

2

Reduce your food waste

by properly storing perishables and eating leftovers. On average, people waste 25% of the food they buy.¹⁵

3

Choose organic foods,

when you can find and afford it, as they're less taxing on the surrounding environment to grow.



4

Purchase produce and other groceries from local farmers markets and co-ops

or, better yet, start a garden if you have the space. Local and seasonal foods travel fewer miles to get from the farm to your table, releasing fewer emissions from transportation.

5

Compost any uneaten or spoiled food,

because organic waste emits methane when it ends up in landfills.

6

Volunteer your time or rent a small plot at a community garden

near you. Community gardens thrive throughout the Bay Area, such as in San Rafael, Vallejo, and Richmond. Urban farming is helping to alleviate food insecurity around the country.



Get Involved

Partner with your community
to make an impact

GET INVOLVED

Spread the Word

It's important to have discussions about climate change. While 72% of Americans believe in climate change, only an estimated 35% discuss it.¹⁷ A great way to be a climate activist is to share what you know with those around you. Whether it's in person or online, helping others learn about climate change and the environment is one big way to make a difference.



Climate Change Conversation

Meet people where they are. The goal is to find common ground, not to prove you're right.

- **Don't be shy** to bring up climate issues with your friends and family.
- **Engage in intergenerational conversations** with your parents or grandparents.
- **Speak from your personal experience**, using "I statements," to avoid making assumptions or generalizations.
- Learning a lot of new information at once can be overwhelming. **Lead with examples or values** that the person you're talking with can personally relate to.
- **Focus on actions** and hope for the future.
- Ask yourself and your peers what actions you're already taking and **what more can you do**.



GET INVOLVED

Spread the Word

Social Media and News

- **Stay informed** by following environmental organizations, subscribing to newsletters, such as New York Times Climate Forward, and listening to podcasts.
- **Utilize online platforms** as a jumping-off point for making change, not as the final destination.
- **Always check sources** and read an article fully before sharing.
- **Engage with local issues** AND expand your feed to include international pages.
- **Amplify your peers' voices** when they speak up about climate change.

Media Literacy Tip

Watch out for greenwashing! As consumers demand that companies reduce their carbon footprints, some companies may want to benefit from marketing themselves as "green" without putting in the work to make change.

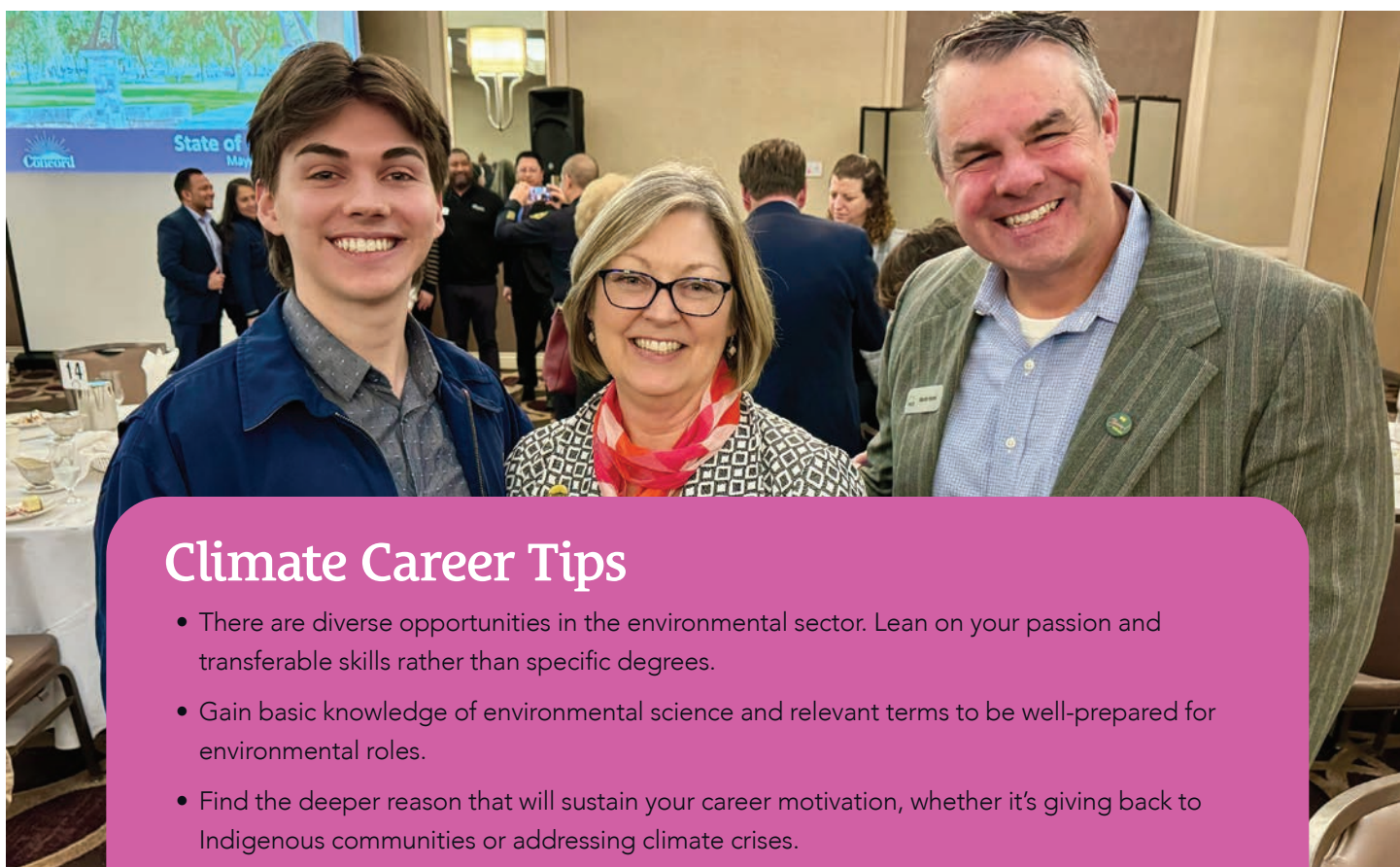
If a product or company advertises being sustainable, **check the fine print** to see how sustainably sourced an item is, where a company is investing its funds, and if the environment is emphasized in the company's mission statement.

GET INVOLVED

Environmental Careers

With the world increasingly focusing on sustainable practices and green technologies, there's a rising demand for individuals who can innovate and lead in this sector.

Whether you're passionate about engineering, environmental science, or business, there are numerous academic paths that can pave the way to a successful environmental career.



Climate Career Tips

- There are diverse opportunities in the environmental sector. Lean on your passion and transferable skills rather than specific degrees.
- Gain basic knowledge of environmental science and relevant terms to be well-prepared for environmental roles.
- Find the deeper reason that will sustain your career motivation, whether it's giving back to Indigenous communities or addressing climate crises.
- Participate in internships to gain essential work experience, boost your resume, and determine which roles align with your environmental career goals.
- Stay updated on current events and discoveries to understand issues and solutions.

Organizations like **MCE** and **SEI** offer internships to help you explore professional environmental careers.

Learn more at mccleanenergy.org/careers or sei.org/people/jobs

GET INVOLVED

Find Community in Bay Area Organizations

Take a step beyond your personal impact and find or build a community who can join you on your journey. Standing together is a powerful way to achieve local and global climate goals.



climateNOW

**CONSERVATION
CORPS NORTH BAY**

A path to a better future.



Climate Now

Founded by a Central Marin high schooler, this organization is dedicated to educating young people worldwide about climate change and how they can create a more sustainable and just future.

Conservation Corps North Bay

CCNB is the first non-profit conservation corps in the country. They offer job-training and educational programming for young adults ages 18–30, including an opportunity to earn a high school diploma in a community that focuses on the outdoors.



Groundwork Richmond

For over 10 years, Groundwork Richmond has worked with teenagers passionate about improving their community and enhancing access to urban green spaces through environmental stewardship.



Rising Sun Center for Opportunity

Rising Sun offers paid opportunities in green careers for 15–22 year olds from low-income and underserved backgrounds. They operate in all 9 Bay Area counties and Stockton.



Sierra Student Coalition

The Sierra Student Coalition is the national student chapter of the Sierra Club. The student group has 14,000 members nationwide.



Sunrise Movement Bay Area

The Sunrise Movement is a youth-led coalition organizing to stop climate change at the societal level. With hundreds of hubs around the country, find one near you to get involved today.



Sustainable Contra Costa

Sustainable Leaders in Action (SILA), a branch of SCC, seeks to educate high school and college students on building sustainable communities.

YOUTH vs APOCALYPSE



Youth vs Apocalypse

YVA is a Bay Area youth-led organization that uplifts the voices of climate justice activists, in particular youth of color and working class youth, to fight for a livable climate and world.

To find more local organizations and how to get involved, visit mcecleanenergy.org/youth-climate-activism-in-your-community

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Visit MCE's blog at
mceCleanEnergy.org/blog
for more resources and
to learn more!



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