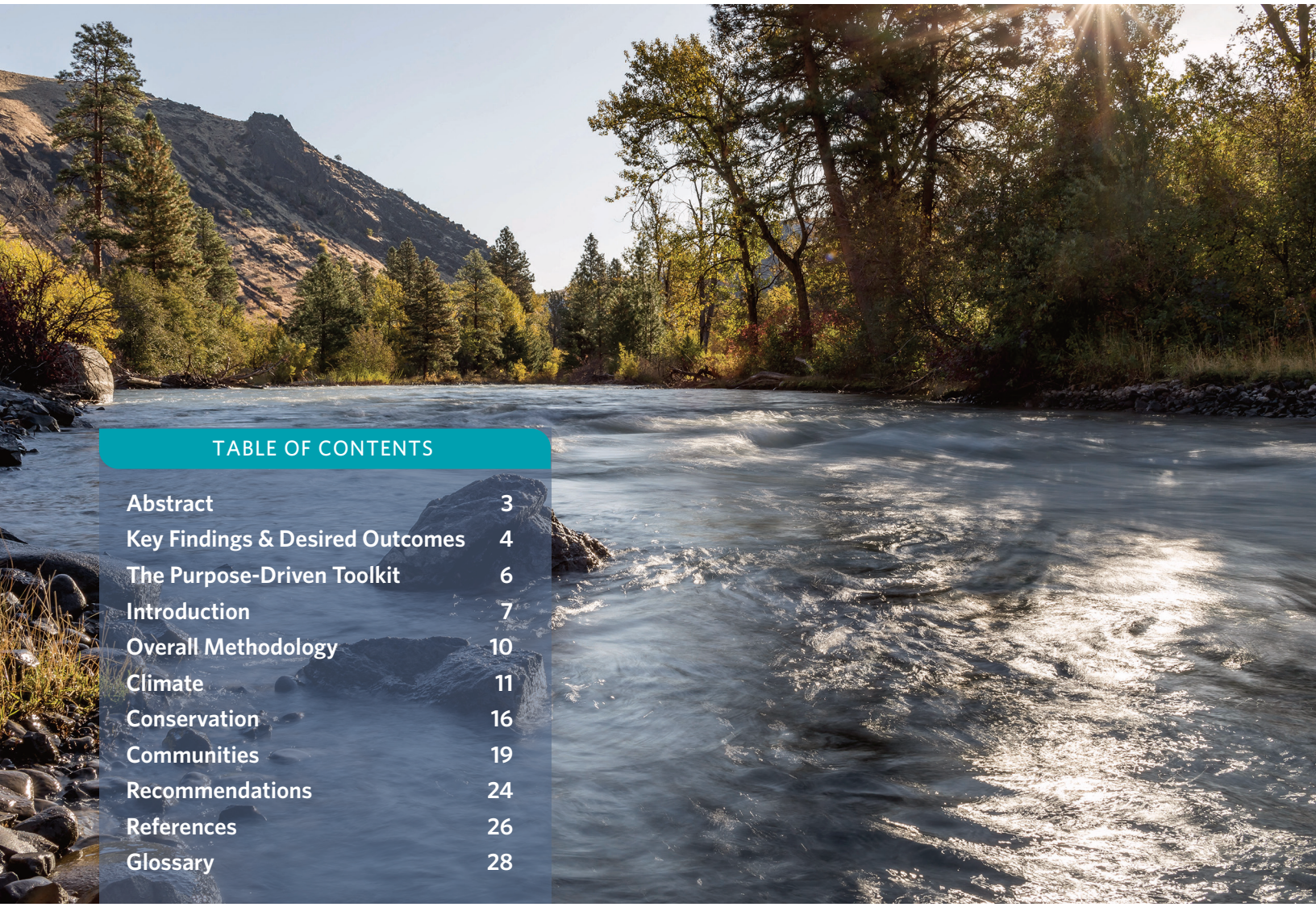
RIVIAN | The Nature Conservancy

Power with Purpose

Driving Change Through Clean Energy Procurement



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ACKNOWLEDGMENTS

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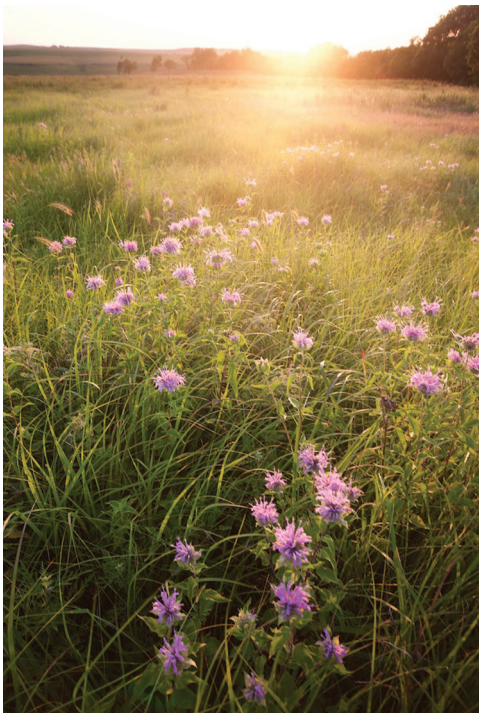
Abstract

Corporate buyers are a pivotal force in accelerating the transition to clean energy. Since 2014, corporate sustainability commitments have driven nearly 40% of renewable energy procurement in the United States. In addition, 76% of the Fortune 100 and 60% of the Fortune 500 companies have set clean energy targets. Where the renewable energy to meet this demand will come from, and how it will be produced, are critical to achieving global climate targets while protecting biodiversity and empowering local communities.

Renewable energy projects that are planned and sited with a purpose-driven approach can make significant and durable contributions to climate change mitigation, conservation efforts, and communities. Corporate procurement policies can influence the clean energy market to move beyond traditional considerations and prioritize important co-benefits extending beyond the achievement of corporate sustainability goals. Buyers can ensure that those projects are cost-effective while supporting global climate, conservation and community goals, referred to as "3C" goals in this paper.

This case study shares the lessons learned and best practices for applying the 3C framework based on a national procurement process. The study describes the partnership between electric vehicle manufacturer Rivian and global nonprofit The Nature Conservancy (TNC), which used their organizational strengths and expertise to develop guidance for other companies to meet their renewable energy needs while enabling system-wide 3C benefits. It provides a market-tested open-source toolkit online, including sample Request for Proposals (RFP) content, a complete Offer Form and scoring template, assessment guidance, and other recommendations for developing a purpose-driven procurement process. These tools are intended for industry leaders to use and adapt, in a way that is consistent with their company values, to accelerate the adoption of purpose-driven clean energy projects.



LEFT TO RIGHT © Mike Fuhr/TNC; © Fauna Creative

Key Findings and Desired Outcomes

1. **Rivian and TNC identified purpose-driven project options across each procurement cycle that balanced risk and cost and met the principles outlined in this paper.** This was accomplished by outlining explicit goals for 3C clean energy projects in the RFP and prioritizing projects that met those goals.

2. **Projects that provided accurate data and self-evaluations were easiest to evaluate and expedited decision making.** Similarly, question-and-answer options that were targeted and specific yielded the most meaningful answers that translated clearly into scorable metrics.

3. **There are complexities in aligning 3C project diligence with the project development timelines.** Projects in the early stages of development have only limited details available on certain criteria. The Purpose-Driven Toolkit and due diligence approach outlined in this paper assessed projects at all stages, but it is possible to refine the methodology to better suit differences across development stages.

4. **Projects that embedded climate, conservation, and community values scored highest and stood out across all criteria.** The best 3C offers scored consistently well in each category, projects that were impactful in a single category could be found across offers.

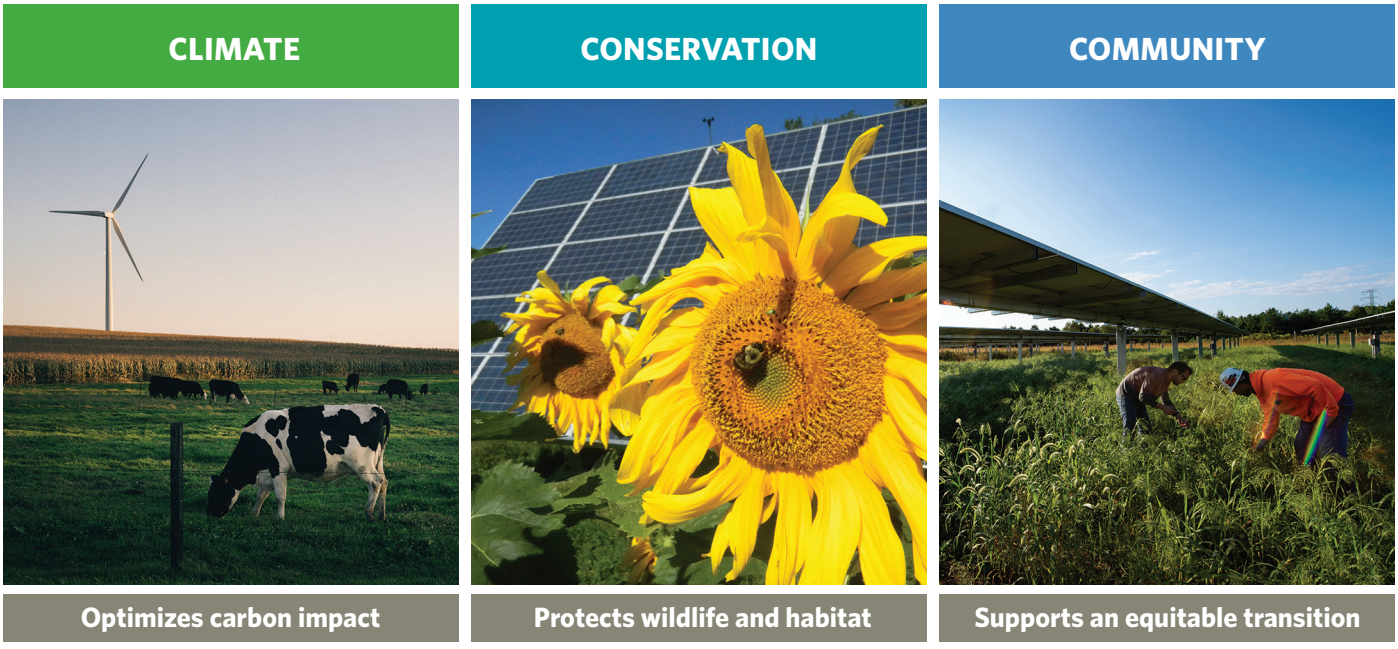


Figure 1: Integrating Climate, Conservation, and Community impacts, or the 3Cs, can help buyers drive purpose-driven procurement.

5. The data for the Total Impact Score, which was an average of each of the 3C results scored from 1 to 10, roughly followed a bell curve (Figure 2). Rivian and TNC sought projects that scored on the higher end of the bell curve while still meeting risk and cost considerations. **The goal of this case study is to shift the scores of all projects up the bell curve, providing more buyers with projects that score high on 3C criteria.**

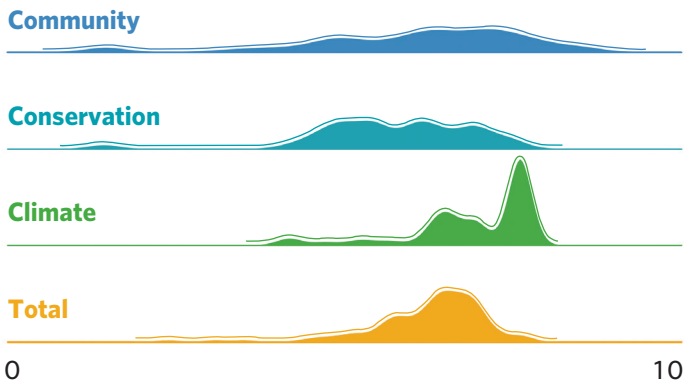


Figure 2: A demonstration of the Total Impact Score for each "C" as well as for the Total project portfolio across all 3Cs.

6. **Project pricing was only somewhat correlated with 3C impact scores.** While some projects included a premium for specific co-benefits, many project offers had a breadth of 3C values incorporated at competitive market prices (Figure 3). Projects that landed in the highest quartile for **Renewable Energy Certificate (REC)**[1] pricing across the procurement did capture the highest range for project scores across climate, conservation, and community metrics.

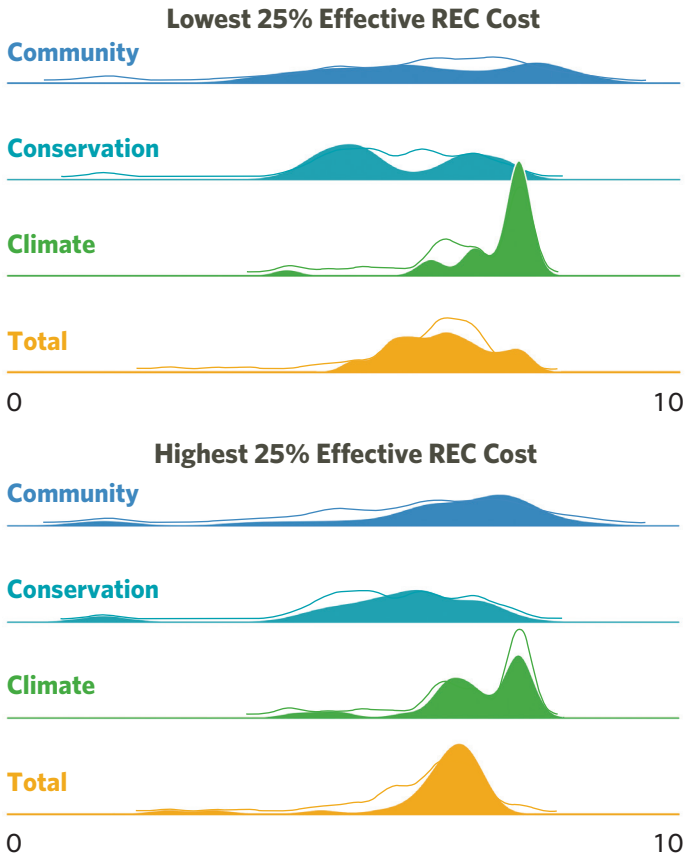


Figure 3: A comparison of scores for projects that had the highest and lowest Renewable Energy Certificate (REC) costs.

Single lines show distribution of all offers.

[1] **Bold** terms are defined in the Glossary at the end of this white paper.

The Purpose-Driven Toolkit

The Purpose-Driven Toolkit is an integrated suite of clean energy procurement resources that embed 3C principles. It builds on the current and prior work and literature in purpose-driven procurement, as outlined throughout this paper. It is intended to evaluate the 3C principles and to be a resource that buyers can use and customize to meet their corporate goals and values. It is not intended to evaluate counterparty or project development risk; thus it should complement traditional procurement due diligence methodologies that screen for price and counter-party risk.

It includes the following tools:

- **The Offer Assessment Form**, is a template for assessing impact and identifying projects that stand out from a 3C perspective. This form provides a standard scoring methodology and customization features if there are certain issues that a buyer prioritizes.

- **The RFP Template and Narrative Questionnaire** provides background language to help buyers communicate their preferences for projects with strong 3C characteristics through their procurement. The Narrative Questionnaire includes a list of project questions for the due diligence process, based on existing methodologies, such as Beyond Carbon-Free and More Than a Megawatt. These methodologies were expanded upon and refined throughout the multiple stages of this collaboration.

This toolkit contains improvements and updates based on feedback from developers, industry and subject matter experts, and other stakeholders. Criteria for development risk and financial performance are omitted from this final set because this toolkit is intended to guide impact criteria.

Corporate buyers and developers may use this toolkit to ensure that their renewable energy practices are aligned to company values, and companies utilizing this work may share their results publicly to continuously improve and accelerate the clean energy transition.

SCAN THE QR CODE TO GO TO THE PURPOSE-DRIVEN TOOLKIT

Introduction

Around the world, market and policy forces are aligning to supercharge the transition to clean energy. In the United States, the recent passage of the Inflation Reduction Act and Infrastructure Investment and Jobs Act allocated $500 billion toward initiatives to increase market certainty for companies investing in clean energy and provide community-benefit opportunities. All participants in the energy ecosystem—buyers, developers, consultants, NGOs, and others—now have the opportunity to raise the bar on how we build this next phase of clean energy to drive even greater climate, conservation, and community benefits.

Corporate market leaders have accelerated the clean energy buildout. The Clean Energy Buyers Association estimates that nearly 40% of all large-scale renewable energy projects in the United States since 2014 were built due to corporate demand (CEBA, 2022). In addition, 76% of the Fortune 100 and 60% of the Fortune 500 companies have set clean energy targets (World Wildlife Fund, 2021), and 2021 saw record-setting growth in corporate **Power Purchase Agreements (PPAs)** in the United States, adding 17 gigawatts of new generation (Microsoft and Volt Energy Utility, 2022). As more corporations—small and large, new and established—begin

> ***"Our relationship with Rivian heralds a new kind of collaboration, showing how smart, clean technology can work with nature to address the twin crises of climate and biodiversity loss."***
>
> **JEN MORRIS**
> CEO, The Nature Conservancy

their energy journeys, they have the opportunity to accelerate the development of clean energy to support corporate climate targets and drive the necessary system-wide change to sustainably transition the energy sector away from fossil-based fuels.

Corporate innovation is an important driver of energy procurement approaches. For example, in its *More Than a Megawatt* white paper, Salesforce began to address how to maximize impact by considering more than just the electricity generated from new facilities. TNC, The National Audubon Society, and LevelTen Energy built on and strengthened this work with the release of *Beyond Carbon-Free,* which developed 3C principles for purpose-driven renewable energy projects focused on delivering **co-benefits** for people and nature.

There is growing recognition in the market, displayed through industry forums like the Clean Energy Buyers Institute's Beyond the Megawatt program, that centering purpose-driven considerations in clean energy strategies is vital to mitigate the effects of climate change while empowering communitiesand protecting biodiversity.

Early consideration of social acceptance and environmental impact, and implementation of robust community engagement, can reduce the risks of project development and accelerate approval processes (Dashiell et al., 2019; Susskind et al., 2022).

Too narrow an approach to energy development, focused only on hitting megawatt-hour targets, misses the opportunity to address the system-level climate challenge inclusively and sustainably. For instance, procuring from a poorly sited project, such as one sited on native prairie or without adequate engagement of the local community, may help meet renewable energy goals. But such a project could be the target of legal challenges, and procuring energy from it could undermine project goals while setting a company back on other corporate social responsibility goals.

What the industry needs now are case studies that illustrate shared value and offer a pathway for corporate buyers to maximize global impact beyond their corporate footprints. This white paper demonstrates how Rivian and TNC built on and applied the 3C principles developed in *Beyond Carbon-Free* to create an open-source, purpose-driven energy procurement toolkit, refined over the course of two solicitation cycles that covered over 100 offers and 14 GW of offered capacity.

Partnership Background

TNC and Rivian's strong organizational alignment and shared interests enabled them to center their partnership around a set of common goals to preserve biodiversity, fight climate change, and empower local communities. Corporate procurement of clean energy presents a unique opportunity and critical lever to accelerate the transition

USAGE OF TERMS

Throughout this white paper, we use terms like "Community," "local communities," "community goals," and "community benefits." We intend these usages to be broadly applicable, and therefore inclusive of Indigenous Peoples—such as sovereign Tribal Nations and/or Peoples with cultural or historic ties to the surrounding lands and local towns, cities, or citizen associations in which renewable projects are constructed. This is aligned with globally recognized conservation and community engagement conventions and organizations, such as the Convention on Biological Diversity and LandMark. We recognize that while Indigenous Peoples and local communities can share interests, it is not appropriate to assume that these interests always intersect, or that any one group represents the views of all involved members or interests. Instead, we hope that by addressing these groups under a common framing of "Communities," we can help elevate their roles in facilitating an equitable clean energy transition.

away from fossil fuels while benefiting communities, protecting biodiversity, and helping to mitigate the worst effects of climate change.

Rivian started its clean energy journey in 2021, with the goal of tackling emissions beyond the tailpipe through the decarbonization of manufacturing and the charging of electric vehicles. The company is on a mission to tackle the carbonization of our atmosphere not only by shifting energy use away from fossil fuels but also by developing solutions to make it easier for its customers and the communities in which they live to make that transition. Rivian aims to drive system-wide impact by implementing local, innovative advanced energy solutions where they are most beneficial. This approach is foundational to Rivian's mission of accelerating the transition to a decarbonized grid for all.

TNC's mission is to conserve the lands and waters on which all life depends. This work requires boldly addressing the biodiversity and climate crises over the next decade. By maximizing humanity's ability to effect change between now and 2030, TNC and its partners and supporters can shape a brighter future for people and our planet.

As part of the collaboration with Rivian, TNC assisted in evaluating projects to create a replicable methodology and toolkit and participated as an offtaker - a purchaser of the power generated from the project - to address through on-site investments such as energy efficiency and rooftop solar. The following pages discuss how to prioritize energy projects that are built on formerly developed and/or degraded lands, such as landfills, mine lands, retired coal plants, and brownfields, and how to demonstrate proof of these projects' alignment with local community goals. Industry leaders can use this purpose-driven procurement methodology to implement ambitious clean energy goals that are aligned with their corporate values.

Overall Methodology

TNC and Rivian sought projects that optimized economic value with 3C priorities, as revealed in a Total Impact Score for community, conservation and climate. The goal was to create a model for procurement that companies could use and build upon, from buyers looking for one defining project to buyers with large and expanding energy needs.

The first step was to conduct and refine an RFP evaluation over two solicitation cycles that bid for a variety of long-term purchase mechanisms, including PPAs and Renewable Energy Certificate (REC) Purchase Agreements. The first cycle focused on the **Midcontinent Independent System Operator (MISO)** regional grid to power Rivian's electric vehicle manufacturing plant in Illinois. The second cycle was nationwide in scope to cover Rivian's large distributed loads and TNC's energy usage that cannot be offset through energy efficiency and on-site generation.

The team road-tested the toolkit during the two solicitation cycles across 18 states, analyzing over 100 projects that totaled over 14 GW in multiple technologies (Figure 4). The following pages provide a high-level summary of the lessons learned for each category: what worked, what can be improved, key trends, and best practices from actual projects in the market. The tools provided below should enable companies to integrate 3C values into future solicitations to reduce the complexity of renewable energy transactions.

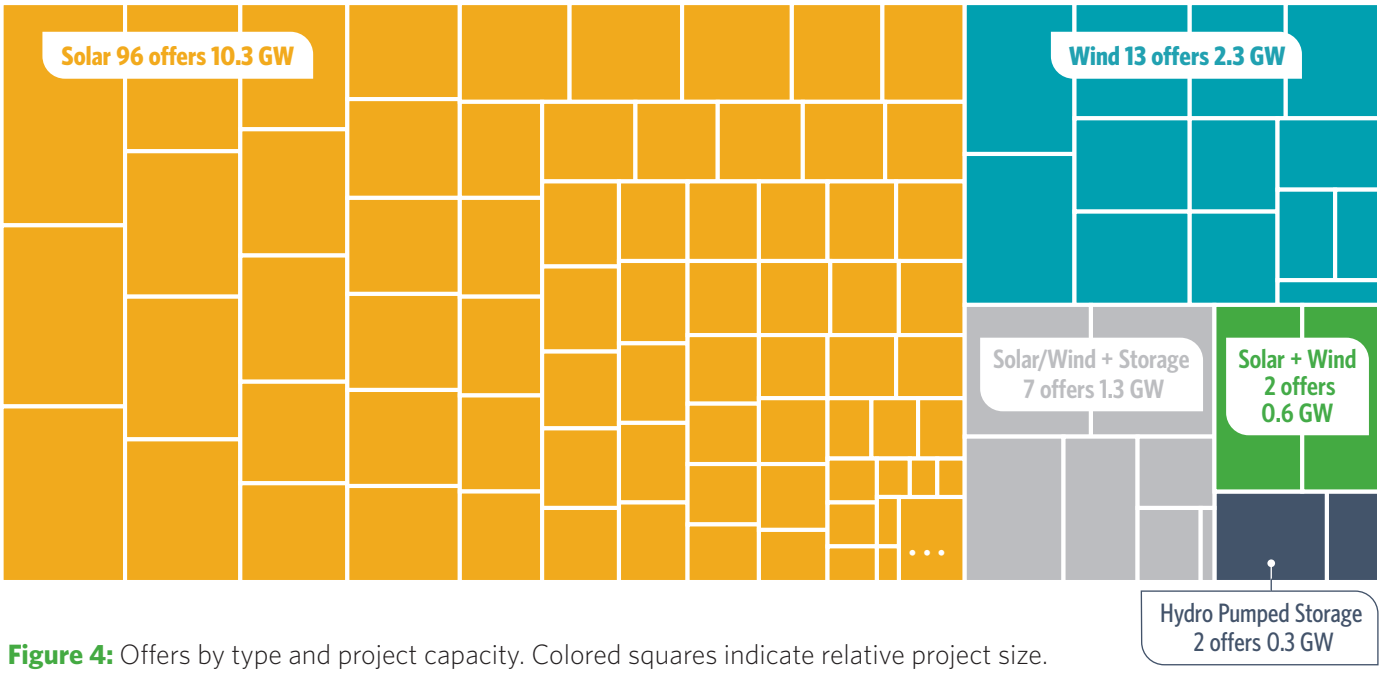


Figure 4: Offers by type and project capacity. Colored squares indicate relative project size.

Climate

The clean energy market has evolved tremendously over the last 15 years. The rise of robust corporate net zero commitments, increasing access to capital markets, and greater shareholder engagement concerning emission reduction strategies have allowed corporates to drive growth in the clean energy market and innovate on carbon reduction approaches. For example, over 900 companies have set Science-Based Targets to reduce their emissions in line with the Paris Agreement (World Economic Forum, 2021). Renewable energy procurement through PPAs and the purchase of RECs have been key to achieving these targets (Figure 5).[2]

> ***"Rivian has clearly illustrated how project selection can significantly multiply the positive climate impact they can achieve. The availability of this Purpose-Driven Toolkit provides a concrete method and framework to assess projects quickly and guide decision making."***
>
> **LAURA CORSO**
> Managing Director of Partnerships, WattTime

[2] Source: https://cdn.cleanpowerhub.net/CRP/IRENA_Corporate_sourcing_2018.pdf

Unbundled energy attribute certificates (EACs)

1

A company purchases attribute certificates of renewable energy separately, "unbundled" from its electricity. Examples of certificate systems are guarantees of origin (GOs) and renewable energy certificates (RECs).

Power Purchase Agreements (PPAs)

2

A company enters into a contract with an independent power producer, a utility or a financier and commits to purchasing a specific amount of renewable electricity, or the output from a specific asset, at an agreed price and for an agreed period of time.

Renewable energy offerings from utilities or electric suppliers

3

A company purchases renewable electricity from its utility either through green premium products or through a tailored renewable electricity contract, such as a green tariff program.

Production for self-consumption

4

A company invests in its own renewable energy systems, on-site or off-site, to produce electricity primarily for self-consumption.

Figure 5: Examples of purchasing mechanisms for renewable energy.

Now, energy buyers have an opportunity to raise the bar further and move beyond annual megawatt-hour matching to focus holistically on the emissions impact of sourcing decisions for the grid as a whole.

Even though RECs have been the primary market-based tracking instrument for corporate renewable energy procurement to date (U.S. Environmental Protection Agency, n.d.), RECs do not track the full suite of attributes of a given renewable energy project, such as the value of installing incremental capacity or repowering existing capacity. Therefore, there is a gap in accounting for **additionality** with regard to RECs. And critically, RECs do not embed the avoided carbon emissions that result from that REC being generated. Corporates can solve for this by considering **emissionality**—using avoided carbon emissions as decision criteria in siting projects—a concept that has been embedded in the Purpose-Driven Toolkit.

Gaps in accounting for the value of renewable energy projects are also relevant, on a more qualitative basis, for conservation and communities. Siting considerations such as habitat and community impact are not yet embedded within the mainstream REC market. A growing number of market options are working to embed these non-price criteria in RECs, such as Solar Stewards' Social REC to incentivize equity in renewables. However, these options are not yet fully integrated or built out for

broad commercialization. There is a need for additional incentivizing actions, such as updates to the GHG Protocol[3] or integration into REC tracking systems.

Many corporates are coalescing around principles needed to update greenhouse gas accounting systems to accelerate grid decarbonization. One such coalition is the Emissions First Partnership, which calls on the World Resources Institute to update its greenhouse gas guidance to focus on the quantified emissions impact of each activity. **Carbon-free energy** frameworks such as the United Nations 24/7 Carbon-Free Energy Compact are also being developed to reduce reliance on a fossil-based electricity grid and enable data-driven decision making. Rivian is a signatory to both the Emissions First Partnership and the UN 24/7 Carbon-Free Energy Compact.

Developing transaction mechanisms that track time, location, and other siting considerations, either through RECs or other programs, will enable a broader set of corporate buyers to engage in these deals. For example, including emissions adders to facilitate procurement in the most carbon-intensive locations could help drive more targeted investments for grid decarbonization (Sol Systems, 2022).

These attributes are not yet standardized and fully integrated into the market, but companies can devote purchasing power to projects that generate outsized benefits for climate impact. Industry leaders have an opportunity to demonstrate the feasibility of reducing carbon from the electricity supply, reducing stress on the grid, and incentivizing new technologies to serve as a blueprint that other companies, states, and nations can follow.

Methods: Climate

To assess the climate impacts of procurement, TNC and Rivian evaluated projects on the basis of avoided carbon emissions, prioritized additionality, and ensured that projects did not contribute to the loss of natural carbon stores through natural land conversion. Emissionality was scored using the previous year's historical hourly avoided marginal emissions data from WattTime. Offers

[3] A corporate accounting standard for seven greenhouse gases covered by the Kyoto Protocol: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride.

were assigned to the relevant region in WattTime's Grid Emissions Intensity Explorer tool. The hourly avoided marginal emissions were assessed against the project's hourly generation profile to generate an average avoided marginal MTCO2e (metric tons of carbon dioxide equivalent) per MWh metric. This approach captures both the varying emissions across the United States and the variation in emissions based on energy technology (e.g., wind, solar).

Consideration of the technology is important because a wind project, a solar project, and a solar plus storage project may all have significantly different impacts on avoided emissions. Failing to consider how a new resource fits into the existing power mix may lead to an overabundance of resources at certain times. This has already happened in regions with a high percentage of renewables on the grid. Rivian's approach aims to create, demonstrate, and adopt energy solutions that enhance and support the grid and allow for a smooth transition to clean energy.

New projects scored highest on additionality, where Rivian's involvement would be a key catalyst for project success, followed by repowered projects and then existing projects. This approach enabled Rivian to drive impact through its investments by focusing on projects that create systemwide benefits rather than focusing on renewable energy claims for its operations.

Projects were also assessed based on potential carbon loss from land conversion, using qualitative questionnaires alongside forested and soil carbon indicators from TNC's Resilient Land Mapping Tool, to ensure that projects did not have significant "carbon payback periods" of carbon loss during construction that would have to be compensated for during operations.

The uneven distribution of clean energy in the United States today is a barrier to progress. In addition to driving imbalances in social and economic opportunities, and leaving some communities behind, it limits the net carbon reductions that can be achieved across the entire system. By adding clean energy in locations where market participants have been historically slow to drive change, projects can both balance access to clean energy and have a greater impact displacing fossil fuels.

Findings and Lessons Learned: Climate

In this procurement, emissionality was minimally correlated with cost, but some regions are outside of wholesale markets, which may make structuring difficult.

Prioritizing projects in regions with a higher emissions benefit is a low-cost way to increase climate impact from procurement. Increasing corporate procurement in regions without a regional **wholesale electricity market** and/or with low penetration of renewables in the existing utility portfolio is an impactful way to bring renewables benefits to a region where industry investment is lacking. Corporates can overcome these traditional barriers through creative commercial structures and utilizing existing policies and programs to provide a pathway to develop clean energy projects in these regions. It is also possible, in lieu of direct market access, to integrate these opportunities through partnering with local co-ops, avoided cost **virtual PPAs**[4] or purchasing RECs from a **qualifying facility**.

Renewables penetration is important and should be considered in tandem with emissionality.

Some states may have modest avoided emission scores due to high nuclear generation and other grid features, like hydropower and/or carbon capture and storage facilities. These areas may still benefit from increased renewable energy penetration by diversifying and lowering the cost of their existing portfolio, reducing exposure to fuel price volatility, and increasing the public and environmental benefits that come from renewables, both locally and to surrounding regions through imports and exports.

There are varying degrees of additionality and associated impacts, depending on project circumstances.

Additionality is not a binary concept; rather, it can vary depending on the specific circumstances of a project and the nature of support provided. For example, increasing the capacity or efficiency of an existing project may be a more cost-effective path to reduce emissions than supporting the development of a new project, and it could reduce the need for new land development. And while purchasing RECs from an existing project does not directly drive the construction of new projects, it does provide a critical revenue stream for continued operation. Other factors that should be considered include the state of the market where the project is located, where a company's contribution falls in the value stack that developers can use to finance the project, and the availability of other market participants to provide financing.

In either case, a corporate's participation will support the project to varying degrees, and scoring should be tailored to a company's priorities and view on what is materially impactful. While the assessment of whether a project is "new, repowered, or existing" is a key core metric, additional review may be necessary in certain scenarios to fully evaluate the impact of a company's participation in a project.

Avoided emissions benefits to the grid should be balanced with local benefits and priorities.

Increasing the prevalence of clean energy generation in communities that have faced pollution burdens is important, regardless of their regional emissionality score. Projects with the highest emissions avoidance should be prioritized if they can align with local community priorities and demonstrate that the community is receiving the economic, environmental, and health benefits associated with renewable energy development.

FINAL THOUGHTS: CLIMATE

There are a variety of ways corporates can drive a more impactful, climate-friendly clean energy transition, from considering principles like additionality and avoided emissions to empowering clean energy solutions for communities through innovative partnerships. Ultimately, climate attributes are best realized when considered in tandem with other social and environmental impacts.

[4] For example, the PURPA-based Contract for Differences Model, which "mimics a financial PPA with a project selling into the wholesale market, but instead of the project receiving the market-based wholesale price, the project would receive the PURPA avoided-cost rate." https://www.nrel.gov/docs/fy19osti/72003.pdf

Conservation

> *Understanding that renewable energy development often utilizes working lands in rural communities, we believe there is a strong business case for standards to inform and guide corporate energy buyers. We commend Rivian and TNC for highlighting the importance of community engagement and protection of our most productive agricultural lands.*
>
> **JOHN PIOTTI**
> President, American Farmland Trust

Renewable energy and conservation are intrinsically linked. A stable climate for resilient ecosystems is not possible without broad decarbonization. Nature is also a top ally for mitigating climate change; a recent report found that nature has absorbed more than half of human-caused climate emissions over the past decade (World Wildlife Fund, 2022).

All types of development, including renewables, have the potential to negatively impact habitat and wildlife. The primary driver of these potential impacts is **habitat conversion**, which is the largest threat to biodiversity globally and is exacerbated through its interaction with climate change (Segan et al., 2016). For example, since 2016, solar has been the top driver of forest loss in Virginia, impacting over 8,000 acres (Berryhill, 2021). These conversion trends negatively impact environmental benefits from natural areas, such as native habitat, natural climate solutions, and air and water quality. There is not enough time to use a "two steps forward, one step back" approach to solving the climate crisis.

There is a strong business case for considering biodiversity in project siting. The world contains over 17 times the amount of **low-impact lands** needed to meet Paris Agreement goals with renewable energy without developing in **key biodiversity areas** (Kiesecker et al., 2019). While land impacts will need to be mitigated regardless of where a project is sited, there are abundant opportunities to develop renewable energy while maintaining environmental values. Trade-offs between renewable energy and biodiversity are often driven by market oversight, not technical constraints.

Projects sited intentionally to avoid habitat impacts can experience faster permitting, fewer delays, reduced project costs, and less community opposition (Dashiell et al., 2019). Furthermore, projects that integrate environmental and land-use co-benefits, such as agriculture or installation of pollinator habitat (Figure 6), can increase positive community perception (Mills & Bessette, 2021; Pascaris et al., 2022).

Incorporating more considerations for natural lands in renewable energy development will drive development pressure to **working lands**, which serve a vital function for people and nature. The U.S. Department of Energy estimates that as much as 10 million acres of rural land could be needed to meet clean energy goals. In addition to prioritizing projects on low-impact lands, corporate buyers should also screen for working land impacts to ensure that projects do not disrupt important soils and rural livelihoods. They can also seek projects that enhance farm economics, productivity, and viability by implementing best practices such as **agrivoltaics** and agricultural mitigation plans.

One encouraging trend, driven in part by European policies, is the rise in renewable energy developers establishing net-positive biodiversity goals (Rainey et. al., 2014). Broader adoption of these commitments across the renewable energy industry could provide a clear and measurable framework for buyers to assess biodiversity strategies aligned with global standards like Science-Based Targets for Nature.

While the market evolves and adapts to policy drivers, corporate buyers can drive positive impact by prioritizing projects that avoid converting natural areas and important working lands. There are also many opportunities, exemplified by projects reviewed in these RFPs, to revitalize developed and degraded lands and waters through renewable energy development.

Methods: Conservation

The conservation assessment was based on the **mitigation hierarchy**. Projects that were expected to have significant negative impacts to important habitats and/or wildlife were removed from consideration. Meanwhile, projects that utilized previously disturbed lands (such as brownfields, minefields, and landfills) received high scores. Important wildlife and habitats were identified through science-based decision support tools, like TNC's Site Renewables Right Map. For projects located outside the area covered by Site Renewables Right, TNC utilized a modified version of its Resilient and Connected Lands Network, a national conservation database.

Detailed, site-level review was performed on short-listed projects in consultation with local experts and the best available science. Geospatial project information was requested as part of this procurement to assist in due diligence. Many developers were not able to share files due to the early stage of project development or the need to maintain confidentiality. When geospatial information

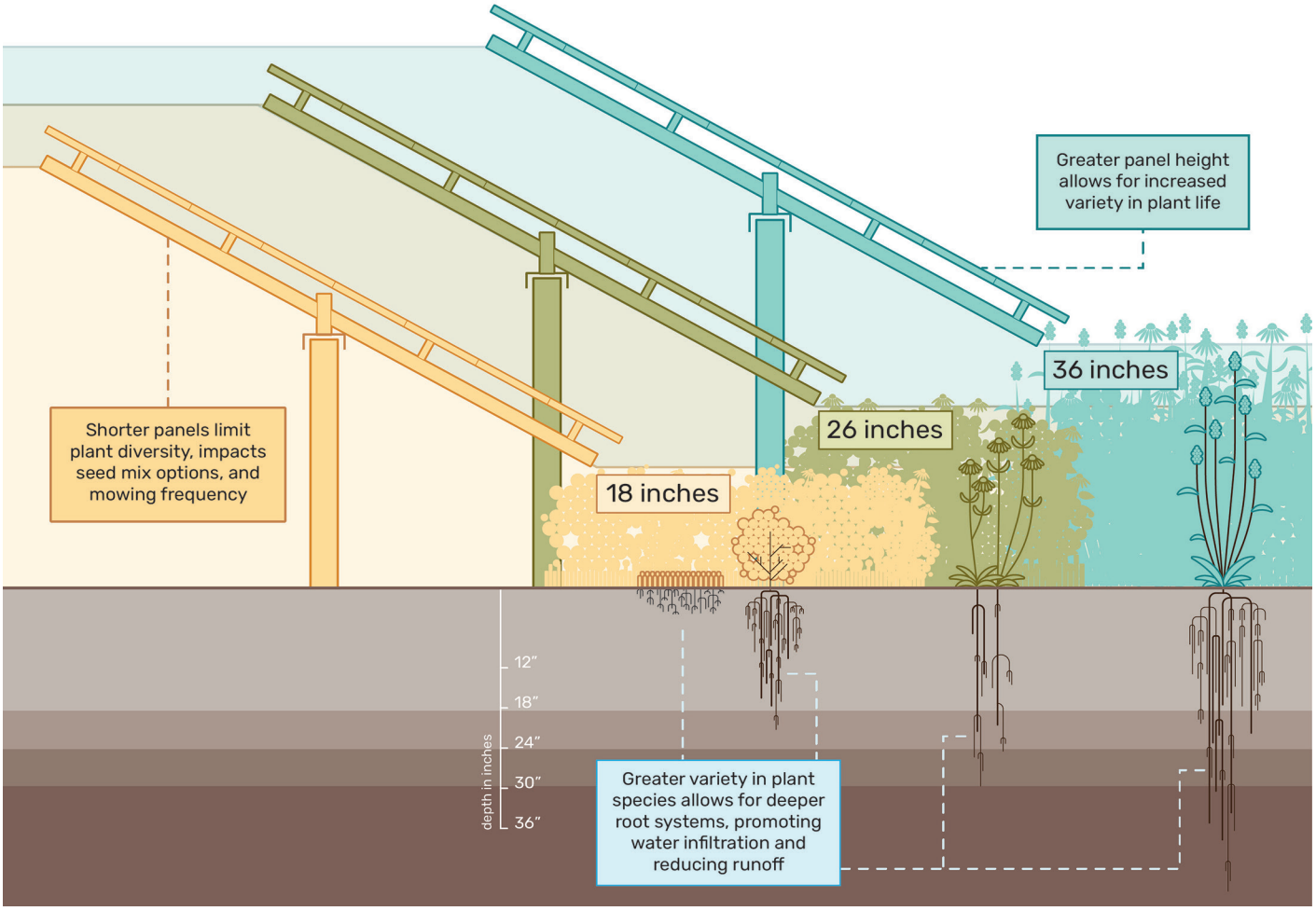


Figure 6: Pollinator plants offer a clear advantage over turfgrass for co-location in solar projects.[5]

Illustration © Kay Rossbach/Great Plains Institute

[5] Source: https://energytransition.umn.edu/projects/solar-pollinators/

could not be attained, due diligence was based on point locations provided in project narratives, buffered to account for project size. Impacts to working lands were first assessed utilizing USDA's Prime Agricultural Lands database. In the final Purpose-Drive Toolkit, Rivian and TNC utilized American Farmland Trust's **productivity, versatility, and resiliency (PVR)** index to generate a more context-specific assessment framework.

Findings and Lessons Learned: Conservation

The projects that focused on revitalizing degraded lands, such as Superfund sites, abandoned mine lands, or compromised soils, stood out across all scoring dimensions.

Both procurement processes stated a preference in the RFP for projects that avoided impacts to sensitive habitats and/or were sited on degraded lands. Out of over 75 proposals received for the national procurement, six indicated that a portion of the site was located on degraded lands, such as mine lands, brownfields, and Superfund sites. One large, 185-MW project was proposed to be sited almost entirely on abandoned mine land in an economically distressed county in Appalachia. Another focused on revitalizing soils in Southern Illinois that had been polluted by prior fossil fuel energy development through a combination of solar development and native plantings. Projects like these were prioritized, and three made it to final consideration after additional financial, development, and 3C due diligence measures were applied.

Projects that provided accurate data and self-evaluations on impacts to natural and working lands, including steps to mitigate those impacts, were easiest to evaluate and expedited decision making.

An independent review of projects revealed discrepancies between their actual features and the answers provided about land-use characteristics. For example, the answers for multiple projects indicated that they had no overlap with Site Renewables Right data layers, when further review showed that there were significant overlaps. Other projects indicated overlaps that closer review showed were not material. Many of these discrepancies came from different interpretations of broad language in the original request, such as what constitutes a "significant" impact regarding project footprint overlap with natural areas, and how "prime" agricultural lands are defined. Most projects reviewed during the MISO procurement were based in Illinois, and many had conflicts with prime agricultural lands, since 65% of the total land area in Illinois is defined as "prime agricultural lands." Therefore, the Purpose-Driven Toolkit has been updated to provide clearer quantitative assessment categories utilizing TNC assessment tools for conservation and American Farmland Trust data for important working lands.

Many economically competitive projects that were reviewed did not appear to have significant impacts on natural and working lands.

A desktop review of financially competitive projects that met development requirements in the national procurement found that over half did not have significant impacts to natural and working lands.[6] It is important to know the level of collaboration between the developer and officials (like wildlife or agricultural agency staff) and local partners to assess and mitigate potential impacts. Among projects that indicated that they had developed a mitigation plan, most reported that their plans reflected input from agency officials, though this was not verified due to capacity and confidentiality constraints.

FINAL THOUGHTS: CONSERVATION

Rivian and TNC reviewed multiple price-competitive projects that avoided significant impacts and also employed strategies to revitalize natural and working lands. This was achieved by stating preferences clearly throughout the bidding process and appropriately evaluating projects with the science-based tools and strategies in the Purpose-Driven Toolkit. Projects that stood out the most focused on both revitalizing lands and supporting host communities and their priorities.

[6] For the desktop review, "significant" impacts were present if more than 20% of the overall project footprint impacted areas either defined by TNC conservation data layers or AFT's PVR index of soils rated over .53 in a given state.

Communities

Clean energy infrastructure impacts urban, rural, and indigenous communities across the United States and globally. Projects should be sited intentionally to create local jobs, economic opportunities, access to clean energy, and public health benefits. Addressing community engagement, local job creation, economic development, and workforce training early in the project development process, when corporate buyers can have the most input, can reduce the risk of project delays and cancellations (Susskind et al., 2022). Every participant in the renewable energy transition can drive systemic change by prioritizing community-focused considerations in their own operations, as well as requesting that their suppliers also prioritize these considerations.

> ***"A decarbonized grid for all can only be achieved through inclusive processes that ensure the clean energy transition benefits historically excluded and frontline communities. By harnessing the influence of corporate energy customers who want to contribute to a just transition, we can establish a new norm where community wealth-building, high-quality jobs, and affordable clean energy are key pillars of corporate clean energy procurement."***
>
> **PHOEBE ROMERO**
> Equity Manager, Clean Energy Buyers Association

It is critical to elevate **energy justice** considerations during the clean energy transition. **Historically excluded groups**, such as communities of color and indigenous communities, have experienced disproportionate negative effects of energy siting decisions and related air pollution consequences (Cushing et al., 2022). In addition, they have received less reliable service and access to clean energy technologies (Ross et al., 2022) and have been excluded from decision making around energy policy and siting (Newell, 2021). The renewable energy industry has an opportunity to help build the energy transition through a lens of **restorative justice** and **recognition justice** by acknowledging these disparities, learning about the communities' history and values, and prioritizing community power building by engaging communities through every stage of the process.

For example, the Biden–Harris Administration's Justice40 Initiative aims to deliver 40% of the overall benefits of climate, clean energy, and related investments to disadvantaged communities that are marginalized, overburdened, and underserved. It is also important to recognize the contribution of other industry collaborations in this space, such as Microsoft and Volt Energy's development of an Equity PPA, which aims to unlock new opportunities to equitably distribute clean energy benefits to **frontline communities**.

Community engagement should be viewed as a long-term commitment. While contractual arrangements such as **Community Benefits Agreements**[7] (Figure 7) are a great way to initiate the negotiation process, engagement must go above and beyond by including communities in the decision-making process throughout the term of project development. However, information from the early development stages of these projects may not tell the full story. Community-impact funding is often tied to project operations, which may result in misaligned timing between when a project is assessed for RFP consideration and when its positive community impacts are realized.

To address this issue, clean energy procurement and development budgets must prioritize allocations for robust community engagement. Energy buyers and developers can engage the community throughout the project development timeline. Buyers involved at later stages can prioritize robust community engagement by having a detailed plan, implementing that plan early and often with the project developer(s), and mobilizing other corporate resources to support community interests.

For ongoing accountability, renewable energy project budgets should include allocations both for initial engagement plans and for ongoing tracking and reporting of how these commitments are going. Community-based organizations are the best choice to make sure that this is done, but they need funding for staff and capacity. The standardization of industry best practices at various development stages should enable projects to be compared at different stages and drive more benefits to communities.

The potential impacts and benefits of these projects do not stop once the deal is signed. Clean energy projects provide a partnership opportunity with host communities to advance community-determined projects and priorities. Through thoughtful procurement, corporate buyers, in partnership with the developers who invest in local relationships, can elevate important priorities and values to accelerate durable community benefits from clean energy projects.

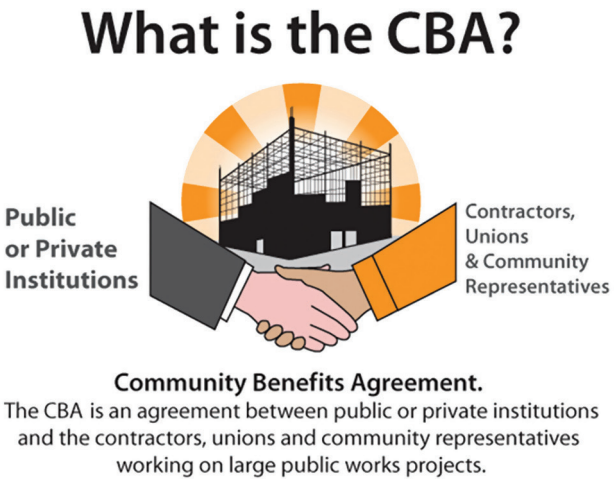


Figure 7: A Community Benefits Agreement facilitates project engagement in the community.

[7] Source: https://www.yournec.org/a-new-approach-to-social-change-community-benefits-agreements/

Methods: Communities

Rivian's solicitation process analyzed community engagement, estimated community impact, and assessed community response to the project. The RFP questions ranged from quantitative (yes/no) criteria, such as whether a project is in a **Disadvantaged Community (DAC)** as defined by the White House Environmental Justice Screening Criteria, to qualitative questions, such as asking the developer to describe their community engagement plan, or to list community advocates who could serve as references for the project. The RFP also included standard questions about workforce and supplier diversity.

The questions were modified after the MISO procurement and improved again after the national procurement, based on feedback from community partners, developers, and emerging best practices. The modifications allow for a greater matrix of assessment due to the complexity of the topic, while also standardizing responses across projects to allow for a more comprehensive review.

Both procurements were completed before the Inflation Reduction Act (IRA) was passed into law, so the Community questions in the Purpose-Driven Toolkit have been updated to reflect the equity considerations embedded in clean energy development through IRA incentives and programs.

Findings and Lessons Learned: Communities

How a question was framed is critical to the quality of the participant's response, suggesting a need for market standardization around community indicators.

Since the assessment was a mix of qualitative and quantitative questions, respondents often had the opportunity to further elaborate on their answers. These responses provided helpful context but made it more difficult to assess and score across projects. In addition, some respondents left qualitative explanation boxes blank, which reduced credibility in the scoring process. Qualitative questions also add time and subjectivity to the due diligence review, which many companies lack the capacity to complete. Standardizing 3C criteria in RFP solicitations would allow developers to complete a more seamless submission process and would provide a simplified review process for buyers.

These findings, and consultation with developers, community advocates, and industry partners, suggest that providing a matrix of description-based responses from which respondents can select—rather than allowing open-ended feedback, or including questions with simple yes/no answers—would facilitate comparison across projects, standardization of proposal review, and more meaningful insights. The final questions provided

in the Purpose-Driven Toolkit were modified to include a description-based drop-down menu, with opportunities for developers to further elaborate through their project narratives.

Community impact was an important factor for project advancement, and the community engagement processes and perspectives that some projects described in their project narratives were critical to evaluation.

All of the projects selected as finalists stated that they had a community engagement plan and that the community had responded favorably to the project. In contrast, projects that reported a negative community response were automatically given a "No Go" score in the review process. Qualitative review of the community engagement plans revealed that the most compelling projects[8] engaged early and often with the community and gave community members many opportunities to provide feedback.

Narratives that stood out provided a detailed community impact plan that indicated how community members were engaged at every stage of the process, prioritized having a cooperative relationship with the community, and fit the interests and priorities of the community. These projects planned for a wide range of community benefits, including property taxes entering the local community, local conservation efforts, partnerships with local community and education organizations, robust workforce training programs, local tax abatements, and financial contributions.

This assessment showed that there are growth opportunities to further integrate community engagement across renewable energy projects. Only a few of the total project narratives discussed community engagement at the level of rigor that the 3C framework is advocating for. There are additional best practices for community engagement—such as co-creating proposals and proactively involving communities in the design process rather than just soliciting feedback—that companies should follow. Companies can move the market toward more robust community engagement by applying the lessons learned here across their operations.

Alignment with siting and technical criteria did not necessarily indicate that the community supported the project or had been closely consulted.

To receive a high score in the review process, projects needed to provide evidence of both positive community co-benefits and broad community consent to the project. For example, one of the questions asked whether the project was located within or near a community identified as a DAC. While this question offered insight into how the project was sited from an Energy Justice perspective, on its own it did not provide a holistic view of community impact. Considering energy justice from a development perspective requires that communities receive the benefits associated with the project and that project does not reinforce disparities in energy cost and access. If the project demonstrated that it offered community benefits, met with a positive community response, and was geographically located in a DAC, it scored higher.

Some of the most compelling narratives supplemented technical siting criteria with a detailed community engagement plan and proof of a favorable community response. For example, one narrative indicated that the project was in a census tract identified as a DAC and that the host community had a favorable response to the project siting (as attested by links to local press releases that indicated favorable community support, transparency

[8] The observations reported here are from TNC & Rivian's subjective review of the proposal narratives that sorted and compared community engagement processes.

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about community members who voiced concerns about the project, and details about what the company did to address those concerns). This type of qualitative information was a useful supplement to quantitative siting criteria and enabled comparisons across projects.

A project's commitment to Diversity, Equity, Inclusion, and Justice (DEIJ)—and whether it provides job training to build a skilled local workforce—are important indicators of long-term positive community impact.

The best projects had clear workforce training practices that emphasized local hiring, apprentice training programs, and durable programs aimed at creating a skilled legacy workforce. Assessing developers' commitment to DEIJ practices was helpful, but small- and medium-sized developers who had not yet formalized their company's DEIJ commitments into policies had trouble answering this question. Industry initiatives like the Renewables Forward DEI Playbook provide an opportunity for developers across the market to ensure that their companies are following best practices.

Community indicators were difficult to measure and compare across projects since they varied greatly. This problem was overcome by doing additional reviews of project responses for community criteria and modifying questions in the Purpose-Driven Toolkit to provide more standardized answers.

Some of the participants had detailed, project-specific community engagement plans, while others were generalized across an entire company's portfolio or otherwise limited. In addition, projects in an earlier stage of development often had less information about how their community engagement plans would be implemented, which made it difficult to compare them with late-stage projects.

Qualitative questions generated overly positive community scores with limited differentiation between projects. With input from stakeholders, Rivian and TNC iterated on a revised approach to community scoring. A sample of previous answers were re-scored and then the new approach was applied to the overall dataset to create a representative distribution of adjusted scores (Figure 8).

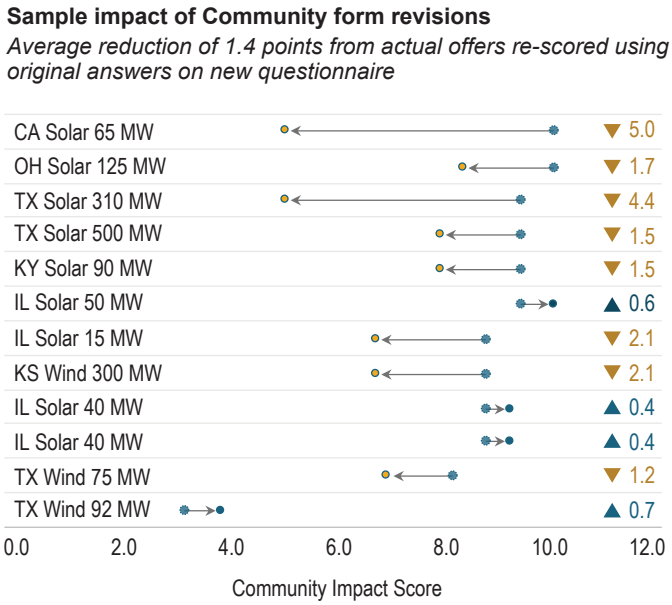

Figure 8: A representative sample of projects were re-scored after the updates to the community methodology. This led to more differentiation, with most projects decreasing their overall community impact score but some increasing.

FINAL THOUGHTS: COMMUNITIES

Positive community impact and support are foundational to accelerate the renewable energy transition in a way that empowers local communities and reduces the risk of project delays and cancellations. Corporates can prioritize these outcomes through interactive community engagement plans set early in the development process, prioritizing project development that aligns with community values, and integrating DEIJ into their corporate practices.

> *"The scale of the challenge is enormous, but we're lucky to be a part of this—to be able to help solve how we shift our planet's energy and transportation systems entirely away from fossil fuel."*
>
> **RJ SCARINGE**
> CEO, Rivian Automotive

Recommendations

To achieve the 2050 climate goals set by the United States and many other countries around the world, there needs to be a nine-fold increase in the amount of clean energy that is currently online (International Energy Agency, 2021)). At the same time, the world is facing a biodiversity crisis, and we need to conserve at least 30% of lands and waters globally by 2030 (Convention on Biological Diversity, 2022). Corporations and businesses that have established climate targets can serve as a critical lever to address both climate and biodiversity challenges, but there needs to be greater and more inclusive collaboration between industry, governments, advocates, and local communities.

The following recommendations are intended to provide a roadmap to further advance this work and facilitate the widespread adoption of purpose-driven procurement.

Socialize best practices and encourage the continued evolution of industry standards to drive change.

Sharing success stories and working with like-minded stakeholders to take collective action are key to driving change. Coalescing around shared and standardized principles can provide a signal of market demand that will drive more impactful project opportunities, facilitate broad industry adoption, and ensure that best practices are followed throughout the lifetime of the project. Ideally, this framework will evolve into an industry standard or certification process that can be replicated, tracked, and reported upon.

Catalyze corporate buyers to be powerful agents for change beyond their immediate footprints.

Voluntary energy buyers are demonstrating their ability to drive positive market change through purchasing decisions. This progress can be further accelerated, and impact broadened, using innovative and creative approaches, especially where the market has lagged. Advocating for policy change aligned with 3C priorities, partnering with nontraditional allies, and piloting novel energy sourcing approaches can allow more communities to realize the benefits of purpose-driven clean energy projects.

Support clean energy due diligence tools to enable purpose-driven procurement decisions.

Due digilence tools, such as TNC's Site Renewables Right map or the U.S. Government's Climate and Economic Justice Screening Tool, enable buyers to utilize expertise from industry leaders, scientists, and community advocates to make purpose-driven decisions. It is important to strengthen existing due diligence tools, and develop additional publicly available tools to address emerging issues and geographies.[9]

Elevate local voices through robust and consistent community engagement practices to ensure an equitable transition.

Businesses cannot make the transition to a clean energy economy alone. They need to involve the communities in which they operate to support an inclusive transition away from fossil fuels. While this procurement sought to do just that, it was the most difficult part of the assessment. Rivian and TNC prioritized guidance and lessons learned from community advocates, like NAACP's Equitable Solar Policy Principles, to enhance the recommendations in this paper.

[9] Many of these tools are exploring key global markets, like the European Union. One emerging issue area that needs more due diligence tools and standards is supply chain and circularity concerns. Participants in this procurement were asked to align to Rivian's Supplier Code of Conduct, which addresses important topics such as forced labor and environmentally responsible sourcing practices.

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Glossary

Additionality: The value of a particular contribution to the financial viability or development of a clean energy project. For example, companies that are responsible for financially supporting new, expanding, or developing clean generation sources can claim additionality. (Schneider Electric)

Agrivoltaics: The use of land for both agriculture and solar photovoltaic energy generation, sometimes referred to as *agrisolar, dual use solar, or low impact solar*. *Solar grazing* is a variation in which livestock graze in and around solar panels. This approach views agriculture and solar energy production as complementary rather than as competitors for land. By allowing working lands to stay working, agrivoltaic systems can help farms diversify income. Other benefits include energy resilience and a reduced carbon footprint. (USDA)

Avoided Emissions: Emission reductions that occur outside of a product's life cycle or value chain but as a result of the use of that product. In the context of the electricity grid, avoided emissions are the emissions that would have been produced if electricity had been generated from fossil fuels, compared with the emissions that are actually produced when electricity is generated from low-carbon or zero-carbon sources.

Carbon-free Energy (CFE): Electricity produced without generating carbon emissions. 24/7 carbon-free energy means that every kilowatt-hour of electricity consumption is met with carbon-free electricity sources, every hour of every day. (UN Energy)

Co-benefits: Simultaneously meeting several interests or objectives resulting from political intervention, private sector investment, or a mix thereof. Co-beneficial approaches to climate change mitigation also promote positive outcomes in other areas, such as air quality and health, economic prosperity, and resource efficiency. (Helgenberger et al.)

Community Benefits Agreement (CBA): An agreement between public or private institutions and the contractors, unions, and community representatives working on large public works projects. CBAs can require equity and sustainability to be established provisions in any future projects or deals. (Northcoast Environmental Center)

Disadvantaged Community (DAC): A community that is marginalized, underserved, overburdened by pollution, economically disadvantaged, or burdened by underinvestment in housing, transportation, water and wastewater infrastructure, and health care. (Council on Environmental Quality)

Emissionality: Assessment of the avoided emissions of different renewable energy projects based on location and/or grid impact. (WattTime)

Energy Justice: A framework in which energy resources are readily available, affordable, and environmentally sustainable. Incorporated into the framework are the environmental justice concepts of intragenerational and intergenerational distributive justice (the equitable distribution of environmental burdens and benefits across current and futuregenerations) and procedural justice (transparency in decision making and the meaningful participation of all stakeholders, especially those who have historically been marginalized and excluded from the decision-making process). (Ross et al., 2022) Energy justice explicitly centers the concerns of marginalized communities and aims to make energy more accessible, affordable, clean, and democratically managed for all communities. (Initiative for Energy Justice)

Frontline Communities: The populations most impacted by multiple and cumulative sources of pollution and climate impacts due to their proximity to toxic factories, fossil fuel refineries, neighborhood oil drilling, freeways, and so on, and which often lack access to clean drinking water or public investment. People who experience oppression because of race, income, gender, sexual orientation, disability, gender identity, age, etc., are likely to have fewer resources and protections in society in general. They have less access to resources and protections not only to adapt to our changing climate but to enact policies and pass laws that are fair and culturally significant. (Microsoft and Volt Environmental Justice PPA)

Habitat Conversion: Human-caused changes to the environment, such as agriculture, forestry, and expansion of urban settlements, that cause the disappearance of natural habitats globally. (Kuipers et al., 2021)

Historically Excluded Groups: Groups of people with common characteristics, whose rights have been denied or who have endured harsh conditions in societies, whether caused by law or by tradition. (IGI Global)

Key Biodiversity Areas (KBAs): Sites of global significance for biodiversity conservation. They are identified using globally standard criteria and thresholds, based on whether biodiversity requires safeguards at the site scale. These criteria are based on the framework of vulnerability and irreplaceability widely used in systematic conservation planning. (Langhammer et al., 2007)

Low-Impact Lands: Specific locations that are best suited for renewable energy development because they can be developed in a way that has low impact to wildlife and natural habitat. (Kiesecker et al., 2012)

Midcontinent Independent System Operator (MISO): An independent, not-for-profit, member-based organization focused on managing the generation and transmission of electricity across 15 midwestern U.S. states and Manitoba (Canada), serving 45 million people. (MISO Energy)

Mitigation Hierarchy: A widely used development framework that helps limit the negative impacts of development on biodiversity by following science-based principles. The steps of the hierarchy are 1) avoidance of impacts, 2) minimization of impacts that cannot be avoided, 3) rehabilitation of damage, and 4) offset to compensate for damage. (The Biodiversity Consultancy)

PJM (Pennsylvania, New Jersey, and Maryland): A regional transmission organization that coordinates the movement of electricity across 13 East Coast U.S. states and the District of Columbia. (PJM-EIS)

Power Purchase Agreement (PPA): An arrangement in which a third-party develops, installs, owns, and operates an energy system and sells the system's electricity output and associated environmental attributes to a buyer for a predetermined period.

Previously Disturbed Lands: Sites that have experienced significant disturbance and/or contamination from human activities, such as brownfields, Superfund sites, sites subject to corrective action under the Resource Conservation and Recovery Act, mining sites, and landfills. (U.S. EPA)

Prime Agricultural Lands: Land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and that is available for these uses. It has the combination of soil properties, growing season, and moisture to produce sustained high yields of crops economically if it is treated and managed according to acceptable farming methods. (Natural Resources Conservation Service)

Productivity, Versatility, and Resiliency (PVR) Index: Developed by American Farmland Trust as part of the Farms Under Threat initiative, an analysis designed to identify the agricultural lands best suited for intensive cultivation, with a focus on the production of human-edible food crops. It provides relevant information about the land's productivity, versatility, and resiliency. American Farmland Trust developed a detailed spatial dataset representing soil productivity and capacity, land cover and use, food production for direct human consumption, production limitations, and length of growing season. The PVR model combined these datasets using weights elicited from a group of national agricultural experts. The higher the PVR value, the more productive, versatile, and resilient the land is for long-term cultivation. (American Farmland Trust)

Qualifying Facility (QF): Defined by the Public Utility Regulatory Policies Act of 1978 (PURPA) as a facility that falls into one of two categories: (1) a small power production facility with a net capacity of 80 megawatts or less whose primary energy source is renewable (hydro, wind, or solar), biomass, waste, or geothermal resources; or (2) a cogeneration facility that sequentially produces electricity and another form of useful thermal energy (such as heat or steam) in a way that is more efficient than the separate production of both forms of energy. (Federal Energy Regulatory Commission)

Recognition Justice: A model that emphasizes the need to understand different types of vulnerability and specific needs associated with energy services among social groups (especially marginalized communities). The recognition dimension both identifies historical disparities and, if the structures that created those disparities continue, suggests disparate likelihoods of future burdens and benefits. (Energy Equity Project)

REC Purchase Agreement: An agreement to purchase Renewable Energy Certificates at a fixed price from a specific facility, new or existing, over a term of at least 5 years. (City Renewables)

Renewable Energy Certificate (REC): A market-based instrument that represents the property rights to the environmental, social, and other non-power attributes of renewable electricity generation. RECs are issued when one megawatt-hour (MWh) of electricity is generated and delivered to the electricity grid from a renewable energy resource. (U.S. EPA)

Restorative Justice: A concept that captures the many different practices centered around repairing harm and relationships. Restorative justice plays a vital part in the concept of energy justice, as it aims to repair injustices arising from energy decision making. It encourages decision-makers to address all potential harms and injustices that may arise and implement plans for prevention, mitigation, and restoration. (Energy Equity Project)

Virtual Power Purchase Agreement (vPPA): A financial contract wherein a buyer pays a fixed price, minus a market energy price, in exchange for RECs from a specific renewable energy source. Physical electricity is delivered to the grid via vPPAs, not directly to the buyer, allowing companies to invest in renewables without being constrained by geographic location.

Wholesale Electricity Market: A market that handles the purchase and sale of electricity among generators and energy suppliers, along with services needed to maintain a resilient and reliable power system. Organized wholesale markets are centrally managed platforms for transparent and competitive wholesale electricity trading. The most advanced markets are operated by a Regional Transmission Organization (RTO) or Independent System Operator (ISO). (Clean Energy Buyers Association)

Working Lands: Land that is actively being used for agriculture and that is privately owned. Working lands comprise two-thirds of the land in the lower 48 states. These farms, ranches, and forests produce much of our country's food and fiber and are the backbone of rural communities. They also provide clean water, recreational opportunities, and abundant wildlife habitat. (USDA)

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