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### Breaking the Planet or Breaking the Bank: How CRC Helps Fight Both

Imagine you are baking vegan lasagna on your gas stove. Good for you, right? It's both healthy for you and the environment! You start by putting a pot of water on the stove and turning the flames up to high. Did you know that the natural gas fueling the flame not only contributes to global warming but also harms your entire household's health? According to the California Air Resources Board, natural gas stoves can release carbon monoxide, formaldehyde, and nitrogen dioxide. These byproducts from the gas contribute significantly to global warming. According to the Environmental Protection Agency, 13 percent of all greenhouse gas emissions are from residential sources. That's 824.2 million metric tons per year of CO<sub>2</sub> alone.

Although not everyone uses gas stoves, electric-resistant stovetops and ovens are not as quick or as energy efficient as induction ovens. The Energy Star program says that “The per unit efficiency of induction Cooking Tops is about 5-10% more efficient than conventional electric resistance units and about 3 times more efficient than gas.” (“2021-2022 Residential Induction”). Induction ovens use electric currents to heat cookware directly, instead of heating the cooktop in most conventional stoves, allowing for faster cook times and efficiency. Technologies like induction ovens are only one of many new improvements to homes that both are better at their job and are better for the environment.

Unfortunately, with prices rising due to inflation and supply shortages, average people are not able to buy and install new green technology because of the high starting price. Towns and communities like North Fair Oaks, East Palo Alto, and Belle Haven are all considered 'frontline communities' which, according to the NAACP, are "groups of people who are directly affected by climate change and inequity in society at higher rates than people who have more power in society" (Kennedy). Climate Resilient Communities, or CRC, is a local company in the Bay Area trying to help those who want to 'go green', but can't. They also provide support by helping citizens adapt to the already present effects of climate change, like flooding or heat waves. CRC is an essential middleman between the California government and underprivileged frontline communities in the Bay Area, providing green technology access and facilitating conversations about health and safety.

The non-profit CRC started as a program from another organization called Acterra with the goal of being a "volunteer-driven commitment to helping residents reduce their energy costs, improve home health, and gain access to local resources like subsidized solar panels and home energy audits, and weatherization upgrades" ("Our Story"). They eventually branched off from Acterra to allow CRC to expand its ability to provide community-based solutions that amplify local voices to empower community action. One of CRC's main programs is called Resilient Homes, which seeks to help eco-upgrade lower-income households and fix other problems along the way. Being eco-friendly not only helps the environment, it also helps people living in more eco-friendly environments too. Lesley Lopez, Community Outreach Manager for Climate Resilient Communities, says that when looking back on helping these residents with eco-upgrading, "a lot of the residents we've helped with are very happy. They don't

regret it. They don't regret it at all. Like patience is worth it because it has a good cause on their health.” She says this because “the cooking was bad when they were using gas stoves. And so now that they go all-electric, they don't smell that gas anymore. It's like all clean, they could breathe better” (Lopez). This is because if products are made sustainably, or use sustainable materials that don't hurt the environment, most likely they are not harmful to humans too. According to the EPA, “Greener cleaning products usually contain safer chemical ingredients” (“Why Buy Greener Products?”). On a larger scale, this thinking may improve most conventional storage water heaters that heat their water with natural gas. If instead, you install a solar water heating system or an electric tankless water heater, the Department of Energy says “Solar water heaters can be used in any climate, and the fuel they use -- sunshine -- is free” (“Solar Water Heaters”). Electric tankless water heaters heat water on demand, instead of constantly burning natural gas to keep a tank hot. What's great about all these eco-friendly technologies is there are many programs all over the world to help people install eco-friendly appliances for their homes at reduced prices. One such example is Peninsula Clean Energy, which provides tax rebates for switching from gas to electric. This is a core reason why CRC exists, as they were founded to help connect people who want to become environmentally friendly with people who can make that happen easily (“Our Story”).

The reason why these communities need help is because of an outreach problem, as Lopez explains: “Not a lot of outsiders go into East Palo Alto. Basically, if you're from outside of East Palo Alto or Palo Alto, you only know Palo Alto. Nobody really knows that there's an East Palo Alto.” Because of this, all of the communities mentioned are underprivileged and don't have the resources to respond to threats like flooding or

'smoke days'. Talking to your local government to get help and resources for you or others is very important, so that's what CRC is focusing on right now, says Caroline Beckman, the Resilient Homes Program Manager for Climate Resilient Communities. She describes CRC's goal: "to create an even playing field" between people and communities with less resources, and ones with more resources. A main part of achieving their goal is "a lot of time and it's a lot of listening. I think it's sort of what CRC's main mission is right of putting those voices front and center and first. We're making sure that voices that have had the resources to be the loudest in the room for a long time are stepping back and that we're allowing space and time for new voices, not just to speak, but also to, like, you know, educate those voices to bring them up to speed on what, you know, what is climate change, what are climate justice issues" (Beckman). Beckman says this is even more important now than ever before because California passed Senate Bill 1000, which the Office of the Attorney General says is a "law that requires local governments to identify environmental justice communities (called "disadvantaged communities") in their jurisdictions and address environmental justice in their general plans". This is a new and exciting way of how we can talk to our government and voice our needs and opinions. Lopez agrees, saying we are already on the right track: "I think for right now, we'll have a better understanding of how to better protect ourselves. And how to. I think we'll finally have a place to go to if something ever did happen... if there ever is a huge natural disaster or an earthquake, people will know where to go". Lopez mentioned that this is a huge change from just 10 years ago, where she had no idea what climate change is or how it affects her.

Global Warming is not just something that affects you right now—it is already hurting future generations. Temperatures have increased 1.1° Celsius on average (1.9°

Fahrenheit) since 1880, says NASA. Many towns and cities in the Bay Area historically do not get a lot of rain, but compared to 20 years ago, we have been getting longer periods of drought more and more often, according to Drought.gov. When massive rain storms do happen, the infrastructure and the environment are not prepared for the intake of water, causing flooding. CRC is installing rain gardens that increase groundwater infiltration in East Palo Alto, North Fair Oaks, And Belle Haven to combat these infrastructure deficiencies. Ultimately, CRC is trying to create an equal playing field, where we can use resources provided by more affluent cities or the state to better life and safety in these underprivileged communities. Thankfully, they have made great strides in accomplishing their goal. Using research from their communities, they have learned that the 3 most important things that citizens in their area want is more cooling and clean air centers, ongoing community engagement, and emergency alerts. Taking action on this, they have already noticeably impacted many people in their community. The “Our Communities, Our Bay” project is testing and allowing many people to have air filters and experimental smartphone apps to give them the latest climate-related news and information.

Global warming, however, doesn't just affect us at a local level. It is systematically destroying much of the natural ecosystem that we humans rely on. Unfortunately, it seems like the impacts of climate change are only going to get worse and worse unless we drastically change something now. According to the World Health Organization, “Between 2030 and 2050, climate change is expected to cause approximately 250,000 additional deaths per year” (“Climate change and health”). Because most people won't be able to affect any large-scale actions on their own, we can only strive to work together as a group. Beckman says that one of the best ways to help is to show up at public

meetings and try and influence things at your local level: “We really can't underemphasize the value that like your voice has, even and maybe especially if you're not a professional in the environmental space.” Beckman says that the key to sustaining action is “taking that first step to sort of reach out and learn and think.” Even on the national and global level, as more world leaders and industries are finally seeing the effects of climate change, more and more actions are finally taking place, especially in places that have not seen much positive change in years. James Bruggers says that “For the First Time in Nearly Two Decades, the EPA Announces New Rules to Limit Toxic Air Pollutants From Chemical and Plastics Plants.” Legislation like this is becoming increasingly more common, and with every new bill being passed worldwide, more and more changes are happening to curb the growth of climate change.

Climate Resilient Communities are not done with their journey to help fight the effects of climate change. In fact, they have not even started. In the past year, they have more than doubled their company size to keep up with the demand and expansion of their work, allowing them to help support and educate much faster than before. Their new Youth Climate Collective program is living proof that people are starting to understand how little we know about climate change, and are trying to learn more. With CRC doing its part, how will you replace your own ‘gas stove’?

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### Documentary Research Paper Rubric

*Levels correspond to point values for each category.*

	Level 1	Level 2	Level 3	Level 4
Informed Angle	No angle apparent. Piece is lacking information and/or information is inaccurate and irrelevant.	The angle needs to be clearer. Piece provides basic information, some of which may be incorrect and/or irrelevant. Writer does not adequately establish context for their argument by presenting what others are saying about the issue.	The angle is clear but could be more compelling (it may be too obvious to evoke much interest). Based on complete, accurate, and relevant information. Writer establishes some context for their argument early in the paper, but could be more thorough in presenting what others are saying about the issue.	The angle is clear and compelling, based on complete, accurate, and relevant information. Writer establishes thorough context for their argument early in the paper by establishing what others are saying about the issue.
Development	Demonstrates little understanding of the topic.  Ideas are not expressed clearly or supported by anecdotes, examples, reasons, details, and explanations. No interpretation and analysis of the material.	Demonstrates some understanding of the topic, but with limited analysis and reflection.  Ideas are not expressed clearly, and anecdotes, examples, quotes, reasons, details, and explanations are lacking.	Demonstrates a general understanding of the topic.  Ideas are generally expressed clearly through adequate use of anecdotes, examples, quotes, reasons, details, explanations.	Sustains in-depth understanding and insight into the issue under discussion through careful analysis and reflection.  Ideas are developed and expressed fully and clearly, using many appropriate anecdotes, examples, quotes, reasons, details, explanations.
Organization	The written sections lack organizational	Organizational devices, such as paragraphs, sections,	There are some problems with organizational devices,	Organizational devices, such as paragraphs, sections, and transitions

	devices, such as paragraphs, sections, and transitions.	and transitions are flawed or lacking.	such as paragraphs, sections, and transitions.	have been used effectively.
Style	No literary devices or significant details are used. Paper may read like an obituary or a Wikipedia page. Vocabulary is overly simplistic or vague, with no attention to purpose/audience.	Language is fairly plain, with some specific details about the subject, but more/varied details and literary devices needed. The subject's story seems incomplete or the text reads too much like a dry research paper. No visual metaphor present. Vocabulary may reflect a couple instances of specificity or sophistication, but it largely lacks attention to purpose/audience.	Obvious thought has been put into the use of diction, imagery and detail to portray the subject creatively, although the visual metaphor needs to be more clearly developed to communicate writer's angle. Vocabulary occasionally reflects attention to specificity and sophistication, although it could be improved in consideration to purpose/audience.	Obvious thought has been put into the use of diction, imagery and detail. Visual metaphor is well developed, communicating the writer's angle. Overall, narrative and stylistic choices give the paper a fresh and original creative texture rather than a dry research paper. Vocabulary reaches a level of specificity and sophistication that is appropriate for the purpose and audience of this article.
Research and MLA Format	Writer doesn't use interview transcripts and/or there is no indication of secondary research. No indication of research-backed questioning. In-text citations and works cited page are missing.	Writer makes limited use of interview transcripts and secondary sources, or relies solely on the "star" interview transcript. Interview testimony prompted by research-based questions is vague. Not a clear sense of an informed angle, although a view of the subject's character is certainly present. In-text citations and works cited page exist, but they contain many errors or inconsistencies.	Writer makes satisfactory use of the required interview transcripts and secondary sources, although some interview testimony or secondary source material may be either overused or too limited. Interview testimony prompted by research-based questions is apparent, but could create a clearer sense of an informed angle. In-text citations and works cited page are close to MLA standards, but there are	Writer makes intelligent use of the required interview transcripts and secondary sources. Effective use of interview testimony prompted by research-based questions gives the reader a clear sense of an informed angle. In-text citations and works cited page are perfect by MLA standards.

			some errors.	
Mechanics	Writing is obscured by spelling, grammar, and punctuation errors.	Writing contains some errors that affect the reader's understanding.	Writing contains a few errors, but not at the expense of understanding.	Writing is polished, free of spelling, grammar, and punctuation errors.

Grade: 24 out of 24