

Clean Energy Transition

2025
Annual
Report



Introduction

We are at a critical juncture in the global effort to confront climate change and accelerate the shift to clean energy. With unprecedented growth in renewables worldwide, including record additions of solar and wind capacity in 2024, the promise of a clean, green and equitable energy future is increasingly tangible. However, urgent and coordinated action is still needed to meet the goal of tripling global renewable capacity by 2030.

At The Nature Conservancy (TNC), our mission in the clean energy transition is grounded in the 3Cs: Climate, Conservation and Communities. Advancing 3C renewable energy projects means cutting greenhouse gas emissions while protecting vital ecosystems and uplifting the people who live where projects are developed.

In 2025, this work has taken form through expanded partnerships, innovative planning tools and strategic engagement with policymakers and communities. From an expansion of our Smart Siting work across Europe, to renewable energy development on former and reclaimed mines in the U.S., India and the Balkans, TNC's efforts reflect a commitment to shaping a clean energy future that benefits both people and the planet.

This report highlights progress, insights and opportunities from the last year. Our 2025 work lays out the path ahead for scaling renewable energy in ways that are responsible, resilient and just.

Contents

- 3 Our Strategy
- 4 Smart Siting
- 8 Mining the Sun
- 12 Renewables for Good
- 16 Powering with Policy & Partnerships
- 20 Publications
- 22 Learn More & Connect

Triple renewable energy globally by 2030 for a clean, green, equitable energy future



Smart Siting

Using environmental and community information, we work with governments and partners to support the siting of responsible renewable energy. Science-based mapping and planning tools identify areas with lower risk and higher benefit for nature and communities and can help reduce land-use conflicts, speed up deployment and preserve natural areas.



Mining the Sun

We support the growth of clean energy development on former mine lands and brownfields by identifying opportunity sites, supporting policies and incentives and engaging host communities. These sites offer existing infrastructure, faster permitting and new economic opportunities for local communities that are often in transition from fossil-fuel-dependent economies.



Renewables for Good

A successful clean energy transition hinges on strengthening the social license for renewable energy projects—the acceptance and approval of projects by stakeholders and the general public. TNC and partners are developing best practices and standards for responsible renewable energy by integrating climate, conservation and community values into projects, procurement and markets.



Powering with Policy & Partnerships

Ambitious commitments must be coupled with supportive policies that drive rapid and equitable change. TNC is building diverse coalitions to create, implement and defend policies that accelerate adoption of clean energy technologies and reduce emissions across the economy.



Smart Siting

Smart Siting



Progress Highlights

- TNC is supporting smart siting and Renewable Acceleration Areas (RAAs) in six countries in Europe: Portugal, Montenegro, Croatia, North Macedonia, Romania and Serbia, and has a MoU with the Energy Community Secretariat
- The European Siting Community of Practice, initiated by TNC, is being scaled through a Europe-wide consortium of business associations, city networks and researchers towards a Europe-wide Center of Excellence for Siting and Permitting of Renewable Energy
- TNC's Site Renewables Right tool is being expanded and upgraded in the U.S. to cover 48 states
- TNC's SiteRight tool in India covers 9 states and is being expanded nationally to cover other states
- TNC has established agreements with three Indian states to support and scale a smart siting approach for renewable energy planning and deployment
- SiteRight has been integrated into the Government of Tamil Nadu's State Land Use Information System (LUIS) and launched to support renewable energy planning
- Peru's Ministry of Energy and Mines and TNC published a national-level WebGIS smart siting tool and supporting technical document to inform renewable energy siting

What's Next?

- TNC will launch an expanded U.S. Site Renewables Right tool in 2026
- TNC will continue supporting smart siting and RAA designation across the European Union (27 countries) and Energy Community Secretariat (9 countries)
- TNC will work with at least 6 states in India to accelerate responsible renewable energy siting, supporting goals for over 100 GW of renewable energy

Supporting a Renewable Energy Transition in Europe

This year, we delivered national studies in Croatia and Portugal to help aid nature and community-friendly renewable acceleration, deepened our work to achieve the same in Montenegro, and kicked off a new national study in Romania. We also bolstered scaling strategies through EU legislation via our work with the Energy Community Secretariat and a new Europe-wide community of practice for renewable technicians.

In Portugal, we published a tailored [Smart Siting Guide](#) to help Portuguese authorities and developers select the best areas for new renewable energy projects. The country plans to generate 93% of its annual electricity production from renewable sources by 2030, up from 61% in 2023.

In Croatia, TNC is supporting a fair and nature-positive energy transition, which is aiming to source 42.5% of its energy from renewable sources by 2030. In partnership with the Ministry of Environmental Protection and Green Transition and the Hrvoje Požar Energy Institute, over the past year, TNC completed [national-scale biodiversity sensitivity maps](#) for Croatia.

In Romania, a [Memorandum of Understanding](#) establishing cooperation for developing the “Romania Smart Siting” study was signed by the Ministerul Energiei (Ministry of Energy), the Ministerul Mediului, Apelor si Padurilor (Ministry of Environment, Waters and Forests), The Nature Conservancy and the Energy Policy Group in December 2025. This joint initiative will identify land for solar, wind and geothermal energy where there is high technical potential and low conflict with social and biodiversity values across the country.

Introducing the European Renewable Energy Siting Community of Practice

Launched in 2025, the European Renewable Energy Siting Community of Practice is helping shape national and regional mapping efforts and the designation of dedicated renewable energy zones. Its core objective is to foster technical peer learning by bringing together spatial planning and energy experts from over 12 European countries to identify good practices, common barriers and shared solutions. We also joined partner environmental NGOs in launching an [analysis](#) of how EU Member States are applying legislation that requires them to designate Renewables Acceleration Areas.

Supporting Smart Siting in India

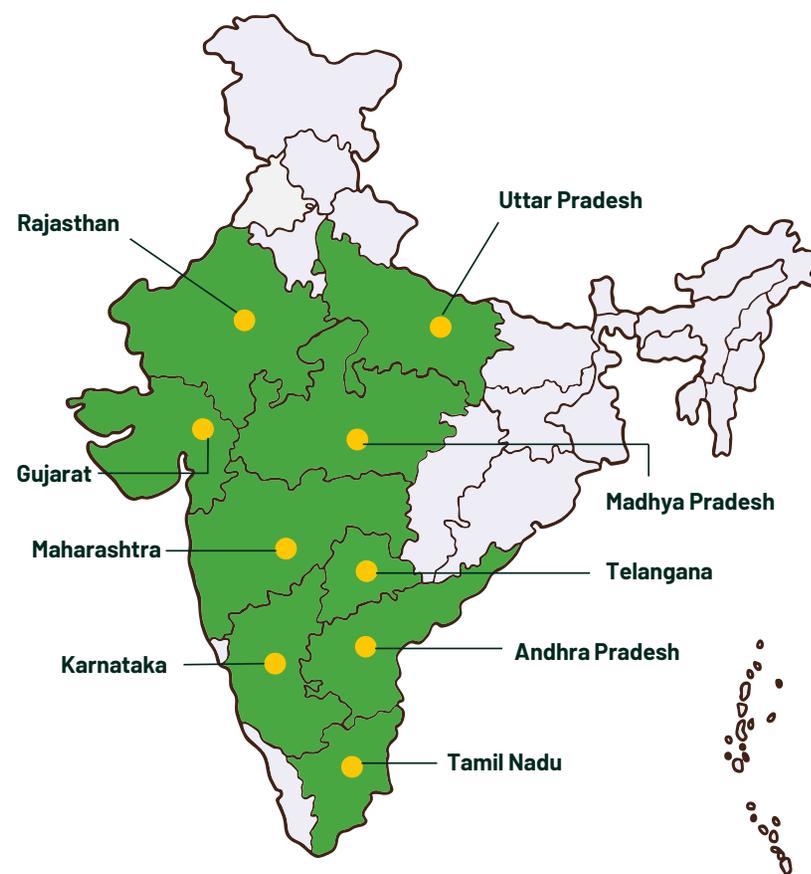
To accelerate India's responsible transition to renewable energy and meet the target of deploying 500 gigawatts (GW) of non-fossil fuel electricity capacity by 2030, we guide projects towards low conflict areas through SiteRight, our geospatial tool, and support repurposing degraded lands for renewable energy development. In 2025, we advanced smart siting by establishing collaborations with two additional states: Tamil Nadu and Karnataka. In Tamil Nadu, SiteRight was integrated into TiNAI, the state's Land Use Information System, via a strategic partnership with the State Planning Commission. Officially launched in December 2025, TiNAI became one of the first government platforms to integrate SiteRight for renewable energy planning. Learn more about SiteRight in [this video](#).

Supporting a Responsible Energy Transition in Peru

In Peru, TNC worked with the local government to develop technical reports and the Web-GIS platforms to support renewable energy siting in areas of low environmental impact. As a result of the joint effort between Peru's Ministry of Energy and Mines (MINEM) and The Nature Conservancy, the technical document titled "[Zoning for Renewable Energy in areas with low environmental impact – National](#)" was published in November 2025, accompanied by the national-level WebGIS platform.

At a subnational level, a [technical report](#) and a GIS tool were published for the Amazonian department of Loreto, Peru, focusing on avoiding impact on this sensitive ecosystem. To influence local policies, TNC also participated in a [meeting](#) organized by the Regional Government of Loreto, through the Regional Directorate of Energy and Mines of Loreto (DREM Loreto), dedicated to the development of the Regional Energy Policy of Loreto to 2040.

Map: TNC India supports Smart Siting across nine states





Mining the Sun

Mining the Sun

Progress Highlights

- TNC supported the first solar energy project on a reclaimed coal mine in India, which completed construction and began operating in 2025
- TNC signed a MOU with India's National Institute of Solar Energy under the Ministry of New and Renewable Energy to scale smart siting and develop a national roadmap for advancing solar on coal mines
- TNC's Cumberland Forest Project in Virginia, Tennessee and Kentucky announced 17 new clean energy projects on former Appalachian coal mines



What's Next?

- TNC will work with the National Institute of Solar Energy to develop a national roadmap for siting solar on coal mines that are closed or reclaimed
- TNC will support communities in target states in the U.S. to advance renewable energy projects on former mine lands and brownfields

A Transformative Year for Mining the Sun in India

In 2025, in a landmark move, the Ministry of Coal formally enabled renewable energy projects such as solar and wind energy on closed coal mines, allowing reclaimed mine land to be repurposed for clean energy. Through a Memorandum of Understanding with NLC India Ltd., TNC conducted technical feasibility studies that informed the development of a 50-megawatt solar energy pilot on reclaimed mine land in Neyveli, Tamil Nadu, which began generating power in September 2025. Over its lifetime, this project will help avoid an estimated 1.17 million metric tonnes of CO2 emissions.

To scale the efforts nationally, TNC signed a strategic Memorandum of Understanding with the National Institute of Solar Energy under the Ministry of New

and Renewable Energy. Through this partnership, we are advancing low-impact renewable energy siting and a national roadmap for the solarization of closed and reclaimed coal mines in India.

The mine closures are expected to significantly impact jobs and place-based economic opportunities in mining regions, particularly for dependent communities that often lack the skills needed for alternative livelihoods. TNC's upskilling pilot in Jharkhand trained 207 candidates, over 90% of whom were women across five trades, including Solar Panel Installation Technician, with 110 candidates placed or self-employed. Learnings from this pilot will further be scaled at national level to inform the institutionalization of a national re-skilling strategy for green jobs, supporting an inclusive and equitable energy transition while revitalizing local economies.



Mining the Sun 50MW Pilot Project
© NLC India Limited, 2026



Soil sample collection for Geotag evaluation
© Anand Madhav Mishra



Solar Panel Installation Technician Training in Jharkhand © American India Foundation



17 New Clean Energy Projects on Former Appalachian Coal Mines

In the U.S., The Nature Conservancy and the Cumberland Forest Limited Partnership [announced](#) new agreements with Sun Tribe Development and ENGIE to develop 14 solar energy and three battery storage projects on 360 acres of former coal mines in the Appalachians in February 2025. This is the second round of clean energy project announcements from TNC's Cumberland Forest Project in Virginia, Tennessee and Kentucky. The new projects are expected to generate approximately 49 megawatts (MW) of solar energy and 320 MW of battery storage, the equivalent of powering 6,638 Appalachian homes annually.

The Cumberland Forest energy projects aim to demonstrate that developers can cost-effectively build clean and renewable energy on former mines while benefiting communities. They take an approach to renewable energy development that seeks to create benefits to climate, conservation and communities – what TNC refers to as the “3Cs.”

“Converting former coal mine sites into solar energy facilities presents a unique opportunity to transform environmental challenges into significant economic and social benefits. These initiatives not only contribute to the reduction of greenhouse gas emissions but also generate employment opportunities, rejuvenate local communities and enhance access to clean energy in areas where it is most needed.”

– Kristen Fornes | ENGIE head of distributed solar and storage

Photo: A visual rendering of Wildcats Solar, a renewable energy project that has plans to be built on a former coal mine in Virginia. Wildcats Solar is one of 25 Mining the Sun projects The Nature Conservancy is leading in the Cumberland Forest. It is expected to provide over \$800,000 in tax revenue to the local community. Construction is expected to begin in 2026. © Treeline Utility

Renewables for Good

Renewables for Good

Progress Highlights

- First working draft of the Renewable Energy for People and Planet Standard (REPPS) completed
- Mockingbird Solar Center was awarded Solar Ecosystem of the Year at the 2025 North American Agrivoltaics Awards
- Advancing science and practice for marine restoration and offshore wind



Top: © Steven David Johnson

Bottom: TNC, Ørsted and partners at the 2025 North American Agrivoltaic Awards

What's Next?

- TNC will continue working with the REPPS Steering Committee, Advisory Council and partners to revise, test and refine REPPS with the goal of establishing clear, concise, market-informed and community-aligned guidance for accelerating responsible renewable energy in the US
- TNC will engage in a new three-year project focused on restoring oyster reefs at offshore wind sites in the North Sea
- TNC will continue to elevate and amplify stories of renewable energy projects that deliver on goals for climate, conservation and communities

Markets

Renewable Energy for People & Planet (REPPS)

In 2025, The Nature Conservancy, together with Sustain Our Future Foundation (SOFF), WattTime and a broad coalition of industry partners, developed the first working draft of the Renewable Energy for People and Planet Standard (REPPS). REPPS aims to establish clear, concise, market-informed and community-aligned guidance to accelerate renewable energy deployment by improving consistency in best practices and strengthening the social license to operate.

Major milestones for the next year include integrating feedback from the REPPS advisory council into a second draft, initiating pilot testing, conducting an open comment period and building strategic communications and web-based technical and user support tools. The pilot testing process will allow us to engage a broad set of early implementors, market-test the implementation process and integrate learnings to produce a feasible, tangible and verifiable Standard.

To support the corporate buyers and developers in Europe, we published the [Beyond Price report](#), which maps the European corporate renewable PPA landscape, assesses how biodiversity and social criteria can strengthen procurement and competitiveness, identifies emerging barriers and solutions and reviews relevant EU policy frameworks.



Mockingbird Solar Wins Solar Ecosystem of the Year

The 471 MW Mockingbird Solar Center in Lamar County, Texas, US, was awarded [Solar Ecosystem of the Year](#) at the 2025 North American Agrivoltaics Awards ceremony on August 4, 2025. TNC worked with the developer, Ørsted, for several years to safeguard the prairie adjacent to the solar center, as it has unique biological value. In 2024, Ørsted purchased nearly 1,000 acres of rare tallgrass prairie in North Texas and donated it to TNC. Once slated to be developed as part of a solar farm, this land is now managed by TNC's Texas Chapter as [Smiley Meadow Preserve](#). This project is the largest native tallgrass prairie preservation effort on record and now serves as a seed source for restoring additional prairie sites in the area, including on solar project lands. It provides an important model for future nature-friendly renewable energy project development.

“We’re proud to see Mockingbird Solar recognized for its innovative approach to renewable energy development along with prairie conservation. This project demonstrates how we can restore ecosystems while mitigating climate change and powering communities—and we hope this collaboration inspires similar efforts across the globe.”

- Suzanne Scott | Texas State Director, The Nature Conservancy

Harnessing Renewable Energy for Oyster Habitat Restoration

Offshore wind not only plays a powerful role in tackling climate change – it can also help restore nature. Oysters provide vital ecosystem services: they build reef structures, filter water and provide food and shelter for many species. Yet, once spanning 1.75 million hectares, Europe’s native oyster reefs are among the world’s most degraded marine habitats today.

In the North Sea, the foundations of offshore wind turbines offer suitable conditions for new reef formation supporting the recovery of *Ostrea edulis*, the European native oyster. The Nature Conservancy is leading efforts to scale up reef restoration in the North Sea Basin. These projects show that offshore wind and nature restoration can go hand in hand, encouraging decision-makers to include such measures as non-price criteria in renewable energy auctions.

Read the full story here: [How Offshore Wind Can Revive Europe’s Lost Oyster Reefs](#)



“If we can get habitat restoration and offshore wind combined, then we’re working at a scale that really makes a difference.”

- Dr Boze Hancock
Marine Habitat
Restoration Scientist
The Nature Conservancy

Top:
Smiley Meadow Preserve
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Powering with Policy & Partnerships

Powering with Policy & Partnerships

Progress Highlights

- In the U.S., TNC helped pass ten state-level climate policies
- TNC informed policy guidance to allow for solar deployment as a use for closed and reclaimed mines in India
- In Europe, TNC played a key role in advocating for including biodiversity non-price criteria in the Net-Zero Industry Act (NZIA) that unlocked the deployment of nature-inclusive renewable energy sources through incentives



What's Next?

- Engage in reforming US federal permitting and planning for clean energy generation and transmission projects
- Advance clean energy policies in 13 states in the U.S.
- Embed community-benefitting non-price criteria in auctions, on top of the biodiversity criteria TNC managed to secure under the NZIA
- Enable social and biodiversity non-price criteria in renewable energy Power Purchase Agreements in Europe

In November 2025, The Nature Conservancy [joined](#) 140+ organizations from across sectors, including the renewable energy industry, academia and civil society, in the We Mean Business Coalition at the COP30 in Belém. The coalition calls on governments at COP30 to commit to establishing a robust, credible roadmap that would help countries and businesses plan the transition to clean energy, strengthen energy security and reduce consumer costs. You can read the full COP30 Statement for a Fossil Fuel Roadmap [here](#).

New Ways Forward for Climate Policies in the U.S.

In the U.S., TNC helped pass ten state-level climate policies in eight states (CO, UT, CA, OH, IL, NY, HI, WA). These policies will make it easier for more clean energy to come online and for that energy to more efficiently and affordably reach the homes and businesses that need it. The policies will also reduce emissions from the transportation sector and provide new sources of funding for states, communities and Tribes to implement their own clean energy projects and natural climate solutions.

To help keep state momentum going, we also published [A State Policy Roadmap to a Faster Clean Energy Buildout](#), that can help state legislators develop clean energy policies in ways that factor in the 3Cs.

Also at the federal level, TNC advocated for policies to help expand emerging clean energy technologies like advanced geothermal. TNC's Nevada chapter staff testified in front of a House Natural Resources Committee subcommittee about how the country can scale geothermal energy around the country while still protecting communities and nature.

“We’re proud to have played a role in influencing ten major policy wins in 2025, thanks to our science, advocacy and deep partnerships with policy leaders and diverse coalitions. Policy makes conservation possible. These wins are proof that state-level action is essential for meeting our 2030 goals and building a sustainable future.”

**- Jennifer Morris | CEO,
The Nature Conservancy**





A Critical Milestone in Renewable Energy Policy

In Europe, TNC played [a key role](#) in a major EU policy decision that now requires impacts on biodiversity to be considered in renewable energy deployment. The new Net-Zero Industry Act Implementing Act (NZIA), approved in May 2025, directs Member States and developers to consider biodiversity criteria when selecting, approving, or financing projects. This requirement will encourage offshore and onshore projects to follow best environmental practices, from siting through planning.

To support this decision, TNC worked with industry groups and other organizations to develop policy briefings, attend European Commission meetings and host public consultations and stakeholder meetings. Our communications emphasized the deep connections between the climate and biodiversity crises and the solutions to address them. Going forward, TNC will advocate for a clear methodology—including qualitative and quantitative measures—to support effective implementation of the act and ensure that projects achieve net-positive contributions to biodiversity.

To support EU Member States in putting these new criteria into practice, TNC published [a report](#) in July 2025 providing practical guidance for policymakers on designing and applying biodiversity- and community-related criteria in renewable energy auctions.

Designing a Blueprint for Renewable Energy Land Use

In February 2025, TNC and its long-standing partner, the Energy Community Secretariat, launched a new [operational blueprint](#) for nature-positive renewable energy planning, providing a step-by-step regional guide for nine Energy Community Contracting Parties to identify and establish RAAs – zones where renewable energy development can proceed without harming biodiversity. Prioritising degraded lands, such as brownfields, former mines and industrial sites, the guidance aligns clean energy expansion with nature protection, leveraging TNC’s smart siting methodology to improve data integration and conflict-sensitive planning. This equips national authorities with clear direction and coordination to designate RAAs and accelerates permitting in line with the EU’s updated Renewable Energy Directive targets.

“Integrating community and environmental considerations into renewable energy auctions isn’t just good policy: it’s smart project design. Projects that respond to local needs and protect ecosystems are more likely to gain public support, avoid delays and succeed in the long-term.”

- Louise Combret | Europe Renewable Energy Policy Associate, The Nature Conservancy

Leading with Science

In 2025, TNC scientists and partners published 5 peer-reviewed papers:

- 1 Peng, Y.Y., Luo, Y.M., Jin, T., Li, J.Y., Chen, Y.F., 2025, [Early site selection and planning methods and tools for mitigating the ecological impacts of onshore concentrated photovoltaic and wind farms](#). *Biodiversity Science*, 33, 24063.
- 2 Levin, M.O., Condon, D., Krasner, N.Z., Forester, E., Holmes, C.C., Bateman, B.L., Delach, A., Ennen, J.R., Kalies, E.L., Kays, R., Lovich, J.E., Smith, A.B., Wu, G.C., Hernandez, R.R., 2025, [Bibliographic synthesis of biodiversity-relevant criteria for solar energy siting](#). *Renewable and Sustainable Energy Reviews*.
- 3 Saito, L., Tibbitts, J., Gower, P., Zimmerman, G., McHugh, D., 2025, [Rethinking Water Scarcity, Energy, and Agriculture: Coupling Agrivoltaics With Addressing Groundwater Depletion](#). *Journal of the American Water Resources Association*.
- 4 Gallaher, A., Kalies, E.L., Grodsky, S.M., 2025, [Sustainability trade-offs across modeled floating solar waterscapes of the Northeastern United States](#). *Cell Reports Sustainability*, Volume 2, Issue 7.
- 5 Levin, M. O., Forester, E., Kalies, E. L., Goodman, L., Hagani, J. S., Holmes, C. C., Krasner, N. Z., Markus, C., Meek, J. B., Vanamamalai, A., Agarwal, S., Ashraf, U., Condon, D., Forester, D., Holland, L. C., Jackson, E., Levin, M., McKenzie, P. F., Narwold, B. P., Hernandez, R. R., 2025, [Variation in estimates of the footprint of large, ground-mounted photovoltaic solar energy in the United States and its associated land-cover change across three datasets](#). *Journal of Environmental Management*, 394, 127634.

Spotlight on Reports

A selection of reports and research published in 2025:



Operational Blueprint: Designation of Renewables Acceleration Areas
Europe | February 2025



Steering Responsible Renewable Energy Development in the Global South: A Case Study of India's Green Transition
India | April 2025



Beyond Price: Non-Price Criteria in Renewable Energy Auctions
Europe | July 2025



Low hanging fruit for Washington's energy future?
Agrivoltaic feasibility for agricultural and energy resilience in the Evergreen State
North America | October 2025



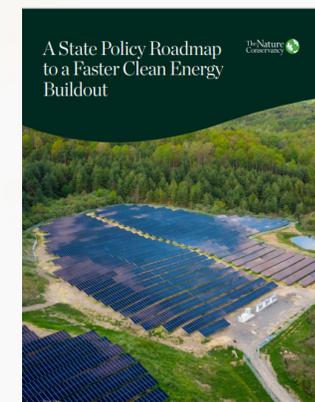
Renewable Energy Spatial Planning and Designation of Acceleration Areas in Selected EU Member States
Europe | October 2025



Zonificación de Energías Renovables en áreas de bajo impacto ambiental - LORETO
Peru | November 2025



Zonificación de Energías Renovables en áreas de bajo impacto ambiental - NACIONAL
Peru | November 2025



A State Policy Roadmap to a Faster Clean Energy Buildout
North America | December 2025

Across these initiatives and around the world, we're building **community support** and **strong coalitions** for a clean, green and equitable energy future.

To get there, we need rapid and responsible renewable energy deployment, policy action and **you**.

To find out how you can help advance our clean energy future, contact:

Lindsay Hower

Director of Development
Tackle Climate Change
lindsay.hower@tnc.org



Bruce McKenney

Global Director, Clean Energy
bruce.mckenney@tnc.org

