

Rebates or Planning Grants?

Advancing Equity Through Individual-Based and Community-Based Approaches to Climate Funding

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I. Introduction

Government funding to reduce greenhouse gas emissions through incentives and other mechanisms plays a critical role in federal, state, and local climate change policy. Congress recognized the need for deliberate investments when it passed the 2021 Infrastructure Investment and Jobs Act and the 2022 Inflation Reduction Act (IRA), which together allocated hundreds of billions of dollars to a clean energy transition. Although the advent of the Trump Administration has generated uncertainty about the continued deployment of federal funds, states continue to make essential clean transition investments,² and in the coming decades, the federal government may well resume its catalytic role in funding and financing.

A clean energy transition that weans the nation from its reliance on fossil fuels requires major investments at multiple levels. This paper focuses on investments affecting community-scale resources, including households, businesses, local transportation, and distributed energy infrastructure. Many of these investments, like buildings and, to some degree, transportation, must take effect at local and regional levels. Because emissions associated with buildings, both residential and commercial, constitute 31 percent of the nation's total greenhouse gas emissions, and transportation emits 29 percent³ of that total, these investments will be essential to achieving decarbonization goals.

Before federal funding freezes went into effect in January 2025, federal agencies had already begun making community and household-level investments. The Inflation Reduction Act's Greenhouse Gas Reduction Fund's "Solar for All" program allocated \$7 billion to local entities to fund and finance local solar investments,⁴ and EPA's Community Change grants allocated almost \$2 billion to communities.⁵ Under the IRA, the US Department of Energy received almost \$9 billion for home energy efficiency and electrification, funds that the department worked to

² For example, although recent budget cuts have slightly reduced the total, California's 2022-23 budget originally allocated \$54 billion to climate change programs. See Nathan Barbara & Paul Kaufman, Sheppard Mullin Richter & Hampton LLP, 2022 in Review - California Climate Change Policy and Legislation, JD Supra. (Jan. 5, 2023), <https://www.jdsupra.com/legalnews/2022-in-review-california-climate-7770900/>.

³ EPA, Inventory of U.S. Greenhouse Gas Emissions and Sinks: Total U.S. Greenhouse Gas Emissions by Economic Sector in 2022 Electricity End-Use (pie chart depicting emissions, including electricity sector emissions providing power to residential and commercial uses), <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks> (last visited May 30, 2025).

⁴ EPA, *Greenhouse Gas Reduction Fund, Solar for All*, <https://www.epa.gov/greenhouse-gas-reduction-fund/solar-all> (last visited May 30, 2025).

⁵ EPA, *Inflation Reduction Act Community Change Grants Program*, <https://www.epa.gov/inflation-reduction-act/inflation-reduction-act-community-change-grants-program> (last visited May 30, 2025).

allocate to state energy offices to administer as rebates.⁶ In addition, Congress has periodically infused the federal Weatherization Assistance Program with substantial funding, funding that is administered by state agencies.⁷ State-funded programs abound.⁸

Putting dollars on the table is one thing. But as these programs are implemented and lawmakers consider future clean energy funding, major questions arise, such as: How should funds be allocated? Who will benefit? What are the most effective, efficient, and equitable ways to help finance the clean energy transition?⁹

A key variable in program design is the degree to which funds should be provided to individual entities – households or businesses – and the degree to which they should be allocated to community-level players, like local governments or community-based organizations. Many state and federal clean energy investments, like tax credits for clean vehicles or solar panels, or household energy efficiency benefits, target individual households or entities. Others, like the Community Change grant program developed by EPA, or California’s Transformative Communities grants, have provided resources for community-level planning and project implementation that can address variables like housing, transportation infrastructure, and community solar as well as resources for individual households or entities.

Drawing on examples from California’s well-established climate funding experience and on several federal funding efforts, this paper assesses how individual and community-based programs deliver opportunities or pose risks for public agencies and the communities they seek to serve. Funding the clean energy transition can create opportunities to not only reduce greenhouse gas emissions, but also improve housing and environmental conditions, improve climate resilience, enhance transportation mobility, stimulate local economies, and empower

⁶ State IRA Funding Tracker: DOE Home Energy Rebates Multifamily Programs, National Housing Trust (last updated Jan. 31, 2025) (site last visited Feb. 19, 2025), <https://nationalhousingtrust.org/sites/default/files/documents/DOE-Rebates-State-Funding-Tracker-1-31.pdf>.

⁷ The 2009 American Recovery and Reinvestment Act appropriated \$5 billion for the Weatherization Assistance Program, while the 2021 Infrastructure Investment and Jobs Act appropriated \$3.5 billion. See Carlos Martín, *Harnessing the IJIA’s Weatherization Assistance Program to Leave No Household in the Cold*, Jt. Ctr for Housing Studies (Jan. 31, 2023), <https://www.jchs.harvard.edu/blog/harnessing-ijias-weatherization-assistance-program-leave-no-household-cold>.

⁸ See Center for Climate and Energy, *Library* (sort by state maps), https://www.c2es.org/library/?show_page=1&meta-document_type=map&categories=policy-maps, (last visited May 30, 2025).

⁹ I provide a more in-depth treatment of these issues in *Governing Grants*, *supra* note 1. And, in a 2023 report, Catalina Gonzalez and I examine these questions through a detailed assessment of California’s decade-long climate justice funding track record. Alice Kaswan & Catalina Gonzalez, *Funding a Clean and Equitable Energy Transition: Lessons from California* (Nov. 2023), <https://progressivereform.org/california-climate-justice/funding-clean-equitable-energy-transition-lessons-ca-rpthq/>.

community decision-making. At the same time, how public actors choose to fund the transition poses risks. One risk is that resources will not flow to those who most need them. Another risk is that investment processes will be slow, cumbersome, or inefficient. Investments could also be fragmented and uncoordinated, undermining the success of greenhouse gas reduction efforts and the additional goals that a clean transition could achieve. The degree to which state and federal agencies dispense funds through individual versus community-based measures can affect their ability to realize opportunities and minimize risks.

Part I of this paper outlines key types of individual and community-based funding programs. Part II analyzes the benefits and drawbacks of each considering several parameters. The first is ease of access, paying special attention to potential barriers to access for historically under-resourced populations. The second parameter is agencies' administrative burden, which has important efficiency implications. The third parameter is timeliness. Given the risks posed by climate change, the speed at which individual and community-based programs can deliver emission reductions matters. The fourth parameter is each funding mode's capacity to facilitate planning that would reduce the risk of fragmented and piecemeal investments. Relatedly, the fifth parameter is each mode's capacity to provide holistic cross-sector investments that respond to the inter-related components of a clean energy transition. The last parameter is each mode's capacity to enable participation and community self-determination. Part III provides a summary assessment of the advantages and disadvantages of individual-oriented and community-based programs, respectively.

II. Individual and Community-Based Funding Mechanisms

In broad strokes, programs targeting individual households or businesses usually offer discrete benefits, like a rebate, or a service such as installing solar panels, while community-based programs generally offer a wider range of options and allow some scope for community-scale decision-making among those options.¹⁰ This paper first outlines funding mechanisms directed toward individual households and businesses and then describes mechanisms directed toward communities.

¹⁰ It is important not to overstate the dichotomy. For example, some programs for individual households offer multiple benefits (like habitability upgrades coupled with energy efficiency improvements), while some community-scale programs offer single benefits (like clean school buses for school districts).

A. Funding Individual Households and Businesses

Federal and state programs routinely offer discrete benefits to individual households and businesses. Individual agencies offer benefits that track their expertise. Energy, air quality, and housing agencies offer energy efficiency assistance, air quality agencies offer resources for electric cars to improve air quality, and energy and housing agencies support distributed solar.

Funding to individual businesses sometimes complements regulatory requirements. For example, California imposed emission limits on commercial harbor crafts, like tugboats and ferries,¹¹ while also providing multiple funding sources to help craft owners upgrade their equipment.¹²

Agencies can provide resources to individual entities through a variety of mechanisms. We distinguish them by whether they defray costs or provide direct services to eligible households.

1. Tax Credits, Rebates, Vouchers, Grants, and Financing Assistance

Numerous vehicle and energy programs offer tax credits for purchasing electric vehicles, installing solar panels, or investing in energy efficiency.¹³ Tax credits lower tax liabilities. If, for example, a household purchases a qualifying electric vehicle, they could be eligible for the IRA's \$7500 tax credit.¹⁴ Assuming the consumer and the product meet eligibility requirements, the consumer can subtract that amount from the taxes they owe.¹⁵

¹¹ See CARB, *Commercial Harbor Craft: About*, <https://ww2.arb.ca.gov/our-work/programs/commercial-harbor-craft/about> (last visited May 30, 2025).

¹² CHC Factsheet: Funding Programs, <https://ww2.arb.ca.gov/resources/fact-sheets/chc-factsheet-funding-programs> (Sept. 2023).

¹³ See, e.g., IRS, *Clean Vehicle Tax Credits*, <https://www.irs.gov/clean-vehicle-tax-credits> (last visited May 30, 2025); IRS, *Residential Clean Energy Tax Credit*, <https://www.irs.gov/credits-deductions/residential-clean-energy-credit>, (last visited May 30, 2025); IRS, *Energy Efficient Home Improvement Credit*, <https://www.irs.gov/credits-deductions/energy-efficient-home-improvement-credit>, (last visited May 30, 2025).

¹⁴ IRS, *Clean Vehicle Tax Credits*, *supra* note 13.

¹⁵ Beginning in 2024, Internal Revenue Service rules allow car buyers to transfer the value of the tax credit to an automobile dealership, which then lowers the automobile price by the tax credit's value. Updates to Frequently Asked Questions Related to New, Previously Owned, and Qualified Commercial Clean Vehicle Credits, Internal Revenue Serv. (July 2024) (Topic H on transferring vehicle credits), <https://www.irs.gov/pub/taxpros/fs-2024-26.pdf>. Through this mechanism, the tax credit operates more like a voucher because it provides immediate benefits and provides benefits whether or not the purchaser has any tax liability.

Other programs offer rebates,¹⁶ which enable individuals or businesses making qualified purchases, like the purchase of an electric water heater, to submit sales receipts for full or partial reimbursement. For example, the Inflation Reduction Act authorized over \$8 billion for state energy offices to offer rebates for home energy efficiency and electrification investments.¹⁷ Rebates operate more quickly than tax credits because the recipient does not have to wait until tax time to obtain the benefit. Rebates are also available to more potential recipients than tax credits, as anyone who purchases an eligible item can obtain the rebate, while tax credits are usually available only to those who earn enough to file taxes.

Vouchers also allow consumers to purchase items at a lower cost.¹⁸ Unlike a rebate or a tax credit, consumers do not have to pay up front and then wait to receive the benefits. Instead, they apply for the voucher in advance and, once received, can take the voucher to the seller to offset the purchase price.¹⁹

Some individual benefits are offered as grants, rather than tax credits or rebates. For example, the San Joaquin Valley Air Pollution Control District in California, the agency responsible for improving air quality in the nation's most polluted air basin, offers grants to replace old diesel trucks with less-polluting alternatives.²⁰ Particularly in the business context, most grants are competitive. Consequently, potential recipients must apply and agencies must review the applications before awarding the grants.

In addition to or instead of providing funds outright, some government programs provide financing assistance. The Inflation Reduction Act's \$27 billion Greenhouse Gas Reduction Fund (GGRF) was designed to facilitate lending for clean investments, especially in under-resourced communities, where households and local governments confront barriers to borrowing.²¹ States

¹⁶ See, e.g., Clean Energy Connection, *The Best California Clean Energy Rebates and Incentives for 2025* (listing numerous incentives, including (but not limited to) a variety of clean energy rebates), <https://www.cleanenergyconnection.org/article/best-california-energy-rebates-incentives-2025> (last visited May 30, 2025).

¹⁷ See Stephen Lee, *NY Gets First Shot at Biden's \$8.8 Billion Home Retrofit Program*, Bloomberg Law (May 30, 2024); see, e.g., PennEnergy Savers, <https://www.pennenergysavers.com/> (last visited Feb. 25, 2025) (describing Pennsylvania's IRA-funded clean energy rebates).

¹⁸ See, e.g., California HVIP, *Clean-Air Vehicles at a Fraction of the Price* (website for California clean truck voucher program), <https://californiahvip.org/purchasers/> (last visited May 30, 2025).

¹⁹ Some rebates are offered when an item is sold, and so function like a voucher. See, e.g., MCE, *EV Instant Rebate*, <https://mcecleanenergy.org/ev-rebate/> (last visited May 30, 2025).

²⁰ San Joaquin Valley Air Pollution Control District, *Truck Replacement Program*, <https://ww2.valleyair.org/grants/truck-replacement-program/> (last visited May 30, 2025).

²¹ EPA, *About the Greenhouse Gas Reduction Fund*, <https://www.epa.gov/greenhouse-gas-reduction-fund/about-greenhouse-gas-reduction-fund> (last visited May 30, 2025). Through the GGRF's \$14 billion National Clean Investment Fund, the program administrators will provide financing to investors, developers, community

like California have also provided financing assistance to help disadvantaged households obtain clean car loans that they would have difficulty obtaining without government facilitation.²²

2. Direct Services

Unlike programs that provide funds for recipients to undertake projects, some programs provide services directly to eligible households. The longstanding federal Weatherization Assistance Program, which has been implemented by state agencies, has funded energy efficiency improvements for under-resourced households, including single-family homes and rental properties.²³ State agencies, on their own or through contracted administrators, have provided eligible households and buildings with energy audits and hired service providers to make the improvements, usually at no or low cost to building owners.

Some states also provide direct services to eligible applicants. California's solar programs for disadvantaged households provide solar installation services to eligible households.²⁴ In addition, the state's Equitable Building Decarbonization program will provide energy efficiency and electrification resources directly to eligible households.²⁵

organizations, and must devote at least 40 percent of the financing to environmental justice communities. See EPA, *National Clean Investment Fund*, <https://www.epa.gov/greenhouse-gas-reduction-fund/national-clean-investment-fund> (last visited May 30, 2025). The GGRF's \$6 billion Clean Communities Investment Accelerator program will help community lenders in environmental justice communities develop the long-term financial and technical capacity to support clean energy financing. EPA, *Clean Communities Investment Accelerator*, <https://www.epa.gov/greenhouse-gas-reduction-fund/clean-communities-investment-accelerator> (last visited May 30, 2025). The GGRF's \$7 billion Solar for All program provided funding to 60 entities who will use the funds for both grants and financing in low-income and disadvantaged communities. EPA, *Solar for All*, *supra* note 4.

²² See California Air Resources Board, Proposed Fiscal Year 2022-23 Funding Plan for Clean Transportation Incentives 55-63 (Oct. 12, 2022), https://ww2.arb.ca.gov/sites/default/files/2022-10/proposed_fy2022_23_funding_plan_final.pdf. The program supports financing by providing a "loan loss reserve" for participating lenders, who might otherwise be reluctant to lend to low-income borrowers who may present a credit risk. The program limits the interest rate that participating lenders can charge. *Id.* at 56.

²³ See Energy.gov, *How to Apply for Weatherization Assistance*, <https://www.energy.gov/scep/wap/how-apply-weatherization-assistance> (last visited May 30, 2025) (explaining that, once a local WAP provider has determined a household or building is eligible and audited the home, they will arrange work crews to conduct the work). The 2021 Infrastructure Investment and Jobs Act provided a one-time increase in funding for the WAP program, dedicating \$3.5 billion. See Martín, *supra* note 7.

²⁴ See Grid Alternatives, *Disadvantaged Communities - Single-family Solar Homes (DAC-SASH) Program: Semi-annual Progress Report*, at 5 (2023), <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/solar-in-disadvantaged-communities/dac-sash-q1-2-2023-semi-annual-report.pdf>.

²⁵ See California Energy Commission, *Equitable Building Decarbonization Program*, <https://www.energy.ca.gov/programs-and-topics/programs/equitable-building-decarbonization-program> (last visited May 30, 2025).

B. Funding Community-Based Planning and Projects

Clean energy funding is flowing to local governments and community-based organizations as well as to individual households, buildings, and businesses. The funding can take a variety of forms, ranging from a single benefit to a single entity, like clean school buses to school districts, to flexible funding streams that could fund a range of benefits. To highlight the contrast between individual- and community-based programs, this paper focuses here on community-based programs that provide a range of benefits, on the assumption that community-based programs that provide a single benefit (such as cleaner school buses), function more like individual-oriented programs. Much of the clean energy funding is provided through grants and, on occasion, through “prizes” that function similarly to competitive grants.²⁶

1. Single-Sector Programs with Planning Component

Some single-agency programs give recipients a range of options and provide funds for community planning as well as implementation. California’s air pollution agency, the California Air Resources Board (CARB), provides local entities with transportation-focused grants to help community recipients develop the capacity to determine their mobility needs and plan solutions.²⁷ Based on the communities’ needs assessments and planning, the communities can then apply for funds for a range of transportation options, including buses, shuttles, active transportation infrastructure, and more.²⁸

2. Cross-Sector Programs

While administrative agencies are organized by their substantive expertise, communities seeking to transition to clean energy confront multifaceted challenges and opportunities. A transition will implicate housing, energy efficiency, distributed energy resources (like solar), energy burdens, transportation, economic development, and employment.

While no single program can address all of these concerns, EPA developed their Community Change grants program, using \$2 billion in Inflation Reduction Act funding, with the goal of

²⁶ For example, in the Biden Administration, the Department of Energy awarded prizes to community-based projects fostering energy innovation in underserved communities. U.S. Department of Energy, *Congratulations to the Final Winners of the Community Energy Innovation Prize!* (Dec. 20, 24), <https://www.energy.gov/eere/ammto/articles/congratulations-final-winners-community-energy-innovation-prize> (last visited May 21, 2025).

²⁷ CARB, *Planning and Capacity Building*, <https://ww2.arb.ca.gov/our-work/programs/planning-and-capacity-building> (last visited May 30, 2025).

²⁸ See CARB, *Sustainable Community-Based Transportation Equity Investments*, <https://ww2.arb.ca.gov/sustainable-community-based-transportation> (last visited May 30, 2025).

fostering community-driven environmental and climate investments.²⁹ Although applicants had to include at least one climate action strategy and one pollution reduction strategy, they had considerable flexibility in determining the specific projects that would best meet community needs.³⁰

At the state level, California's multi-agency Strategic Growth Council³¹ (SGC) has spearheaded programs that integrate matters typically managed by single agencies. The Affordable Housing and Sustainable Communities program provides funds for building or renovating affordable housing that is integrated with clean transportation investments, including transit vehicles, active transportation infrastructure,³² and other transportation measures that reduce personal vehicle use.³³ Grants often go to partnerships between affordable housing developers, transit entities, and local governments. The SGC's Transformative Climate Communities program is more explicitly community driven, and allows community stakeholders to develop projects that can meet a wide range of community housing, transportation, buildings, and energy needs.³⁴

III. Benefits and Drawbacks

Funding the clean energy transition will require programs that target individual households and businesses as well as programs that fund community-level investments. Determining the appropriate balance between individual and flexible community-scale funding requires a careful

²⁹ See EPA, *Inflation Reduction Act Community Change Grants Program*, *supra* note 5; EPA, Office of Environmental Justice and External Civil Rights, *Environmental and Climate Justice Community Change Grants Program: Notice of Funding Opportunity [hereinafter Community Change Grants NOFO]*, <https://www.epa.gov/system/files/documents/2024-08/environmental-and-climate-justice-community-change-grants-program-notice-of-funding-opportunity-nofo-august-2024.pdf>.

³⁰ *Id.* at 11.

³¹ The Strategic Growth Council includes the heads of multiple state agencies as well as several appointed members. California Strategic Growth Council, *SGC Council Members*, <https://sgc.ca.gov/about/council/> (last visited May 30, 2025). In addition to administering the AHSC and TCC programs, the SGC funds numerous capacity-building programs for local governments, local communities, and Tribes, as well as providing resources and support to help other agencies improve their technical assistance and capacity-building activities. See SGC, *Capacity Building and Technical Assistance*, <https://sgc.ca.gov/technical-assistance/> (last visited May 30, 2025).

³² "Active transportation infrastructure" refers to infrastructure that facilitates walking and biking.

³³ See SGC, *Affordable Housing and Sustainable Communities: Integrating Affordable Homes and Sustainable Transportation*, <https://sgc.ca.gov/grant-programs/ahsc/docs/20230519-AHSC-Program-FactSheet.pdf>. The SGC provides overarching program administration while the state's Housing and Community Development department does the day-to-day implementation. *Id.*

³⁴ SGC, *Transformative Climate Communities: Community-led Climate Solutions for Equitable Transformation* (Dec. 14, 2023), https://sgc.ca.gov/grant-programs/tcc/docs/20231218-TCC_Fact_Sheet.pdf.

assessment of the benefits and drawbacks of each approach. Relevant parameters to consider include:

- Administrative difficulty for recipients and implications for under-resourced households
- Administrative burden for agencies
- Timeliness
- Capacity to facilitate planning
- Capacity to provide holistic approaches
- Participatory justice and community self-determination

A. Administrative Difficulty for Recipients and Implications for Under-Resourced Households

The relative ease or difficulty of applying for funding has important implications for program efficiency, effectiveness, and equity. The more resources applicants must devote to the application process, the less efficient the process. And, because burdensome application requirements can create substantial barriers to accessing clean energy benefits, they can undermine a program's effectiveness. Programs will not achieve their goals if people do not apply. These challenges do not fall equally. The barriers created by burdensome application processes are more difficult to overcome for households or businesses that have little time, potential language barriers, and insufficient resources to engage in or hire someone to help with research and paperwork. Consequently, those who most need assistance can face the biggest hurdles in obtaining it, risking inequities in program administration.³⁵

1. Individual-Based Programs

The administrative challenge of individual-directed programs varies considerably, depending upon the type of program and its eligibility requirements. Programs without eligibility requirements are the simplest because consumers do not have to provide any documentation demonstrating their eligibility. If there are eligibility requirements, then the administrative difficulty depends upon the complexity of the requirements and the difficulty recipients would encounter in meeting them. For means-tested programs, tax credits are relatively simple, since

³⁵ See Kaswan & Gonzalez, *Part V: Assessing Funding Mechanisms: Program Design and Reaching Those in Need*, in *Funding a Clean and Equitable Energy Transition: Lessons from California* at 26 (2023), <https://cpr-assets.s3.amazonaws.com/wp/uploads/2023/11/ca-climate-justice-funding-programs-rpt-pt5.pdf>; Claire Kramer Mills & Jacob Scott, *Sustainable Affordable Housing: Strategies for Financing an Inclusive Energy Transition* 24, Federal Reserve Bank of New York (2022), <https://www.newyorkfed.org/outreach-and-education/climate/fed-affordable-housing-and-energy-transition>.

the tax return itself demonstrates income. Proving eligibility in other means-tested or location-specific programs is somewhat more complicated.³⁶

Rebates that are available at the time of purchase (“point-of-sale” rebates) are also relatively straightforward, with the degree of complexity depending upon the presence and complexity of any eligibility requirements. Rebates that are available after purchase require the consumer to send in documentation of their purchase as well as any materials needed to demonstrate eligibility. Vouchers and grants require the recipient to complete an application to obtain the benefit. In some instances, these programs also require the entity selling a product, like a truck dealership, to apply for and be authorized to accept a voucher.³⁷

Where grants are competitive, applicants face the risk that their application will be unsuccessful and, accordingly, the risk that their efforts will come to naught. While competition is an effective mechanism for awarding scarce funds to the most qualified, competitive programs can result in wasted resources for unsuccessful applicants, a particular concern for under-resourced entities and communities. The speculative nature of such competitions, together with the up-front time investment required, can deter deserving applicants from applying.

A significant challenge for individual and agency-specific programs is that some benefits must be combined with other benefits to be meaningful, complicating the application process. For example, a household seeking to take advantage of an electric car tax credit might also need financing assistance and, if there are few charging stations in their vicinity, might need their own charger. Or a low-income household might seek energy efficiency benefits, but their housing might not be in good enough condition to take advantage of the energy efficiency program.³⁸ Single-issue programs provided on a household-by-household or business-by-business basis might require recipients to identify and apply to multiple programs. These programs might work

³⁶ For example, proving income is more difficult for the 40 percent of households that do not earn enough to file tax returns. See Robert Frank, *More than 40% of U.S. Households Will Owe No Federal Income Tax, Down from Last Year, According to a New Analysis*, CNBC (Oct. 28, 2022) (describing recent data collected by the Tax Policy Center). Location-specific programs, like those that target some or all of their resources to residents of “disadvantaged” communities, would require proof of residence. Financing assistance programs require information on the recipient’s credit history.

³⁷ See, e.g., California HVIP, *Sell More Clean-Air Trucks and Buses: How to Participate*, <https://californiahvip.org/sellers/> (last visited May 30, 2025).

³⁸ For example, the federal Weatherization Assistance Program, a major source of funding for extensive energy efficiency improvements, is not authorized to fund underlying structural problems that must be fixed before the improvement can be made. See Laura Benshoff, *A Low-Income Energy Efficiency Program Gets \$3.5B Boost, But Leaves Out Many in Need*, NPR (May 13, 2022), <https://www.npr.org/2022/05/13/1096114029/low-income-energy-efficient-weatherization-program-3-5b-needy>.

on differing timelines and with different eligibility criteria, creating a complex and burdensome application process.

Another challenge for potential recipients is the “poverty of riches.” In some contexts, such as electric car benefits or energy efficiency, there are multiple programs offering parallel benefits. Recipients may need to “stack” (combine) these benefits to be able to afford the service. But finding the programs and then managing their separate application processes, which often have different timelines, eligibility thresholds, and requirements, can be time-consuming and burdensome. Moreover, in some cases, accepting one benefit could disqualify an applicant from another. Tracking the interactions among funding programs adds an additional layer of complexity.³⁹

To alleviate access challenges, numerous federal and state websites seek to help consumers identify funding sources.⁴⁰ For example, to help implement funding opportunities through several federal IRA programs, EPA and DOE funded national and regional “Thriving Communities Technical Assistance Centers” (TCTACs) to provide “one-stop shops” for households and communities seeking federal, state, and private funding for environmental and energy investments.⁴¹ California’s Access Clean California program helps recipients identify and apply for clean vehicle options and may expand to include other programs as well.⁴²

2. Community-Based Programs

Community-based programs, like EPA’s Community Change grants program, or California’s AHSC, TCC, or flexible clean transportation programs, usually have complex application processes. They often require detailed information on the expected benefits of planned investments and on how the applicants will carry out the project, information that requires applicants to conduct studies and collect detailed scientific and financial information. In some cases, applicants must identify multiple funding sources to meet “matching funds” requirements or fund aspects of a project not

³⁹ See *Stacking the IRA: Federal Guidance on Coordinating Multiple Funding Sources*, National Housing Trust (October 2023), <https://nationalhousingtrust.org/sites/default/files/documents/nht-ira-stacking-resource.pdf>.

⁴⁰ See, e.g., EPA, *Specific EPA Grant Programs*, <https://www.epa.gov/grants/specific-epa-grant-programs> (last visited May 30, 2025); Massachusetts Clean Energy Center, *Clean Energy Lives Here* (describing household clean energy resources), <https://goclean.masscec.com/> (last visited May 30, 2025).

⁴¹ EPA, *The Environmental Justice Thriving Communities Technical Assistance Centers Program*, <https://www.epa.gov/environmentaljustice/environmental-justice-thriving-communities-technical-assistance-centers#Overview%20of%20the%20EJ%20TCTACs> (last visited May 30, 2025).

⁴² Access Clean California, *Welcome to Access Clean California!*, <https://accesscleanca.org/> (last visited May 30, 2025).

covered by a given grant.⁴³ And to implement their grants, recipients must often contract for services, manage budgets, monitor results, and report on their progress to funding agencies, tasks that require a degree of underlying administrative capacity.

To help potential applicants apply, funding agencies often provide some level of technical assistance, as EPA did for the Community Change grants.⁴⁴ The federal TCTACs were established to provide assistance across programs. In addition to helping communities apply for grants, the TCTACs have helped them implement their projects.⁴⁵ Technical assistance is especially important for under-resourced communities that lack in-house capacity.

In California, the Strategic Growth Council, an agency led by multiple agency heads, has offered a variety of programs to help communities develop underlying capacity to apply for many kinds of assistance. Programs have targeted local government officials, community leaders, Tribes, and regional collaboratives seeking to improve regional conditions.⁴⁶ Demand for these capacity-building resources has, however significantly outstripped supply.⁴⁷ Until impacted by budget cuts, the California Public Utilities Commission had also devoted several million dollars to help Tribes and communities learn about energy resource opportunities for their members.⁴⁸

While applying for community-based programs requires substantial resources for local government and community-based organizations, programs operated at the community level lighten the burden for individual households and businesses. For example, if a community-based entity receives resources to provide residents with specific expanded clean transportation options (whether transit, active transportation infrastructure, car-sharing, or enhanced access to clean vehicles), individuals do not have to research and package various options.

As with competitive individual grant programs, local governments and community-based organizations face the risk that their applications will not succeed. In determining whether to apply for funds, these entities must weigh the likelihood of success and the importance of the

⁴³ See Grace Gibson, Matthew Goetz, Emma Cross, & Eleonor Dyan Garcia, *Unlocking Equitable Access to Grants: Options for Federal Policymakers to Improve Matching Fund Requirements*, Georgetown Climate Center (May 2024), https://www.georgetownclimate.org/files/report/GCC_Unlocking_Equitable_Access_to_Grants.pdf.

⁴⁴ See EPA, *Community Change Grants Technical Assistance*, <https://www.epa.gov/inflation-reduction-act/community-change-grants-technical-assistance> (last visited May 30, 2025).

⁴⁵ See *supra* note 41 and accompanying text.

⁴⁶ See SGC, *Community Assistance for Climate Equity: Community-Led Climate Solutions for Equitable Transformation* (March 2024), https://sgc.ca.gov/technical-assistance/cace/docs/20240319-CACE_FactSheet.pdf.

⁴⁷ See Kaswan & Gonzalez, *Part V*, *supra* note 35, at 38-40.

⁴⁸ See Grant Management Assoc., CA: *CPUC Empowering Communities through Clean Energy Access (CEA) Grant Program* (March 13, 2024), <https://www.grantmanagementassoc.com/post/ca-cpuc-empowering-communities-through-clean-energy-access-cea-grant-program-due-04-30-24>.

proffered benefits against the risk that the resources devoted to applying could be wasted if the application fails. This risk is especially challenging for communities with fewer resources to start with.

B. Administrative Burden for Agencies

An agency's first implementation task is to publicize the existence of the funding opportunity. For more complex funding opportunities, agencies sometimes provide technical assistance to help applicants understand the requirements and obtain needed information. Agencies process applications and, for competitive grants, must select awardees. For some kinds of grants, agencies also provide on-going technical assistance and engage in monitoring and assessment.

As with applying for funding, the relative ease or difficulty of administering funding has important implications for program efficiency, effectiveness, and equity. Efficiency matters: the more time and financial resources that agencies must devote to administering programs, the less they will have available to achieve program goals. Agency burdens in identifying and reaching out to potential recipients implicate not only efficiency, but also effectiveness. If potential applicants are not aware of or able to apply for funds, then the programs will not achieve their goals. And equity is also at stake: the more resources agencies must devote to processing their funding efforts, the fewer resources they will have available for under-resourced communities, who are often the least aware of potential funding opportunities and require the most assistance in applying for funds.

1. Individual-Based Programs

Agencies offering individual resources, whether tax credits, rebates, vouchers, grants, or financing assistance, face an initial hurdle: informing consumers. Multiple federal, state, local, and Tribal programs are simultaneously conducting outreach. Given the legacy of government distrust in many marginalized communities, programs to assist households and businesses in under-resourced communities are increasingly reaching out to community-based organizations (CBOs) for outreach assistance, hoping to build on the familiarity and trust that the CBOs already have within their communities. However, some CBOs are being overwhelmed by these requests and are unable to provide the requested outreach support.⁴⁹

As noted above, there are some efforts to consolidate outreach. By consolidating information on multiple funding opportunities, entities such as the federally established TCTACs and various

⁴⁹ See Kaswan & Gonzalez, *Part V, supra* note 35, at 32-33.

state information resources, like California's Access Clean California,⁵⁰ have not only helped recipients identify a range of opportunities, they have also streamlined agency outreach.

When it comes to processing individual benefits, the administrative burden for each individual application is relatively light in contrast to multi-benefit community-scale programs. Tax credits, rebates, vouchers, and financing assistance require agencies to assess and verify the applicant's and the funded item's eligibility.

For grants that are competitive rather than first-come, first-served – such as need-based grants, or more complex grants for businesses – the review process is more complex, but usually simpler than community-based grants. Because they usually involve a single agency, and there are likely to be fewer moving parts than for community-based grants, they are easier to review.

2. Community-Based Programs

In some contexts, outreach for community-based programs, like EPA's Community Change grants program and California's mobility and multi-agency programs, is easier than for individual-focused grants. The universe of potential recipients is smaller, and existing organizations, like local government networks, or networks for Tribes, can provide efficient vehicles for publicizing available funding. However, reaching severely underserved communities, like rural unincorporated communities that have little administrative structure and that are not connected to existing networks, continues to be challenging.

Because community-based programs, especially those that provide a range of potential benefits, are by definition larger and more complex than programs offering single benefits to individual entities, the agencies developing these programs must devote substantial time and effort to developing funding parameters and guidelines, providing technical assistance to applicants, evaluating applications, and monitoring implementation. These grants typically have more elements to assess. In some cases, like California's Affordable Housing and Sustainable Communities grants, they could involve cross-sector investments, requiring coordination among, for example, housing and transportation agencies.

Although community-based programs may require more work per grant than individual applications, by meeting the needs of multiple community members simultaneously, they could be more efficient than attempting to achieve similar results through individual benefits. For example, a community grant that funds household energy efficiency, community solar, and enhances mobility through shuttle bus services and new bike lanes might be complicated to review and monitor, but might, in the end, impose less of a burden on agencies than separately

⁵⁰ Access Clean California, *Welcome to Access Clean California!*, *supra* note 42.

conducting outreach, processing applications, and struggling to coordinate these services. Even if the community-based program incorporates benefits that rely on individual applications, the community-based frameworks can provide a coordinating mechanism that could potentially facilitate agency processing and avoid implementation hiccups caused by uncoordinated individual efforts.

C. Timing

The sooner GHG emissions are reduced, the sooner the accumulation of climate warming gases in the atmosphere can be lowered and the more we can mitigate the grave threats such gases pose to human health and welfare. The speed at which clean energy investment programs can deliver change is therefore a critical factor in program design. This section of the paper addresses the pace of individual versus community-based program design options.

1. Individual-Based Programs

Programs that provide resources to individual entities are usually less complicated than community-based programs, especially when they offer a single benefit. They do not require collective planning and, if they fund a single benefit, they do not require coordination with other agencies or providers. Programs that offer resources through tax credits, rebates, or vouchers are likely to function the fastest, while competitive grant-based programs might require somewhat longer to process.

If individual investments cannot stand on their own, however, and require other investments to be viable, the uncoordinated nature of these programs could, in the end, delay actual implementation. So, for example, electric vehicle tax credits may not be effective if household, commercial, or public charging infrastructure support is not available. In the federal Weatherization Assistance Program, properties with housing stock in poor repair have been “deferred” because the buildings cannot support efficiency or clean energy investments.⁵¹

2. Community-Based Programs

Community-based programs that provide multiple benefits generally require planning by applicants and, in some cases, community members. That inherently takes time. Under-resourced communities often lack the capacity to engage in the kind of planning necessary to

⁵¹ Because many states do not track deferrals, the deferral rate is uncertain. A 2015 study that asked grantees about deferral rates found a wide range of responses. The deferral rate appears to be low in some areas and over 20 percent in others. See Erin Rose, et al., *Exploratory Review of Grantee, Subgrantee and Climate Experiences with Deferred Services under the Weatherization Assistance Program* xiv (Feb. 2015), https://weatherization.ornl.gov/wp-content/uploads/pdf/WAPRecoveryActEvalFinalReports/ORNL_TM-2014_364.pdf.

apply for funding. As a result, a period of capacity-building for local government officials and community leaders must often precede efforts to apply for community-based funding. Programs that rely on public-driven planning require time for community members to become familiar with their options, and time to deliberate about the community's collective vision, priority outcomes, and the investments that would help them realize their plan.

However, although community-based programs are likely to take more time due to capacity-building and planning processes, they can potentially save time in achieving clean transition goals if the planning allows them to more successfully couple interrelated investments.

D. Capacity to Facilitate Planning

Decarbonizing households and communities is a complex undertaking that requires critical policy choices and implicates a series of interrelated moving parts. In the transportation context, for example, transportation emissions are a function of how much people drive, as measured by “vehicle miles traveled” (VMT), as well as the technology and fuels used by their travel mode – whether their passenger vehicles, buses, or trains are powered by fossil fuels or clean electricity. VMT is, in turn, affected by the land use patterns that shape the distance between homes, work and retail locations, and by whether transportation is by foot, bicycle, car, or transit. In the electricity context, distributed solar can take the form of rooftop solar panels or community solar. The ability to decarbonize households by electrifying appliances and enabling car-charging depends not only on household electricity configurations, but also on utility distribution lines and the costs to connect. Moreover, as households and businesses incorporate batteries, they can become “virtual power plants” that reduce electricity demand from the grid.⁵² Decarbonization can provide air quality benefits in overburdened communities that most need them, but could also create gentrification risks that would spark the need for rent protections. Community or regional planning, then, is often essential to achieving successful investments that meet the priorities and needs of their intended recipients.

The planning needed to usher in a clean energy transition will have to occur at multiple scales by multiple actors, including federal, state, regional, and local actors. Congress and state legislatures often dictate funding program priorities through eligibility and allocation criteria, agencies develop higher-level funding plans, and local governments engage in land use planning and building regulation. This paper focuses on the degree to which planning is integrated into household and community-scale programs. Communities may not always have direct control over the options they select – for example, the ability to obtain increased public transit may

⁵² June Kim, How Virtual Power Plants are Shaping Tomorrow's Energy System, MIT Technology Review (Feb. 27, 2024), <https://www.technologyreview.com/2024/02/07/1087836/how-virtual-power-plants-are-shaping-tomorrows-energy-system/>.

require action by a regional transit authority – but the planning that selects public transit as a preferred investment would occur at the community level.

1. Individual-Based Programs

Although programs funding individual entities may reflect some degree of planning at the legislative or agency level, they do not enable community-level planning. They do not provide a forum for prioritizing among different types of investments (like energy efficiency versus transportation mobility options). In addition, they do not provide a forum for planning what kinds of investments within a sector make the most sense. For example, in a community seeking to transition to clean transportation, they do not help determine the appropriate balance among, say, investments in clean passenger vehicles or active transportation infrastructure or public transit. On the distributed energy front, they do not provide a forum for evaluating the relative benefits and drawbacks to rooftop solar, community solar, virtual power plants, or relying on utility-provided clean energy resources. For household decarbonization investments, individual household grants do not address needed utility-scale investments (like upgraded distribution lines) or the potential energy costs associated with increasing electrification.

Programs that provide resources for individuals can, of course, be integrated into parallel community planning processes. However, they do not themselves provide a platform for exploring community-level needs and planning investments accordingly.

2. Community-Based Programs

Some community-oriented programs fund multi-faceted community-based projects or directly fund community planning, and so enable priority setting and coordination at the community level. Community-based planning not only catalyzes community-oriented benefits, but also provides a mechanism for coordinating and integrating benefits directed to individual entities. For example, a grant to help a community engage in clean transportation planning might incorporate tax credits or rebates provided by other programs. Similarly, planning for projects linking housing and transportation might incorporate tax credits and rebates for electrification, solar, and charging infrastructure.⁵³

In certain programs, the applicants do the planning, while, in other programs, the applicants foster a community-driven planning process. The applicants are the primary planners in

⁵³ For example, a Transformative Climate Communities plan for an area in Fresno, California included measures to help households receiving energy upgrades access individual programs that could provide electric vehicles and infrastructure. Jason Karpman, et al., UCLA Luskin Center for Innovation, Transform Fresno: 2024 Progress Report on Implementation of the Transformative Climate Communities Grant, at 7 (July 2024), <https://innovation.luskin.ucla.edu/wp-content/uploads/2024/07/Transform-Fresno-2024-rev.pdf>.

California's Affordable Housing and Sustainable Communities program, which requires integrated housing and transportation infrastructure planning. Applicants, including local governments, transit entities, housing developers, and others often partner to submit applications,⁵⁴ and they can obtain additional points in the scoring process if they included community stakeholders in developing the project.⁵⁵

EPA's Community Change grants envisioned a direct community planning component. Only partnerships could apply, and the partnerships had to include at least one community-based organization.⁵⁶ All applicants had to submit a "Community Engagement and Collaborative Governance Plan" that detailed how the applicants would meaningfully engage with community members "to help ensure that grant activities are driven and informed by the views of the ... community and are accomplished through collaboration among key stakeholders."⁵⁷

As noted above, California has several programs that directly fund community planning. Programs like the TCC allow communities to prioritize the kinds of investments, across sectors, that will best meet their collective needs.⁵⁸ Other California programs are single-sector, but allow communities to develop expertise and explore their options, like determining the best forms of clean energy and battery storage, or the best local transportation mobility options.⁵⁹

E. Capacity to Facilitate a Holistic Approach

As suggested above, a clean energy transition requires a holistic approach, one that enables coordinated shifts across multiple dimensions of residential, commercial, and community life. Holistic cross-sector programs can package needed resources together, including, but not limited to, integrating resources already available to individuals and to communities. That integration could streamline implementation and enhance its effectiveness.

In other instances, even if cross-sector coordination is not necessary, coordination could reduce the risk of adverse consequences. Coupling decarbonization investments, like electrifying household appliances, with energy efficiency and distributed solar would reduce the risk of rising

⁵⁴ See SGC, AHSC Factsheet, *supra* note 33, at 2.

⁵⁵ SGC, Affordable Housing and Sustainable Communities Program: Round 8 Program Guidelines 40 (Dec. 14, 2023).

⁵⁶ Community Change Grants NOFO, *supra* note 29, at 30.

⁵⁷ *Id.* at 16-17.

⁵⁸ See SGC, *Transformative Climate Communities Program: Round 5 Final Program Guidelines*, FY 2022-2023, at 16-17 (Feb. 28, 2023) (describing planning grants), https://sgc.ca.gov/grant-programs/tcc/docs/20230308-TCC_R5_Guidelines.pdf.

⁵⁹ See *supra* notes 27-28 and accompanying text (describing mobility planning); *supra* note 48 and accompanying text (describing energy system planning).

energy burdens. Coupling improvements on multi-family housing with local guardrails on rent increases and evictions could reduce gentrification risks. More fundamentally, households or communities seeking funding for a clean energy transition conceptualize a transition in holistic terms, terms that do not coincide with agencies' jurisdictional boundaries.

Cross-sector programming could be organized in a multitude of ways, from one agency packaging resources offered by a range of agencies (called “braiding” in public administration circles) to a multi-agency blended funding stream implemented by a collaborative program. Though desirable, cross-sector initiatives will confront challenges given the sector-based structure of federal and state agencies, as well as the lines of authority and funding that tend to keep agencies within their respective, expertise-oriented lanes.

1. Individual-Based Programs

Most programs that provide resources to individual households or businesses are offered by a single agency and comprise a single benefit, like a tax credit, rebate, or voucher for a specific clean technology. In some instances, however, agencies have offered cross-sector benefits or collaborated to offer them to households. For example, Pennsylvania’s “Whole Home Repairs Program,” managed by the state’s Department of Community and Economic Development agency, offered a range of household improvements, including habitability, energy and water efficiency, and accessibility.⁶⁰ California’s emerging equitable decarbonization program will not only fund energy efficiency measures, but will also fund household repairs to bring a building up to health and safety code requirements.⁶¹

2. Community-Based Programs

Although community-based funding is not necessarily holistic,⁶² community-based programs have a greater capacity to provide holistic clean energy transition solutions than programs that target individuals. EPA’s Community Change grants were designed to fund a range of investments that fall within EPA’s jurisdiction.⁶³ In addition, cross-agency coordination can enable

⁶⁰ Penn. Dep’t of Community and Econ. Dev., *Covid-19 ARPA Whole-Home Repairs Program*, <https://dced.pa.gov/programs/covid-19-arpa-whole-home-repairs-program/> (last visited May 30, 2025).

⁶¹ See Cal. Energy Comm’n, *Equitable Building Decarbonization Direct Install Program Guidelines 17* (2023), <https://www.energy.ca.gov/publications/2023/equitable-building-decarbonization-direct-install-program-guidelines> (scroll to “Program Guidelines”).

⁶² Some community-scale programs take a holistic approach that remains circumscribed within a particular sector. For example, CARB’s transportation mobility programs, which enable community deliberation over a range of potential transportation options, see *supra* notes 27-28 and accompanying text, does not address related issues, like land use and housing.

⁶³ See Community Change Grants NOFO, *supra* note 29, at 11-16 (describing the wide range of eligible strategies).

investments that address the interrelated web of household, commercial, and community-scale strategies. As noted earlier, California’s multi-agency Strategic Growth Council provides a multi-agency administrative structure for launching cross-sector community-scale funding.⁶⁴ Its Affordable Housing and Sustainable Communities program links affordable housing and clean transportation infrastructure,⁶⁵ while the Transformative Climate Communities program provides grants for planning and implementing multi-faceted approaches to “transforming” communities that can incorporate a wide range of potential investments, from household efficiency to new affordable housing to transportation improvements.⁶⁶

F. Participatory Justice and Community Self-Determination

Participatory justice is a key tenet of the environmental justice movement. The issue is not only getting clean energy resources into the hands of those who need them, but community-level self-determination – the ability to shape how and where an under-resourced community will evolve.

1. Individual-Based Programs

Programs that offer individual benefits allow people to “vote with their feet”: individual households or businesses can choose to take advantage of available resources, whether energy efficiency, solar, electric appliances and vehicles, or more. The scope of choices is, however, constrained, because individuals do not have the capacity to shape community-based resources, like transit, or community solar and storage.

2. Community-Based Programs

A key attribute of community-based programs is their capacity to further community self-determination. The degree of community participation in community-scale programs varies, from those that encourage community input to programs that are directly shaped by community stakeholders.

As noted above, California’s Affordable Housing and Sustainable Communities program encourages community engagement. Although the program does not intrinsically rely on a

⁶⁴ See *supra* note 31 and accompanying text.

⁶⁵ See *supra* notes 32-33 and accompanying text.

⁶⁶ See *supra* note 34 and accompanying text.

community-driven process, applicants receive points for demonstrating how they have included community stakeholders in developing a project.⁶⁷

EPA's Community Change grants went a step farther. Applicants had to be partnerships between community-based organizations (CBOs) or between a CBO and a Tribe, local government, or university.⁶⁸ In addition, applicants had to identify "collaborating entities," which could include additional CBOs, Tribes, local governments, or academic institutions.⁶⁹ A key program objective has been centering meaningful community engagement by conducting "robust community engagement throughout the project – from design to implementation."⁷⁰ Applicants were required to develop a "Community Engagement and Collaborative Governance Plan."⁷¹ The plan had to demonstrate how the applicants engaged community members in developing their proposed projects, and demonstrate how they would continue to engage community members during implementation. Applicants had to show how they would conduct outreach and address potential participation barriers, and demonstrate how the lead applicant and collaborating entities would coordinate with each other and with a diverse range of community members.⁷²

As with the Community Change grants, applicants for California's Transformative Climate Communities grants must include both a local government entity and a community-based entity. For project development and project implementation grants, applicants must form a "Collaborative Stakeholder Structure" that includes multiple community stakeholders, including but not limited to residents and members of community-based organizations.⁷³ This stakeholder group is ultimately responsible for submitting the application.

IV. Summary Assessment

An ideal landscape of clean energy transition funding for communities would include a mix of programs that individuals could access on their own and programs that provide funds to support community-scale decision-making and implementation. To help lawmakers and agencies weigh

⁶⁷ SGC, Affordable Housing and Sustainable Communities Program: Round 8 Program Guidelines 40 (Dec. 14, 2023), <https://sgc.ca.gov/grant-programs/ahsc/docs/20250108-Round 8 Final Guidelines with Amendments All.pdf>.

⁶⁸ Community Change Grants NOFO, *supra* note 29, at 30-32.

⁶⁹ *Id.* at 32.

⁷⁰ *Id.* at 10.

⁷¹ *Id.* at 16.

⁷² *Id.* at 17.

⁷³ TCC Round 5 Guidelines, *supra* note 58, at 26-28; 49-50.

the tradeoffs and identify an appropriate balance, this part of the paper summarizes the respective advantages and disadvantages of individual- and community-based programs.

A. Individual-Based Programs

1. Advantages of Individual-Based Programs

One of the chief attributes of programs that provide resources to individuals, particularly programs that provide a single benefit, like a discrete rebate, is that they line up with existing agency expertise and administrative structures. They can be developed quickly because they do not require coordination and collaboration with other departments or agencies. In addition to saving the time associated with coordination itself, programs offering discrete benefits to individual entities can avoid the potential conflicts, and associated delays, that could arise from inter-departmental or inter-agency efforts.

Programs serving individual entities also allow individual households or businesses to pursue clean energy resources without having to await, or depend upon, a collective decision-making process. At a minimum, collective decision-making processes could delay the provision of resources. And in some cases, a community decision-making process might not prioritize a clean energy investment of interest to a household or business. For example, a community could prioritize new housing coupled with clean transportation, a decision that might not meet the preferences of a household seeking to decarbonize. In addition, funding oriented toward individual entities can tailor resources to those facing regulatory requirements, like requirements requiring businesses to transition fleets to cleaner technology, whereas community-based decision-making might not direct resources to those facing actual reduction requirements.

Lastly, not all communities will necessarily benefit from community-based programs. Given limited funds, many deserving communities who apply will not succeed in obtaining highly competitive community-based grants, while some communities will not apply due to a lack of political will or a lack of resources. With individual-oriented funding opportunities, residents or businesses in these communities could still access funds.

Programs that provide benefits to individuals can thus provide resources more quickly than community-driven processes, and can provide resources even if a given community has not successfully pursued resources. Individual-based programs allow applicants to “vote with their feet,” obtaining resources they desire or need, without having to depend upon external parties.

2. Disadvantages of Individual-Based Programs

One of the critical drawbacks to programs targeting individual entities is that they are highly fragmented, resulting in piecemeal and uncoordinated investments. They do not offer a holistic perspective and do not provide any mechanisms to plan an integrated approach to a clean energy transition.

While they may, in some instances, be more quickly accessed and implemented by individuals, in contexts that require coordinated investments, like electric vehicles and charging, or energy efficiency and habitability improvements, segmented programs can delay or impede, rather than speed, implementation. Funding availability and application timelines might not match up. The burden of finding and coordinating available resources falls on individual businesses and households. Emerging technical assistance programs can facilitate access, but many technical assistance programs are program-specific, and so do not necessarily help applicants coordinate the pieces of the puzzle. For under-resourced individual businesses or households, who may have little time and technical know-how, and sometimes face language barriers, the challenges can be prohibitive.

Moreover, some investment options are inherently community-based, and without a planning process that integrates individual and community-level investments, funds may not be optimally deployed. For example, reducing transportation emissions is not just about shifting to zero-emission vehicles. Land use patterns affect the proximity of housing to workplaces, and a shift to clean mobility could include facilitating pedestrian and bicycle use, public transit, shared ride programs, shuttles, and other transportation options. Individualized incentives, like tax credits for electric vehicles, could potentially undermine larger scale efforts to promote active transportation and public transit, the success of which depends upon reducing reliance on individual vehicles.

Lastly, individual-oriented programs do not provide a forum for community deliberation and self-determination. Although the level of citizen engagement in community-scale programs varies, the option for community participation is, by definition, only possible when investments are considered at the community level.

As noted above, community-level planning often incorporates and integrates programs offering individual-scale resources – they “braid” together funding opportunities. That braiding can address the planning and deliberative deficits of individual programs. But without an associated community-level planning process to integrate them, providing resources to individuals risks fragmentation and leaving out those who face the greatest hurdles to access.

B. Community-Based Programs

1. Advantages of Community-Based Programs

Community-based programs place responsibility for assessing needs, determining priorities, finding resources, and implementation on local governments and community-based organizations, lessening the burden on individual households or businesses. In addition, many community-centered programs include a planning element that can integrate and coordinate interrelated clean energy investments, like housing and transportation, or energy efficiency, decarbonization, and housing upgrades. While that process could entail considerable effort by the entities doing the planning and implementation, it could be more efficient and effective, overall, than multiple agencies' piecemeal efforts responding to individual applications.

Because community-based programs can address not only the needs of households and businesses, but also needs that operate at a community scale, like transportation, housing, and community solar, they have the capacity to address a clean energy transition in ways that cannot be accomplished through individual-focused programs. Rather than piecemeal uptake of electric vehicles, for example, they can assess transportation needs and options more broadly, and determine what investments best meet community needs.

Another virtue of community-based programs is the flip side of a deficit in individually oriented programs: they usually enable community participation, at a minimum, and sometimes enable community control, as in California's Transformative Climate Communities program. That participation can help ensure that investments meet communities' unique needs and preferences and, in historically marginalized communities, can provide a vehicle for community empowerment.

2. Disadvantages of Community-Based Programs

The planning, coordination, collaboration, and participation that are advantages of a community-based approach also pose a drawback: they can delay the adoption of clean energy resources. Needs assessments, exploring clean energy options, determining costs and feasibility, outreach, negotiating differing views within a community, and coordinating feasible projects are all time consuming. Where local governments or communities require significant capacity building, yet more time could elapse. In comparison, individual-oriented programs allow eligible households or businesses to invest in clean energy resources when they choose – so long as funds are available. While there may be some delay in obtaining a rebate or tax credit, individuals can quickly access the desired technology.

Because community-based programs rely on local governments, Tribes, or CBOs to assess needs, develop projects, and submit detailed applications, they require significant technical capacity and

resources. Government agencies committed to this approach, like some California agencies, are devoting considerable resources to capacity-building.⁷⁴ That capacity-building is essential for community-based programs to function properly, but it is a substantial cost.

Even with a dedicated effort to devote most funding to community-based programs, it is also unclear whether community-based programs could, in fact, reach all communities needing support. Given the costs, it is unlikely that there would be enough funding to match the need. As noted above, demand for California's capacity-building programs substantially outstrips available resources.⁷⁵ Moreover, even if capacity-building funds were available, some communities, like rural, unincorporated hamlets, simply do not have the time and civic infrastructure to engage in climate planning and project implementation.

V. Conclusion

While the current reduction in federal funding is expected to slow the pace of progress to reach decarbonization, achieving a complete clean energy transition requires a long game. Non-federal legislators, agency staff, and advocates can use the pause in federal funding to ramp up state and local activities, including deliberating on the most effective, efficient, and equitable mechanisms for delivering transition resources where they are most needed.

As part of this planning, it is essential to recognize that under-resourced households and communities will be unable to decarbonize without substantial assistance. Providing that assistance is not only a matter of justice; it is necessary to achieve the degree of decarbonization necessary to avert the worst impacts of a changing climate. Without full participation in a clean transition, continued emissions will harm us all.

As policymakers and advocates at the federal, state, and local levels weigh the relative roles of individual versus community-based resources to address the needs of marginalized communities, numerous factors are in play. Providing and applying for individual versus community-based funding has administrative implications for both applicants and agencies. Whether resources are provided on an individual or community basis will also affect how quickly agencies can provide sought-after resources. And focusing on individual versus community-oriented mechanisms has important implications for comprehensive planning, the capacity to provide holistic solutions, and opportunities to participate in shaping local clean energy transitions. The choice presents tradeoffs, the resolution of which will depend on administrative and community needs, capacities, and politics.

⁷⁴ See *supra* notes 46 to 48 and accompanying text.

⁷⁵ See *supra* note 47 and accompanying text.