LIGHTS! CAMERAS! CLEAN ENERGY!

A GUIDE TO INTEGRATING CLEAN ENERGY NORMS INTO POPULAR TELEVISION AND FILM

BY JACOB CORVIDAE AND DOUGLAS MILLER

GREEN PRODUCTION GUIDE

A PROJECT OF THE PRODUCERS GUILD OF AMERICA

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ABOUT US

ABOUT ROCKY MOUNTAIN INSTITUTE

Rocky Mountain Institute (RMI)—an independent nonprofit founded in 1982—transforms global energy use to create a clean, prosperous, and secure low-carbon future. It engages businesses, communities, institutions, and entrepreneurs to accelerate the adoption of market-based solutions that cost-effectively shift from fossil fuels to efficiency and renewables. RMI has offices in Basalt and Boulder, Colorado; New York City; Washington, D.C.; and Beijing.

ABOUT GREEN PRODUCTION GUIDE

The Green Production Guide was developed by the Producers Guild of America Foundation and PGA Green with primary support from 20th Century Fox, Amazon Studio, Amblin Partners, Disney, NBCUniversal, Paramount Pictures, Sony Pictures Entertainment, and Warner Bros Entertainment. The Green Production Guide features a searchable database of vendors with information about their eco-products, their services, their production experience, and what locations they serve. The site also offers an updated Production Environmental Accounting Report (PEAR) calculator, which can be downloaded to help producers determine their production's carbon footprint, and the Production Environmental Actions Checklists (PEACH), which details best practices by department, as well as other tools and resources for sustainable film and television production.

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EXECUTIVE SUMMARY

HIGHLIGHTS

- Clean energy is underrepresented in popular television and film productions. Because clean energy technologies (e.g., wind, solar, energy efficiency, electric vehicles, and others) are becoming mainstream among investors, corporations, households, and policymakers across the globe, the time is now ripe for storytellers in media to reflect this reality in popular television shows and feature films.
- Informed by leading industry research and experience, Rocky Mountain Institute (RMI) and the Green Production Guide (GPG) offer a guide for television and film production companies to integrate clean energy themes and ideas into on-screen content. Production companies can use the recommendations found in this guide to determine how they can develop characters, storylines, and visual imagery that more accurately present clean energy to their audiences and make it more relatable.
- This guide also encourages film schools, film festivals, and city/state/national film offices to help promote increased use of clean energy storylines in productions.

THE CHALLENGE

- There is a discrepancy between the growing uptake and popularity of clean energy and the representation of clean energy in popular television and film productions. Clean energy continues to be treated as a niche topic in content and is most often limited to documentaries with relatively low viewership. Because clean energy is no longer a niche "alternative" energy source, but rather a major source of employment, investment, and voter support, there is an opportunity for it to become more prevalent on-screen and in pop-culture productions of all types. The imperative for action is also becoming clearer due to the visible and tangible affects of pollution, biodiversity loss, and the changing climate.
- With a deficit of clean energy storylines and role models in popular content, audiences can't connect deeply with or model behavior of relatable and compelling content and characters. In addition, clean energy storylines are sometimes presented as unappealing because of the negative portrayal of environmentally conscious characters.

THE SOLUTION

- New stories need to be told that more accurately describe the world as it is and that can help create a better, more desirable world.
- There is an opportunity for television and film productions to better represent and normalize clean energy across society by integrating the topic into the storylines, character roles and identities, and visual imagery of popular content.
- This guide offers television and film production professionals concrete recommendations and creative fodder for increasing and improving the representation of clean energy in productions for mainstream audiences.
- Production companies (as well as film schools, film festivals, and film offices) can partner with GPG for advisory support to integrate clean energy characters, storylines, and visual imagery into productions. They can also partner with RMI to develop a robust business strategy for energy performance improvements and renewable energy procurement to support their company's operations.

THE OPPORTUNITY TO MAKE CLEAN ENERGY "NORMAL" THROUGH TELEVISION AND FILM

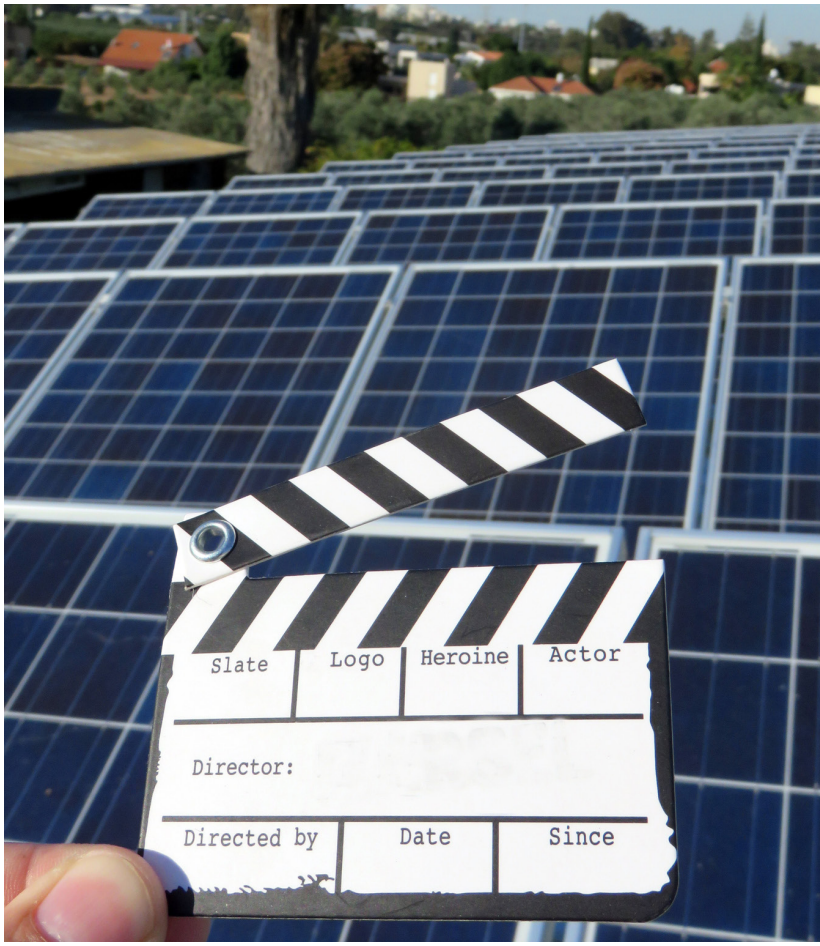
CLEAN ENERGY IS UNDERREPRESENTED IN POPULAR TELEVISION AND FILM PRODUCTIONS, GIVEN ITS FAST-GROWING PROMINENCE AND PUBLIC SUPPORT

Clean energy investments are growing at a rapid rate: Due primarily to technological improvements and cost reductions, the global clean energy industry is now as large as the fashion industry in size, reaching $1.4 trillion in revenues in 2015. Recent market research indicates that renewable energy projects represent nearly two-thirds of new capacity additions to the US electricity system as costs decline and new financing solutions emerge.

Clean energy is favored in popular opinion: Polls across the globe, such as this recent US poll, continue to demonstrate that most people favor clean energy over energy from fossil fuels. Support for candidates who promote clean energy also transcends political party lines among US voters. Concern over climate change in the United States has also reached an all-time high. Major companies—including those in technology, consumer products, fashion, and more—are setting and making progress toward meeting clean energy goals. Some of these companies are also proactively promoting these goals, encouraging consumers to follow their lead, and even integrating clean energy into their storefronts. These favorable views imply that audiences of popular television and film productions would relate to clean energy stories and characters upon which they can model the decisions they make for their households, businesses, and communities.

Clean energy employment is on the rise: A growing number of people work in wind, solar, energy efficiency, electric vehicles, and other clean energy industries. For example, clean energy jobs already outnumber fossil fuel jobs in the United States, with 25% and 32% increases in 2016, respectively, in solar and wind power jobs. These clean energy jobs are creating new roles for people across multiple economic sectors.

Clean energy markets present opportunities for the broader public: Clean energy is poised for continued market expansion as investment and employment opportunities grow over the coming years. The broader public has a major stake in knowing about these opportunities so that they can position themselves to capture investment opportunities and pursue education and training for clean energy jobs.



PRODUCTIONS SHOULD ENHANCE THE REPRESENTATION OF CLEAN ENERGY IN POPULAR TELEVISION AND FILM PRODUCTIONS

Productions should integrate clean energy in popular television and film productions to promote emerging social norms: Although clean energy technological improvements and cost reductions, along with increasing awareness of clean energy, are critical to making a full transition toward a clean, prosperous, and secure low-carbon future, they are insufficient. Social norms, a powerful yet often underappreciated driver of social change, must also change such that people believe and expect that their peers are investing in clean energy. In fact, peer diffusion is already demonstrating its strength as a tactic for driving investments in clean energy; this under-tapped tactic should be put to greater use. Embedding clean energy in popular productions can help increase the number and broaden types of people engaged in clean energy. People across the political spectrum are more inclined to support a given clean energy message or investment when they trust the messenger in the show or film they are watching.

Productions can showcase clean energy storylines and identities in a larger share of popular television and film productions: Examples of clean energy storylines and characters in popular productions include the reference to energy-efficient windows in Episode 1 of Season 1 of *Ozark* and the representation of the character Mitchell Pritchett in *Modern Family* as an environmental lawyer. However, the bulk of content about clean energy is generally limited to documentaries like the 2017 film *An Inconvenient Sequel: Truth to Power*. Given the realities of clean energy in terms of its existing employment, uptake, popular support, and expectations for tremendous market growth, clean energy could be represented in more productions and framed to reflect how it is fast-becoming central to the stories and identities of mass culture. This will help production companies better reflect current realities and connect with a wider range of audiences.

RELATED HISTORICAL EXAMPLES

Media is both a driver and a mirror of change in society. This role directly benefits the television and film production industry when it creates on-screen content that better connects with audiences, increases viewership, and attracts advertisers. Consider examples like the following where television and film producers used plot lines and role models to promote prosocial behaviors and norms among their audiences:

- **Representation of women and minority groups:** Better reflecting the share of the general population a given group represents on-screen can help reframe social roles and reduce biases and stereotypes, as evaluated in recent research by groups including Glaad, UCLA's Ralph J. Bunche Center, and other researchers. Meanwhile, projects like the Geena Davis Institute on Gender in Media offer concrete steps for improving the diversity of roles representing women and girls, and more shows like *Master of None* now confront issues of race, gender, and class directly.
- **Public health:** Educating the public by integrating content about HIV/AIDS into engaging storylines of soap operas and telenovelas, plus specific episodes of other popular television series like this episode of *Grey's Anatomy*, can help model behaviors that help address widespread health issues.
- **Smoking:** Although some have pointed to evidence that film and television make smoking seem more glamorous and prevalent than it is, especially for adolescents, the changing views of actors and producers have led to smoking being increasingly seen as a cliché or writing crutch.

PUBLIC SERVICE CAMPAIGNS

Producers of impactful public service campaigns that encourage individuals to make clean energy investments—whether these are intended for television commercial breaks, social media, or even settings like sports venues—should incorporate insights from successful campaigns that showcased the power of targeted personal, emotional, and social messaging:

- The *Smokey Bear* campaign instilled **a sense of personal accountability** to help reduce the number of acres lost annually from wildfire in the United States
- The *Crash Test Dummies* campaign emphasized **the cost of inaction** to help increase safety belt usage in the United States
- The *Friends Don't Let Friends Drive Drunk* campaign created **new notions of (proactive) friendship** to reduce the number of people driving while drunk
- The present-day *Truth* campaign inspires **change agents at the source of the problem** to help reduce teen smoking
- The *#LoveWINS* campaign emphasized **a relatable, unifying story** to promote marriage equality leading up to the decisive *Obergefell v. Hodges* US Supreme Court ruling
- The *Meth Project* campaign used **emotional, personal, and provocative imagery and messaging** that dramatically reduced methamphetamine use in targeted areas
- The *Don't Mess With Texas* anti-littering campaign linked **identity and ownership with associative imagery** to help reduce littering rates
- The *#MeToo* movement leverages **social networks and normative messages** to reveal the sheer scale of the problem of sexual violence and motivate broader action to remediate prior and discourage future wrongdoings

Any clean energy public service campaign should make adopting the particular action visible and normal using strategies that promote peer diffusion at personal and social levels, and leverage both existing mainstream culture and industry channels.

It is also critical that clean energy public service campaigns accompany calls to action with useful resources that make it easy for people to act. For example, a campaign promoting home energy efficiency improvements should streamline homeowner investment by directing consumers to offerings of desirable energy upgrade packages that are accompanied with suitable financing options.

HOW TO DEVELOP CLEAN ENERGY ROLE MODELS AND STORYLINES FOR POPULAR TELEVISION AND FILM PRODUCTIONS

Production companies have a variety of available options for integrating clean energy into popular television and film productions. Film schools, film festivals, and city/state/national film offices can also set the stage for more productions to feature clean energy storylines and imagery.

Production companies should consider the tactics recommended in the Appendix as fodder for the creative thinking that goes into screen writing and productions rather than narrow prescriptions for storylines. In other words, production companies should use these recommendations to inspire a wider range of storylines, characters, and imagery that together can help normalize clean energy across society through relatable role models and powerful storytelling.

This guide's recommendations build on ideas for promoting low- or no-cost pro-environmental behavior changes in home, office, and school settings in productions developed by thought leaders like the Environmental Media Association and Hollywood, Health, & Society by offering new tactics for linking clean energy to character roles and identities, dramatic situations, and plot development alongside props, background visuals, and scene transitions. This guide also builds on research by the US Department of Energy, Shelton Group, ecoAmerica, and Resource Media about the impacts of word choice and imagery in clean energy campaigns.

NEXT STEPS

Productions should integrate clean energy into storylines: There is an opportunity to better represent the growing number of people who are employed in clean energy industries, who are adopting clean energy solutions in their own lives, and who are supporting increased investments in clean energy. Television and film production companies can make these storylines part of popular productions viewed by mass audiences. This would not only help ensure popular culture more accurately reflects the identities, personal stories, and beliefs that make up a growing share of today's society—enabling these companies to better connect with and inspire audiences—but would also depict how clean energy is increasingly becoming the norm.

By making clean energy visible, personal, and social through popular television and film, production companies would provide powerful role models and stories that help normalize clean energy—setting the stage for a self-fulfilling prophecy where society advances toward a clean, prosperous, and secure low-carbon future. Productions can use the ideas provided in this guide for character roles/identities and dramatic situations as creative fodder to inspire storylines for their television and film productions. Similarly, film schools, film festivals, and city/state/national film offices should use this guide to inform course curriculum, competitions, trainings, and other materials, thereby encouraging more productions to include clean energy storylines.

Production companies and other industry organizations can also build on Green Production Guide's recommended actions for cost-effective sustainable production operational improvements by investing in clean energy. RMI's Business Renewables Center (BRC) and Portfolio Energy Optimization initiative can, respectively, advise production companies about how they can capture energy cost savings through investments in both off-site renewable energy using innovative financing arrangements like power purchase agreements (PPAs) and on-site building energy performance improvements.

APPENDIX: EXAMPLES OF CLEAN ENERGY ROLES AND STORYLINES

Clean energy can provide material for character roles and identities: The table below offers ideas for ways to integrate clean energy into character roles and identities. Production companies should increase the frequency of relatable, appealing characters that connect with and inspire emulation among the broader public.

TABLE 1
USING CLEAN ENERGY FOR CHARACTER ROLES AND IDENTITIES

ROLES AND IDENTITIES	IDEAS FOR TELEVISION AND FILM PRODUCTIONS
Factory worker	Character assembles solar panels, wind turbines, electric vehicles, batteries, or energy-efficient technologies (as varied as insulation, appliances, and LED light bulbs) at a factory.
Contractor	Character installs insulation, energy-efficient appliances, home battery systems, solar panels, or programmable "smart" technologies in homes.
Businessperson	Character owns or works for a company that sells products and/or services for renewable energy, electric vehicles, battery storage, or home energy efficiency.
Investor	Character owns or works for a company that invests in solar, wind, battery storage, or energy efficient technology companies—may be seen as part of the leading edge of innovation.
Engineer	Character designs new clean energy technology solutions such as an industrial process to reduce energy waste or oversees major clean energy infrastructure projects such as an off-shore or on-shore wind project.
Real estate agent	Character helps clients find homes that meet their needs for improved energy efficiency and the benefits this efficiency provides (i.e., improved comfort, cost savings, etc.).
Lawyer	Character works for a firm that counsels clean energy companies, advises on transactions, represents a clean energy company in a legal suit, or supports nonprofits that promote clean energy.
Politician	Character promotes local, regional, or national policy for increased renewable energy investments, energy-efficiency improvements in residential and commercial buildings, electric vehicle infrastructure, walkable neighborhoods, reforestation, and other sustainability efforts.
Student	Character decides to focus studies on clean energy, bond with a teacher who runs a class where the student learns about clean energy, use a clean energy prop for show-and-tell, or has an assignment to do a home energy assessment (that in turn encourages parents to get a home energy upgrade).
Researcher	Character focuses research into a particular clean energy technology, policy, or financing mechanism.

Clean energy can provide material for dramatic situations and plot development: The table below offers ideas for ways to integrate clean energy into dramatic situations and plot development, providing fodder for storylines in popular productions.

TABLE 2
USING CLEAN ENERGY FOR DRAMATIC SITUATIONS AND PLOT DEVELOPMENT

DRAMATIC SITUATION	IDEAS FOR TELEVISION AND FILM PRODUCTIONS
Daring enterprise	Character or group of characters create a clean energy start-up company or project.
Rivalry	Characters compete for bids on a clean energy project, a promotion at a clean energy company, or between their clean energy versus fossil fuel company.
Interpersonal conflict resolution	Characters bond after installing a rooftop solar system, spray foam insulation, or energy-efficient appliances or LED lighting system. Home comfort and the “battle of the thermostat” make for very relatable conflicts for many families.
Disaster	Characters rebuild a home following a disaster so that it is energy efficient, install a community solar system after the local electric grid infrastructure is destroyed, buy an electric vehicle after a car accident, or prepare for disaster by doing any of these things (or similar).
Love	Character falls in love with another character who has a blue-collar or white-collar clean energy job, as a result of an experience on public transportation or next to an electric vehicle charging station, or during a clean energy business deal.
Adultery	A character finds a solar installer, home energy performance contractor, clean energy businessperson, etc. more attractive than the character’s partner/spouse.
Erroneous judgment	A character falsely assumes that another character who has a clean energy role/identity presents a threat by misunderstanding why that character works in clean energy.
Revolt	A character adopts a clean energy role/identity in response to being surrounded by people with fossil fuel roles/identities, a character sues a company for undermining investments in clean energy, or a community or business goes off-grid in response to an electric utility’s unwillingness to invest in clean energy.
Adventure	A character or group of characters go to a foreign land where they set up a (small-scale) solar or wind power plant or they simply observe how clean energy improves the local situation.
Underdog	A character or group of characters with a clean energy identity/role succeeds over incumbent character(s) with whatever goal is being sought after.
Rags to riches	A character or group of characters climb the socioeconomic ladder in the community at hand because of a clean energy business endeavor.

Clean energy can provide material for props, background visuals, and scene transitions: The table below offers ideas for ways to use visual effects to help normalize clean energy through popular television and film productions. These visual effects are likely most influential when they are part of positive and generic situations, such as a couple resting on a hillside or modern farmers with wind turbines in the distance, or typical moments captured inside the home that happen to include an energy-efficient technology.

TABLE 3
USING CLEAN ENERGY FOR VISUAL EFFECTS

IMAGERY	IDEAS FOR TELEVISION AND FILM PRODUCTIONS
Props and set decoration	Set dressing can include solar panel systems, smart programmable thermostats or appliances, LED light bulbs, thermal imaging scanners, battery storage systems, large windows (that increase daylight), electric vehicles, and bike racks. Likewise, characters can use related props such as spray foam insulation blowers and caulk guns and ride a bicycle.
Background visuals and scene transitions	Background visuals and scene transitions can include wind turbines along highways or cityscapes, solar panels on buildings or at military sites, bike lanes, or (large) electric vehicle charging stations at shopping centers or stadiums.

Film schools, film festivals, and city/state/national film offices can also encourage increased use of clean energy storylines in productions: The table below offers ideas for ways those who train, inspire, and influence producers and screenwriters can encourage increased use of clean energy in storylines and imagery in popular television and film productions.

TABLE 4
PROMOTING CLEAN ENERGY STORYLINES AND IMAGERY THROUGH FILM SCHOOLS, FILM FESTIVALS, AND CITY/STATE FILM OFFICES

INDUSTRY CHANNEL	IDEAS FOR PROMOTING INTEGRATION OF CLEAN ENERGY IN PRODUCTIONS
Film schools	Film schools can offer lectures and courses, create assignments, and host competitions about integrating clean energy into storylines and imagery. They can also include ideas for sustainable practices on-set in mandatory production safety courses.
Film festivals	Film festivals can create new awards and add a new criterion to film ratings about the use of clean energy storylines and imagery, and they can offer related in-person educational trainings.
City/state/national film offices	City/state/national film offices can offer production companies advice, cheat sheets, and tours to showcase local clean energy identities and projects as fodder for any productions using the local area as the setting for the production at hand.

THEORY IN PRACTICE: *THE BIG BANG THEORY*

The recommendations in this guide can apply to a wide range of television and film productions. As an example, consider how the recommendations in this guide could be used in the popular US sitcom called *The Big Bang Theory*.

Wolowitz home upgrade: Now that Howard and Bernadette have moved into the family home, they decide to renovate it, but they can't agree on what to do. Howard wants crazy gadgets; Bernadette wants more modern furnishings and comfort. Finally, she convinces him to spend money on insulation—not because of the money savings, but because it creates more privacy for them.

Solar power: With Leonard moved out, Sheldon decides to make his university office completely self-sufficient. If he can't be a robot, maybe his office/home can be: It recycles all water, it creates its own power through solar panels, and maybe instead of food reclamation, he just packs in a month's worth of oatmeal and instant Thai food. Howard eventually steals the solar panels so that when he and Bernadette visit the park to see what other couple's do with babies (Bernadette's idea), he can sit in an enclosed video game console.

Smart home technology: Leonard and Penny decide to deck their place out with all smart appliances so that all the appliances talk to each other and can be monitored and controlled remotely by phone. Leonard turns up the heat from his phone without having to get out of bed in the morning, reports to her about whether the ice is made while they're out on a date, and so on. Penny thinks it's creepy to have everything monitored (she drew the line at the smart toilet, and convinced Leonard by mentioning that the guys could hack their toilet from their phones), and she doesn't want a dishwasher that's smarter than her. Leonard doesn't win her over with his spreadsheets showing the hourly changes in their energy use, but when she discovers the voice interaction feature and starts commiserating with the refrigerator and it offers her a drink, it becomes her new best friend.

Even without energy as a major plot point in an episode, there are opportunities for side-comment quotes. Here are three examples:

1. [After Amy leaves the lights on when leaving the apartment.]
   SHELDON: I can get an ENERGY STAR TV, laptop, or even bathroom fan. Why can't I get an ENERGY STAR girlfriend?

2. HOWARD: Hey look, Raj, I built this clock that will run off the strange and wonderful powers of a potato. The juice contains dilute phosphoric acid that provides hydrogen ions for the electrochemical reaction.

   RAJ: [Slightly sarcastically, but in his general good-natured way] Yes, in India we harness "the strange and wonderful powers" of … the sun. It's called a solar panel.

3. [They're somewhere cold and Penny huddles against Sheldon to stay warm.]
   SHELDON: They say insulating your home stops you from being uncomfortable. Now I know how. [As he squirms away.]

THEORY IN PRACTICE: LOCAL NEWS FEATURES

The recommendations in this guide to put clean energy on-screen can also apply to local news programming. Local newscasters are trusted messengers of timely and useful information in their respective communities, and have a range of opportunities to showcase clean energy—from brief mentions during relevant stories to special segments. All of this content can also be made available on local news station websites as "evergreen" resources for their audiences like these materials developed by RMI and the National Environmental Education Foundation.

Content on local news can be organized in a straightforward way around news cycle–driven triggers, such as:

- Heat waves: Feature solutions to keep your home cool and reduce energy costs.
- Blizzards and winter cold spells: Feature solutions to keep your home warm and reduce energy costs.
- Major weather damage events: Feature ways to reduce the damage-related risks of expected weather events (e.g., invest in attic insulation to reduce the risk of ice damming) or to respond to damages after they occur (e.g., invest in attic insulation when repairing/replacing damaged roof, and in efficient windows and air sealing when replacing damaged windows/doors, etc.).
- Filler stories: Feature, for example, local contractors to talk about home energy upgrades they provide and why these upgrades are beneficial for homeowners. Alternatively, highlight local homes, businesses, or institutions that have invested in energy upgrades.

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