



Strategic Energy Action Plan Update

JUNE 24, 2024



Background



SEAP

STRATEGIC ENERGY ACTION PLAN

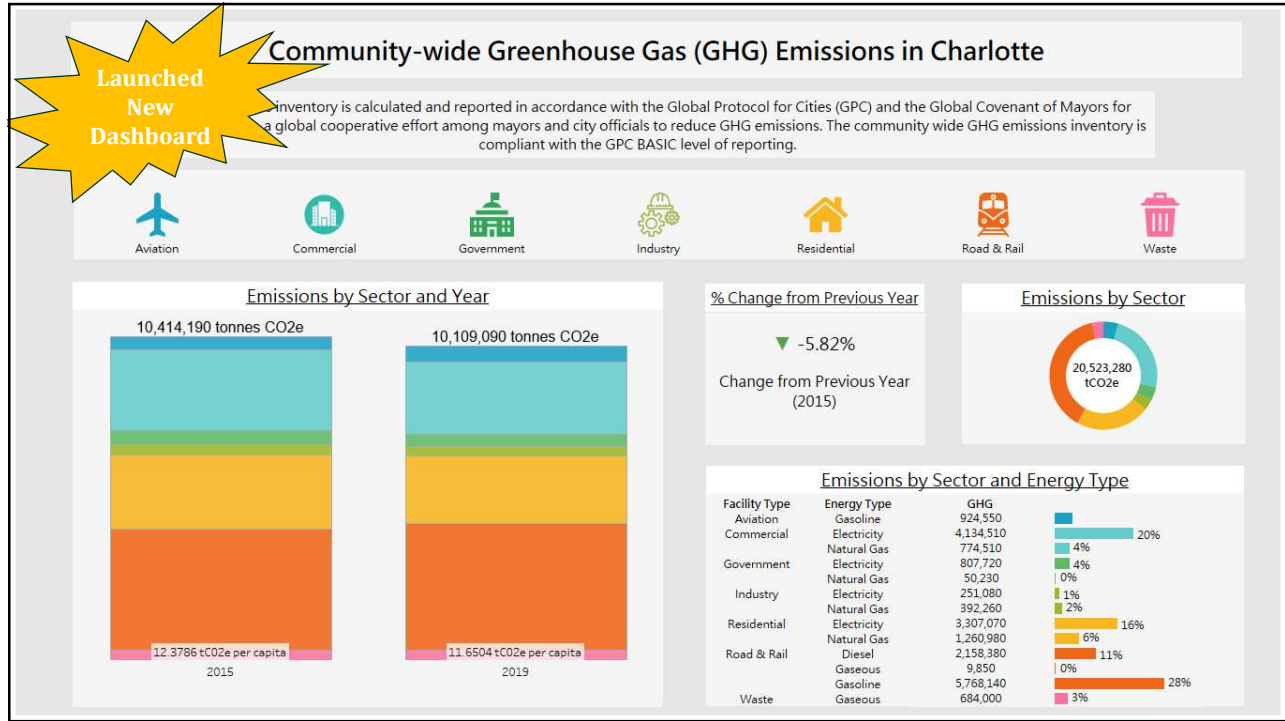
CITY of CHARLOTTE

GOALS

- Strive to source 100% of municipal energy use in buildings and fleet from zero carbon sources by **2030**
- Strive to become a low carbon city by **2050**, emitting less than 2 tons of carbon dioxide equivalent per person

FOCUS AREAS

1. Buildings
2. Transportation
3. Energy Generation
4. Workforce Development



Snapshots in Municipal Leadership







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SEAP 2023 SNAPSHOT

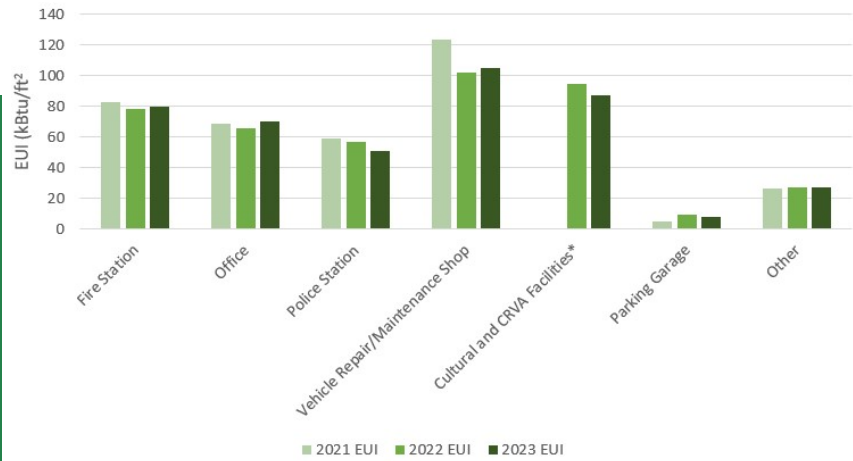
Municipal Buildings

Key Takeaways:

- 4 buildings were added, bringing total square footage of benchmarked buildings to 6.8 million ft².
- CRVA and Cultural Facilities, Police, and Parking Decks saw the most reduction.
- A 6.5% increase in EUI for Offices presents an opportunity for improvement.

Energy Use Intensity by Building Type

*Energy Use Intensity (EUI) demonstrates how efficiently a building is using energy. The lower the EUI, the more energy efficient the building.



55.3%

of benchmarked buildings reduced EUI since 2022.

8.2%

reduction in EUI across the city's building portfolio compared to 2022.

SEAP 2023 SNAPSHOT

CRVA Sustainability

- CRVA employees learned about sustainability in CRVA facilities and throughout the community during a luncheon in Fall 2023.
- EUI for CRVA and Cultural facilities dropped by 7.6% compared to 2022. These facilities represent 52.2% of the total square footage of benchmarked facilities.



SEAP 2023 SNAPSHOT

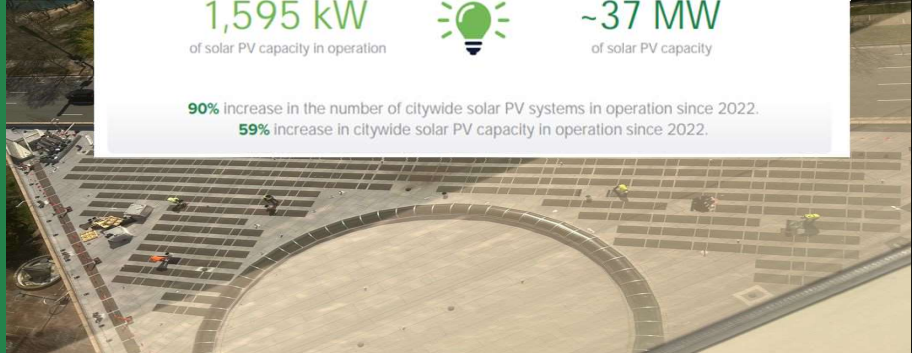
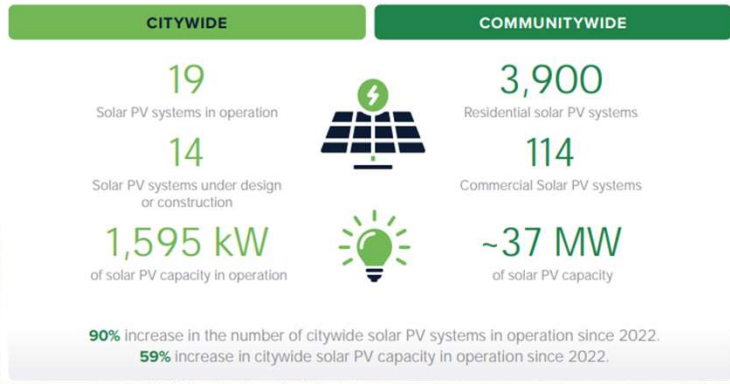
Energy Generation

Key Takeaways:

- 9 Solar PV systems were put in operation in 2023, bringing our total to 19.
- The energy production of the solar PV systems currently in operation at municipal facilities is equivalent to 175 homes' electricity use for one year.

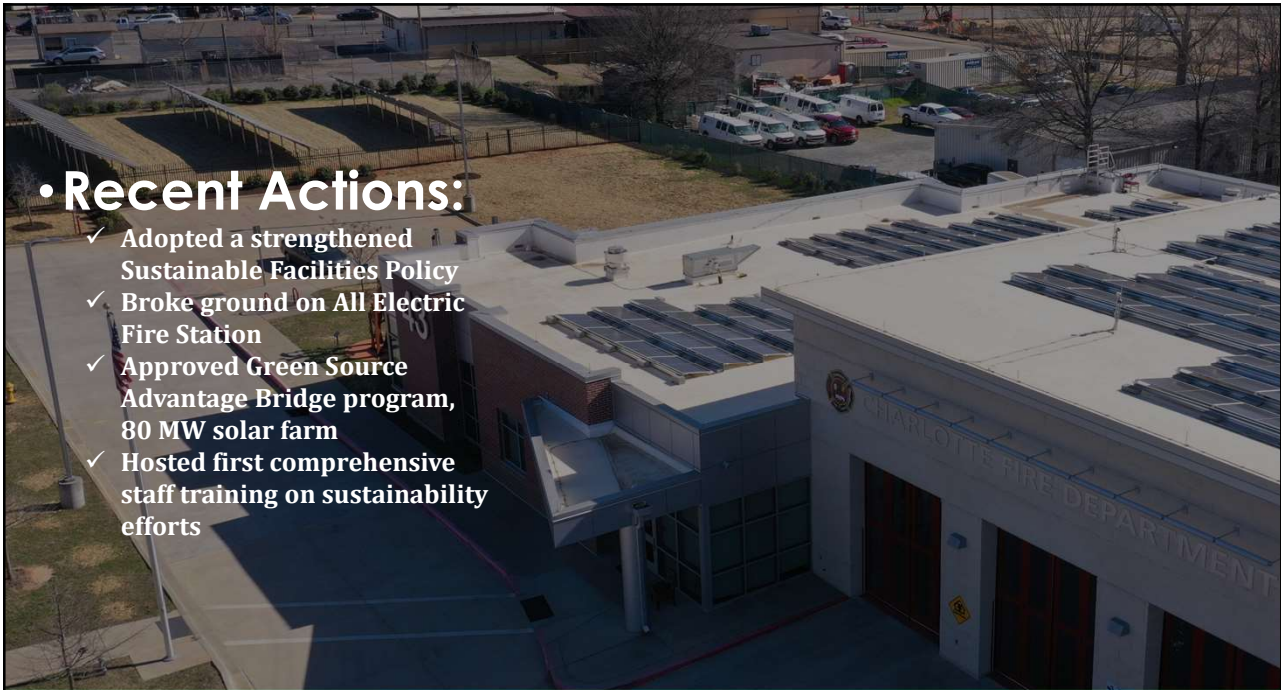
Solar Photovoltaic (PV)

Solar photovoltaic systems convert the sun's energy into clean, renewable electricity. Solar capacity includes the maximum output or generation anticipated for a solar PV system.

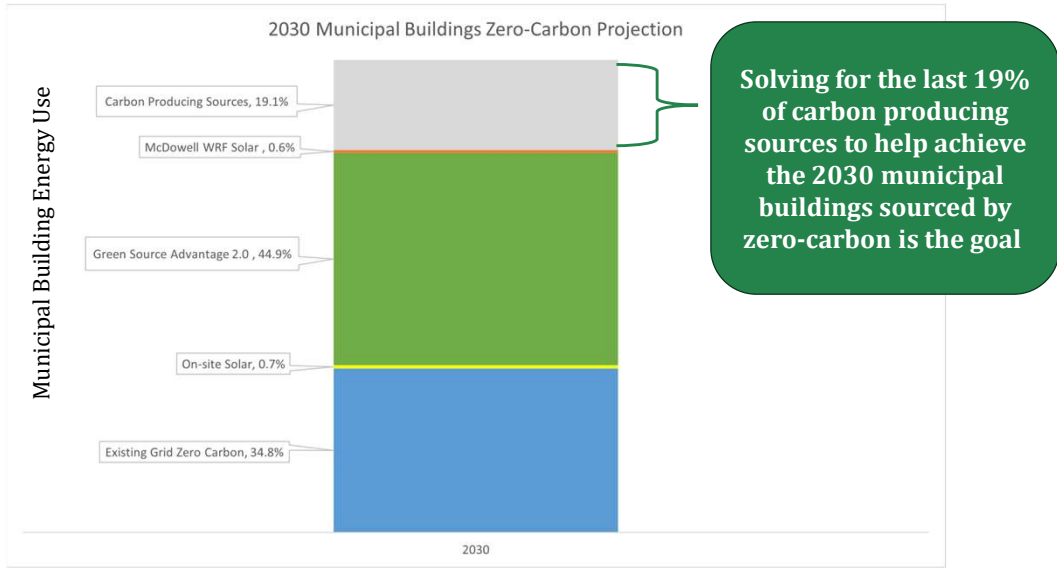


Recent Actions:

- ✓ Adopted a strengthened Sustainable Facilities Policy
- ✓ Broke ground on All Electric Fire Station
- ✓ Approved Green Source Advantage Bridge program, 80 MW solar farm
- ✓ Hosted first comprehensive staff training on sustainability efforts



2030 Municipal Buildings Zero-Carbon Projection



SEAP 2023 SNAPSHOT

Transportation

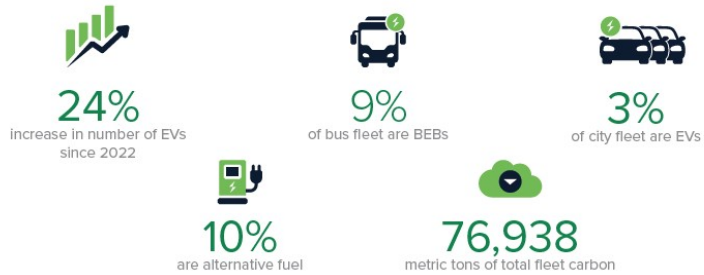
Key Takeaways:

- Our electric fleet increased by 33 vehicles in 2023.
- We have 9 different light duty makes/models.
- Simultaneous focus on using alt-fuel in hybrid vehicles.
- 250 municipally-funded charging ports; an increase of 22% since 2022.
- (New! Fleet Take Home Policy allowing a pathway for additional electric vehicles.)



Charlotte fleet demographics:

EVs are electric vehicles. Alternative fuel refers to hybrid vehicles and vehicles that use a fuel source that is not gasoline or diesel.



CO₂ AVOIDED: 1,551 METRIC TONS

*1 metric ton of CO₂ = 2,564 miles driven by an average gasoline-powered passenger vehicle.

Charlotte's fleet avoided **43%** more carbon than last year.

SEAP 2023 SNAPSHOT

Workforce Development



Battery Electric Bus (BEB) training

- 100% of new hires trained
- 529 staff and contractors trained
- 14 existing staff received refresher training
- 114 existing staff formally recertified

2023 Snapshots in the Community & Upcoming Efforts



SEAP STRATEGIC ENERGY ACTION PLAN CITY of CHARLOTTE



SEAP 2023 SNAPSHOT

In Community,
In Corridors,
In Partnership

- ✓ Launched **Electric-Bike Program** in Corridors of Opportunity in partnership with DreamKey Partners and Wells Fargo Championship.
- ✓ Launched **High Energy Use, Income Qualified Program** in partnership with Duke Energy to address energy burden – 54 homes completed to date.
- ✓ Installed **second PoleVolt electric vehicle charger** adjacent to Seigel Point Apartments, free to the public through Duke Energy pilot.



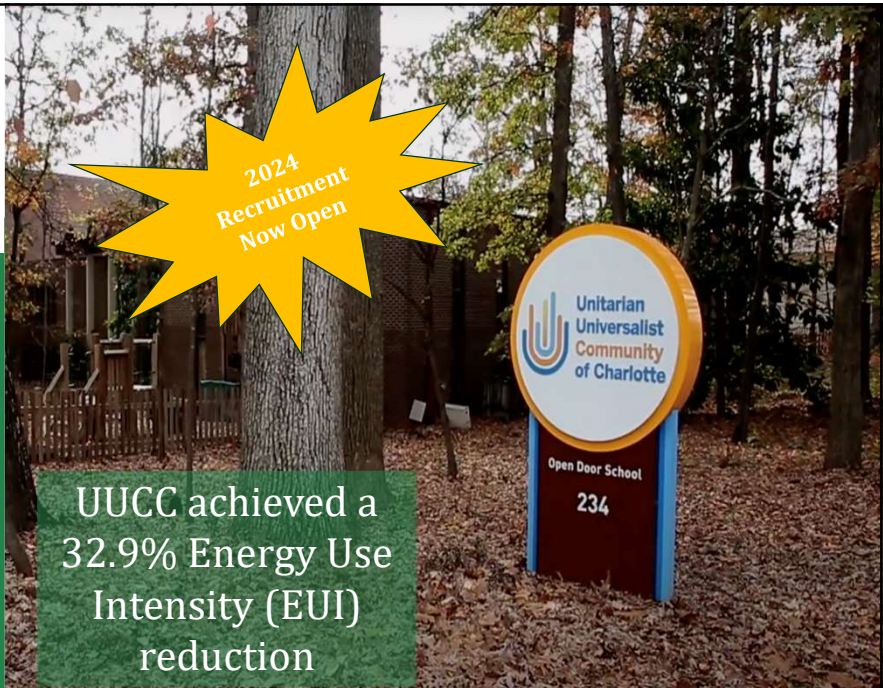
SEAP 2023 SNAPSHOT

Communitywide
Buildings



Power Down the Crown:

- Power Down the Crown is the city's voluntary benchmarking program for municipal buildings and buildings reported on by our community partners.
- Nine partners benchmarked their baseline year for 25 properties for a total of 4,713,412 ft².

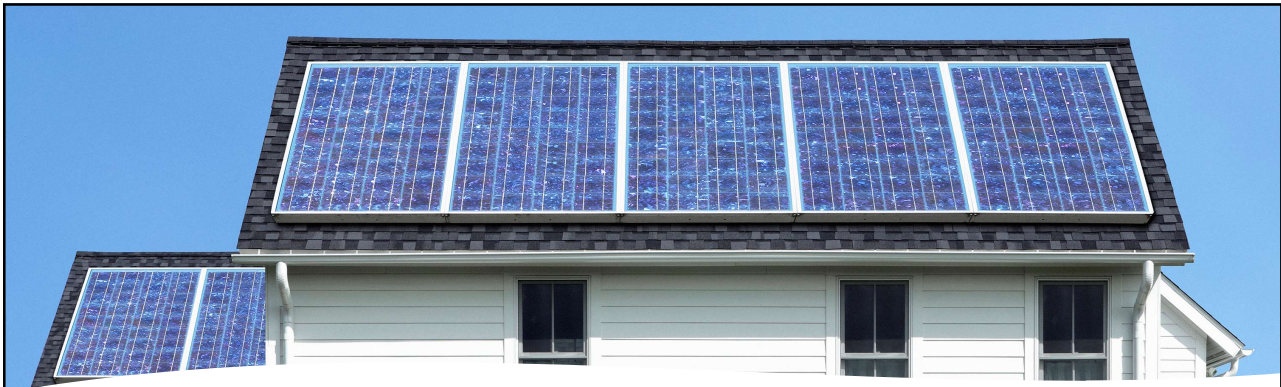
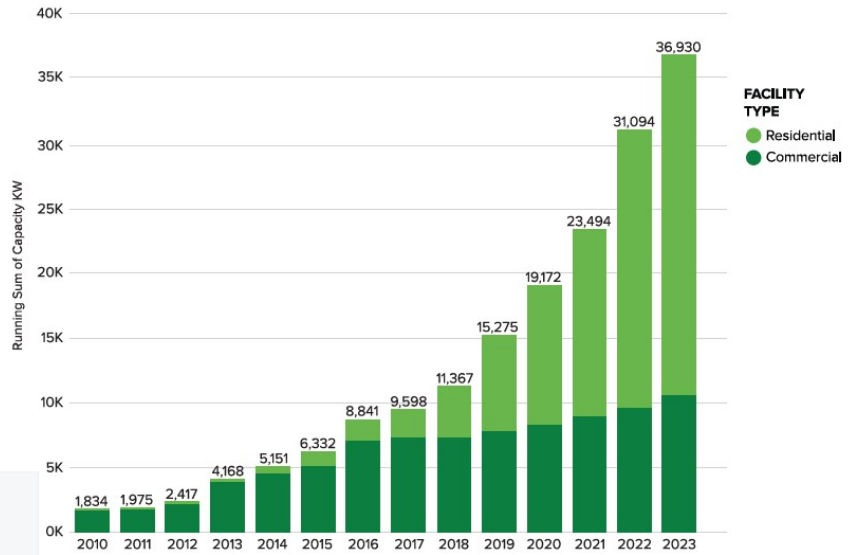


SEAP 2023 SNAPSHOT

Energy Generation

Key Takeaways:

- 225% increase in solar PV capacity since the SEAP was adopted (2019-2023) communitywide Solar PV.
- 22% increase in residential solar PV systems in last year.
- 20% increase in commercial solar PV systems in last year.



Coming Soon: Solarize Charlotte-Mecklenburg

- Solarize campaigns are a DOE best practice proven to increase solar installations by reducing barriers and costs through education and group purchasing power.
- Includes campaign with direct solar installations for Low- and Moderate-Income (LMI) homes.
- Reduces energy burden, GHG emissions, energy costs, and increases communitywide renewable energy.

SEAP UPDATE



PROJECT TIMELINE



PROJECT INITIATION

- Includes:
- Finalized Project Team
 - Review of SEAP Actions-to-Date
 - Project Kickoff

PHASE 1 SUMMER 2024

- Includes:
- Updating GHG Emissions Inventory
 - Climate Risk Assessment
 - Community & Technical Advisory Engagement
 - Public Kickoff

PHASE 2 SUMMER/FALL 2024

- Includes:
- Updating city and communitywide goals
 - Reviewing Action Areas & associated tasks
 - Identify Milestones
 - Continued Public Engagement

PHASE 3 WINTER 2024-2025

- Includes:
- Wrapping up Public Engagement
 - Final Review
 - Council Review & Adoption



Corridors of Opportunity: GreenPrints

Identify Action Projects, Programs, Partnerships and Efforts:

- Air Quality - including clean transportation and clean transportation infrastructure
- Energy Burden – including energy efficiency and solar opportunities
- Remediation & Reduction of Legacy Pollution Issues
- Tree Canopy
- Urban Cooling (UHI Mitigation)
- Flooding Issues





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SEAP 2023 SNAPSHOT

Awards, Reports, Recognition, & Grants



CDP

- Charlotte received "A-" for the second year in a row
- "... Has demonstrated best practice standards across adaptation and mitigation, has set ambition goals and has made progress toward achieving those goals."



ULI Net Zero Imperative Report

- Urban Land Institute held a Roadmap to Net Zero for New Commercial Buildings Technical Assistance Panel May 30-31, 2023



Cities for Smart Surfaces

- Charlotte is one of 10 cities selected for the Cities for Smart Surfaces program, supported by the National League of Cities and the Smart Surfaces Coalition.



Bloomberg American Sustainable Cities

- Charlotte has been selected as one of 25 US cities to join Bloomberg American Sustainable Cities



Green Fleet Award

- Charlotte is ranked 31st in the National Fleet Management Association's NAFA Green Fleet Awards.
- This is a significant improvement from our rank of 40th in 2021.



American Council for an Energy-Efficient Economy (ACEEE) 2024 City Clean Energy Scorecard

- Charlotte has moved up in ranking to 25, an improvement of 17 positions from the previous ranking
- The city ranked 14th in local government operations, underscoring Council's sustainability investments in the SEAP 2030 goals, specifically city facilities


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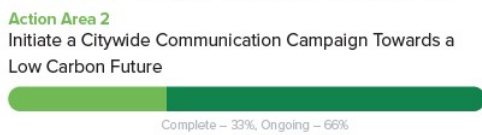


THANK YOU FOR YOUR TIME

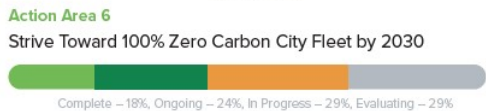
SEAP 2023 SNAPSHOT

Progress in the last 5 years

City Policy Actions



Internal Policy Actions



SEAP 2023 SNAPSHOT

Progress in the last 5 years

Community Actions

Community Actions

Action Area 7

Near Zero Carbon Non-Municipal Buildings by 2030



Action Area 8:

Facilitate Rapid Uptake of Sustainable Modes of Transportation



Action Area 9

Develop and Implement Strategy for Deploying Low Carbon Infrastructure Generation



Action Area 10

Develop Green Workforce Pipeline in Support of Energy Transition



Action Area 11

Establish Public-Private-Plus Partnerships to Accelerate Transition to Low Carbon Future

