



Loudoun County
VIRGINIA

County Energy Strategy
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Department of General Services

Council of Governments
Climate, Energy and Environment Policy Committee
March 22, 2023

Agenda

- Overall Energy Strategy
 - 3 broad goal areas, 10 general strategies, 31 specific action templates
- Energy Equity
- Important Considerations
- Final Thoughts

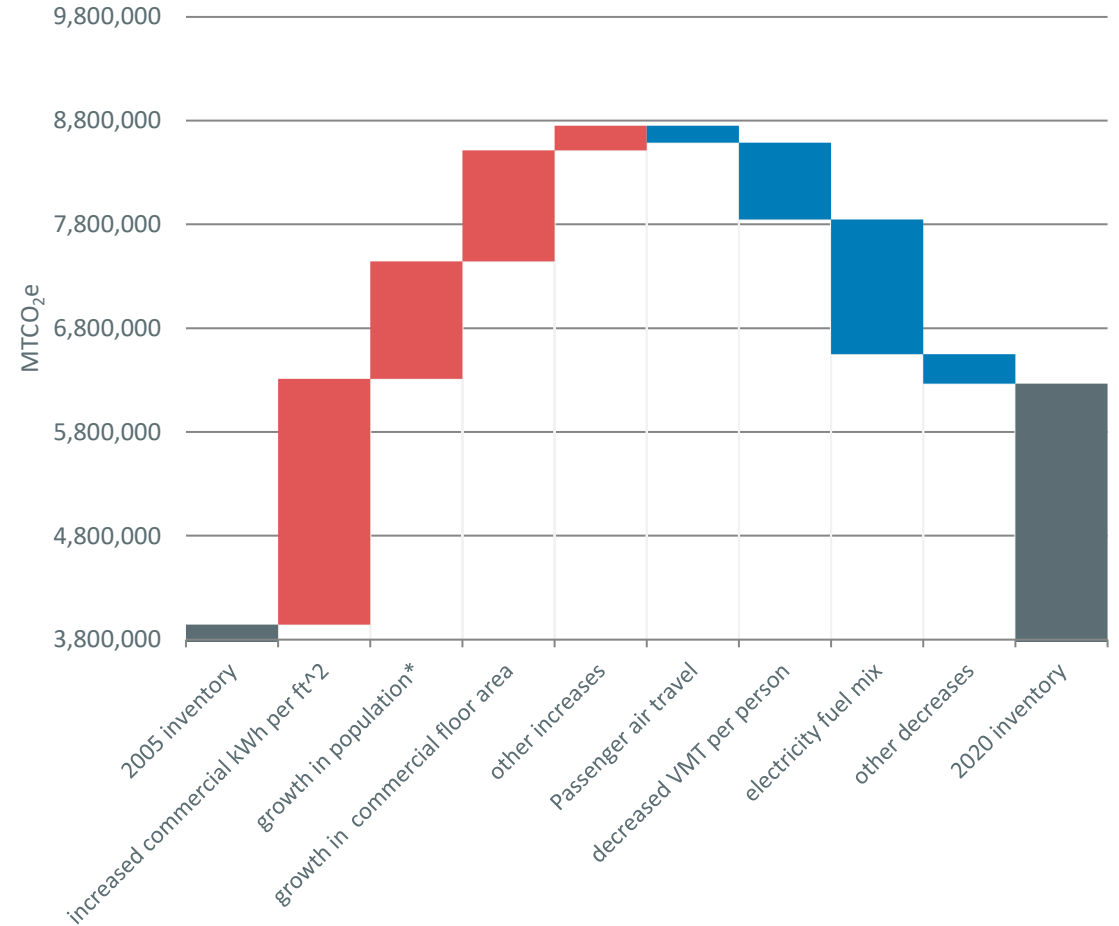
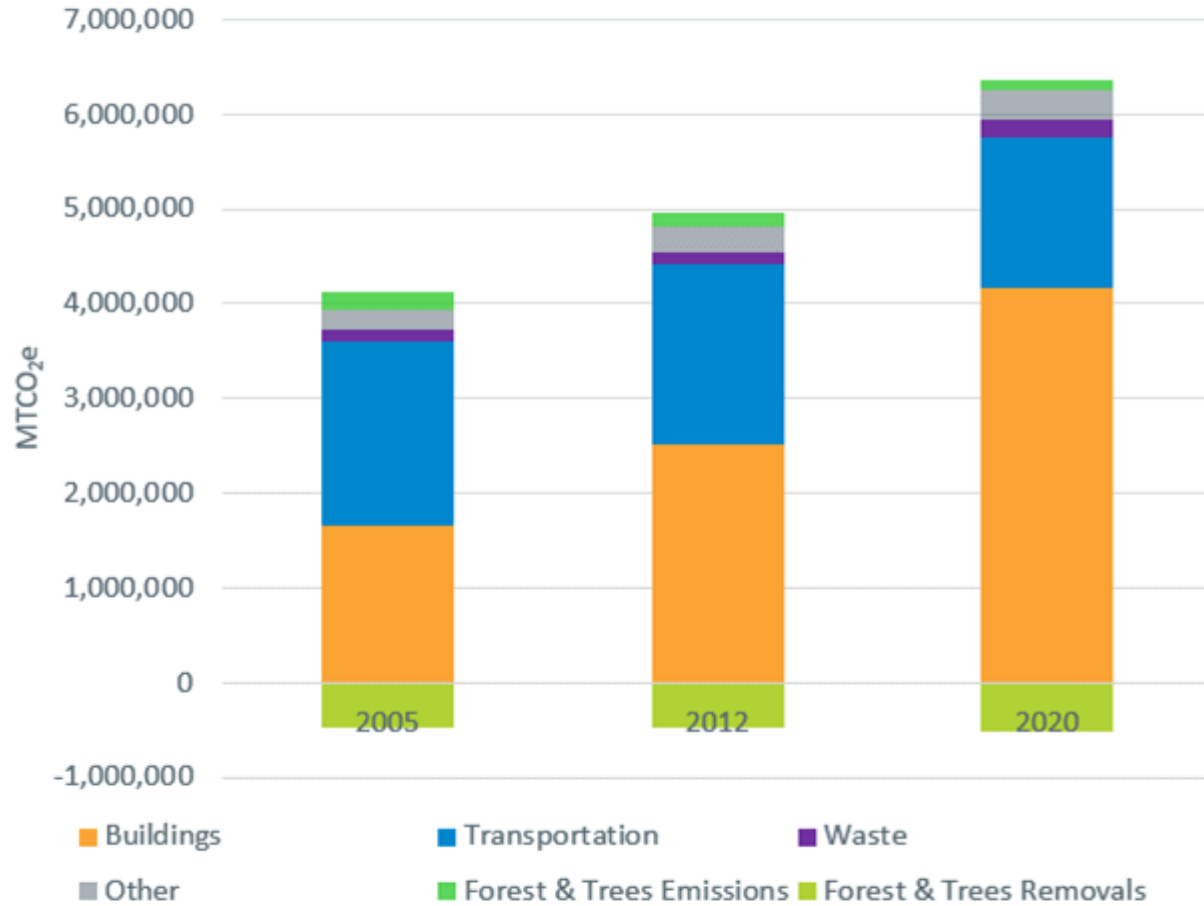
Vision

- Approved by Board of Supervisors at the July 2022, Environmental Summit
- Contribute to VA goal of net zero GHG emissions 2045
- Carbon free grid by 2050
- Ensure energy is clean, reliable, and affordable
- Include both quantitative and qualitative goals
- Ability to pivot for any updates to Virginia Clean Economy Act or changes in Regional Greenhouse Gas Initiative (RGGI) participation

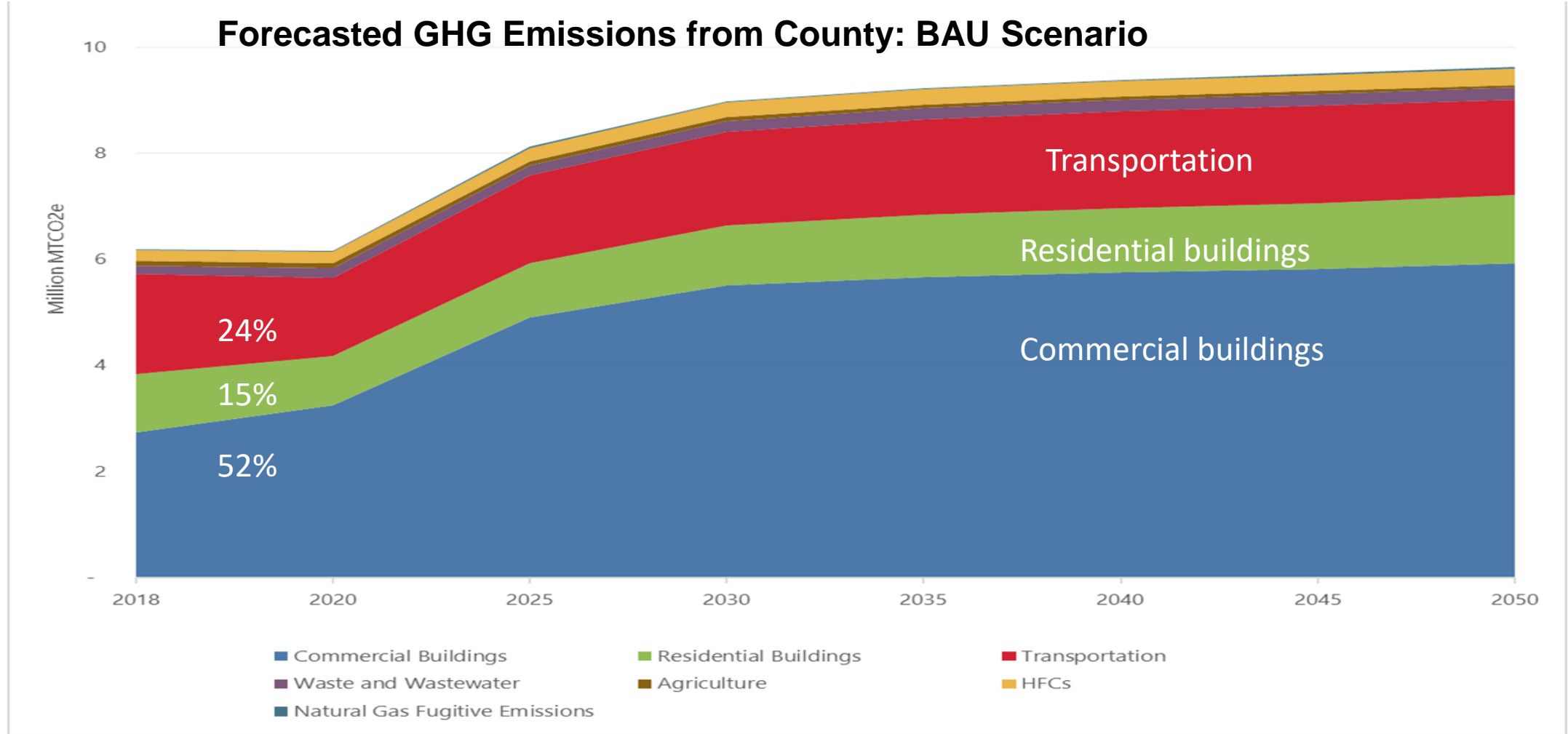
Timeline



Loudoun Greenhouse Gas Details

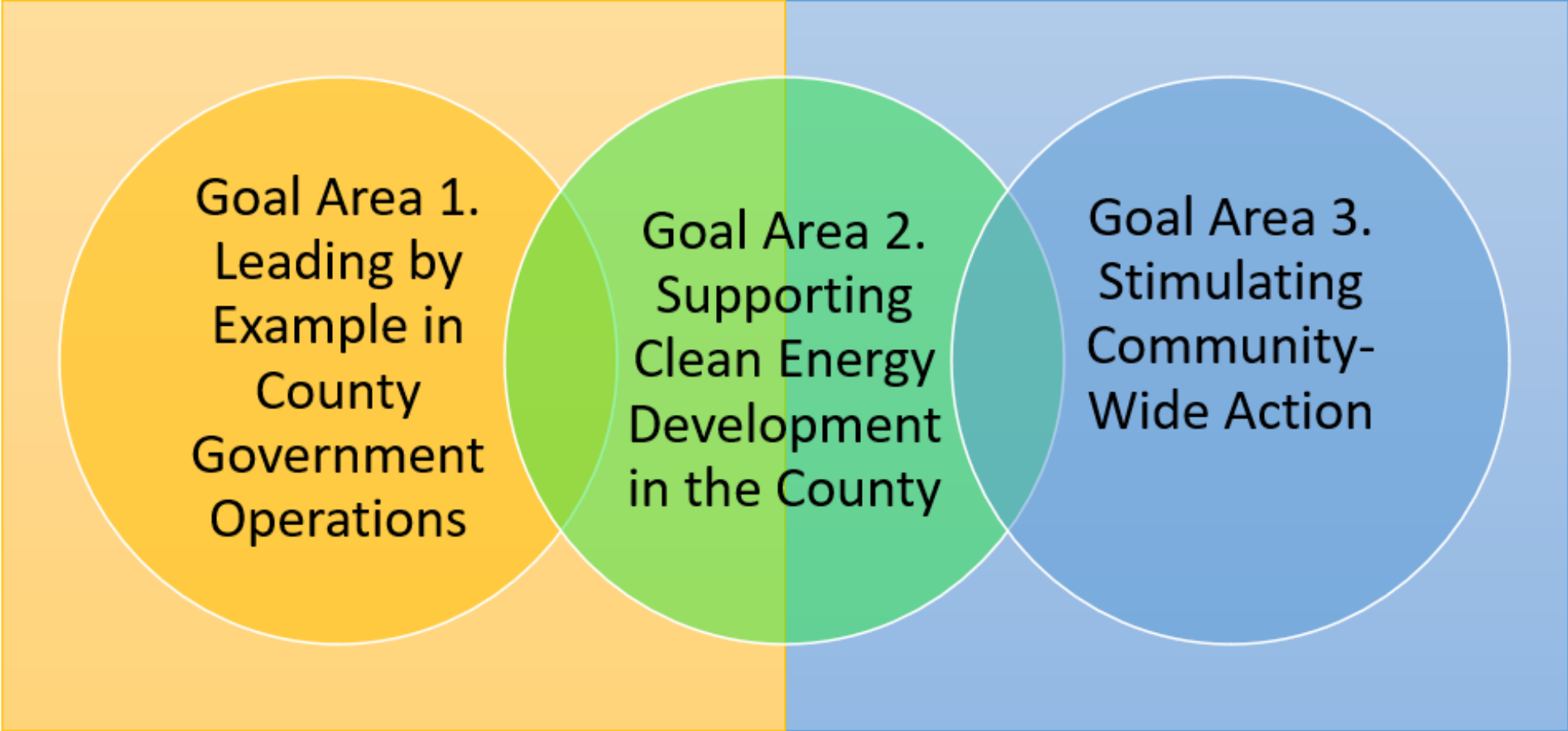


Business As Usual Greenhouse Gas Emissions



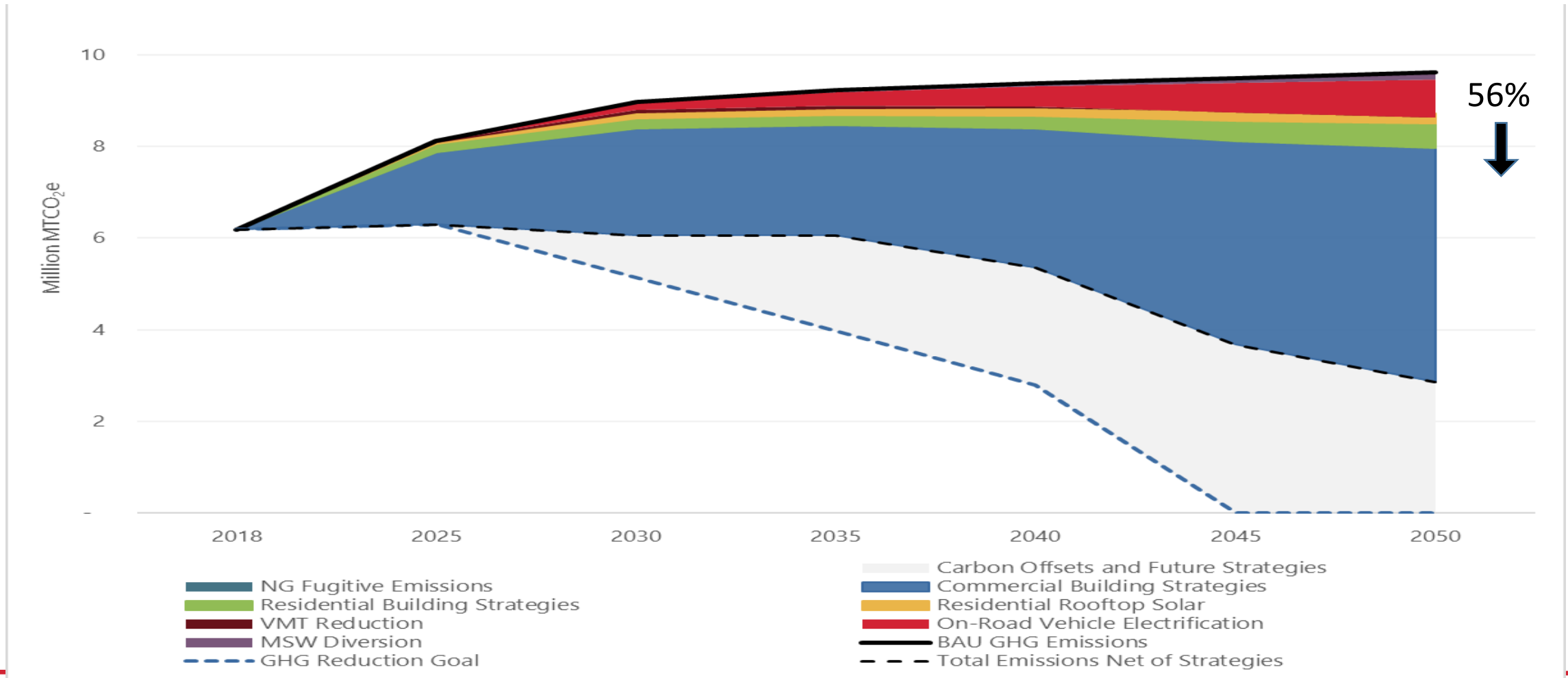
Energy Strategy Framework

County Government Energy Recommendations Community-Wide Energy Recommendations



Modeling Results

GHG Emissions Reduction by Sector with Strategy Implementation Scenario



Goal Area 1	5 Strategies	17 Actions
Leading by Example in County Government Operations	Increase County renewable energy use	<ol style="list-style-type: none"> 1. Install onsite solar at select facilities 2. Use geothermal or other clean fuel sources at select facilities for heating/cooling 3. Explore large-scale virtual Power Purchase Agreements (PPA) to cover electricity use
	Reduce GHG emissions from new and existing County facilities and increase efficiency	<ol style="list-style-type: none"> 1. Update energy efficiency measures for the design of new facilities 2. Implement or expand automated Building Energy Management Systems 3. Develop strategic building retrofit plans for all facilities, with a focus on resiliency for critical facilities 4. Develop County employee energy committee to encourage more energy conservation 5. Establish a County energy policy
	Reduce County fleet and employee travel emissions	<ol style="list-style-type: none"> 1. Implement Board-approved fleet changes focused on zero emission vehicles and plug-in hybrid vehicles and explore low or zero emission landscaping and public works equipment 2. Implement procurement focused on low or zero-emission transit buses 3. Install EV chargers in County buildings for County and employee vehicles 4. Reduce County employee Vehicle Miles Traveled (VMT)
	Reduce GHG emissions from County landfill	<ol style="list-style-type: none"> 1. Participate in Virginia Environmental Excellence Program 2. Divert municipal solid waste from landfill disposal 3. Mitigate GHG emissions via flaring or beneficial use of Landfill Gas
	Provide transparent and accessible communications about County progress for the Energy Strategy	<ol style="list-style-type: none"> 1. Establish a public-facing progress reporting dashboard or progress report 2. Commit to regular public progress updates

Action Template

Action 1.1: Install onsite solar at select facilities

Description: At select County facilities use an onsite power purchase agreements to facilitate the installation of solar panels. This will provide onsite power generation for County facilities and offset County electricity costs. Solar panels could be installed on County buildings or ground-mounted on County land where feasible. Also includes the installation of solar panels at maintenance & operation facilities and transit facilities (shelters and Park and Ride Lots).

Lead Implementer(s): Department of General Services (DGS)

Stakeholders and Partners: DGS (existing facilities); DTCl (Department of Transportation and Capital Infrastructure, new facilities, and transit); building occupants

Milestones and Next Steps:

- Release and evaluate requests for proposal (RFP) for a master PPA contract.
- Master PPA provider will develop proposals for Individual PPA contracts and installations at appropriate County facilities.
- As appropriate and determined feasible, include solar panels on design for new facilities.
- Review opportunities associated with on-site battery storage paired with solar (and EV chargers).
- Review ongoing Zoning Ordinance Re-write intended to overcome any existing zoning barriers. Review State Code solar energy provisions and monitor General Assembly actions pertaining to solar energy. Consider as part of the County's legislative agenda.

Goal Area 2	1 Strategy	3 Actions
Supporting Clean Energy Development in the County		Explore PPAs, expanded net metering opportunities and other tools to encourage community renewable energy use
	Facilitate access to and development of clean energy in the county	Assess the potential for low carbon fuels within the County
		Accelerate community adoption of on-site renewables

Action Template

Action 6.3: Accelerate community adoption of on-site renewables

Description: The County can provide education and reduce barriers to accelerating the adoption of solar within the community (e.g., on roofs of homes or businesses or on land is targeted areas). The County can also help play a facilitation role in community solar projects (i.e., local solar facilities shared by multiple community members).

Lead Implementer(s): DGS

Stakeholders and Partners: EC; Chamber of Commerce; Economic Development; HOAs; [SolarizeNOVA](#), Virginia State Energy Office; Department of Planning and Zoning; federal agencies

Milestones and Next Steps:

- Review opportunities for funding and incentive programs, including promoting C-PACE.
- Develop a stakeholder engagement/community outreach in partnership with the EC and Chamber of Commerce.
- Review ongoing Zoning Ordinance Rewrite intended to overcome any existing zoning barriers. Review State Code solar energy provisions and monitor General Assembly actions pertaining to solar energy. Consider as part of the County's legislative agenda.

Goal Area 3	4 Strategies	11 Actions
Stimulating Community- wide Action	Reduce transportation emissions	<ol style="list-style-type: none"> 1. Support the adoption of Zero Emission Vehicles (ZEVs) within the County 2. Support ZEV charging infrastructure development across the County 3. Reduce the number of car trips and VMT traveled in and out of the County
	Reduce GHG emissions from residential and commercial buildings and increase efficiency	<ol style="list-style-type: none"> 1. Pursue funding opportunities and partnerships for EE and electrification 2. Explore programs such as green home certifications for residents and a pilot program with data centers
	Provide education and technical assistance to County residents, businesses, and institutions	<ol style="list-style-type: none"> 1. Provide technical assistance, community events, and training programs for ZEVs, energy efficiency and weatherization upgrades, building efficiency and electrification technologies, and renewable energy 2. Provide a clearinghouse of information to facilitate access to individual funding, tax credits and incentives (utility, state, and federal programs) 3. Establish transparent process to help guide Energy Strategy implementation
	Develop a community supported and influenced energy equity work plan	<ol style="list-style-type: none"> 1. Ensure equity across all populations in access to financing, equipment, and programs for ZEVs, efficiency retrofits for buildings, and renewable energy 2. Track benefits of the Energy Strategy for disadvantaged communities as a part of regular progress tracking and public reporting 3. Conduct targeted outreach and education through non-traditional partnerships and events to access and educate the diverse community in Loudoun

Action Template

Action 10.1: Ensure equity across all populations in access to financing, equipment, and programs for ZEVs, efficiency retrofit for buildings, and renewable energy

Description: *under development, to include a focus on equitable Energy Strategy access and implementation, does not include development or administering the County equity policy*

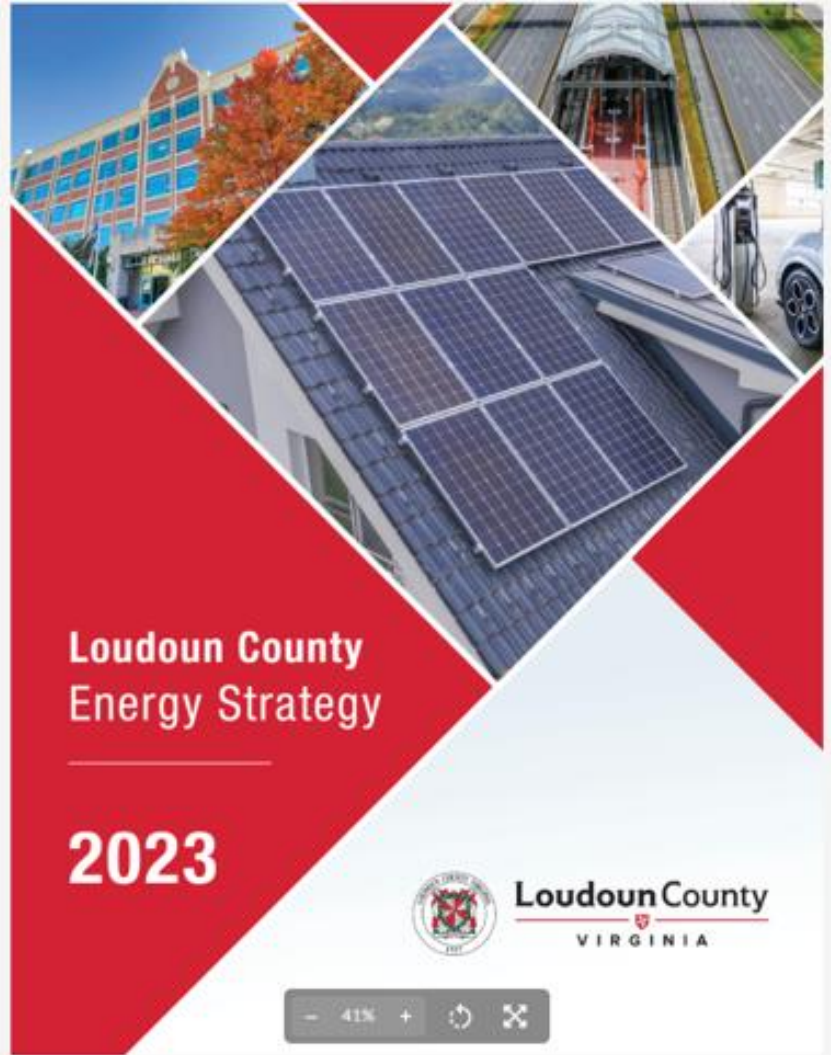
Lead Implementer(s): DGS; DTCl

Stakeholders and Partners: DHCD; Equity Officer; Finance & Budget; Public Affairs, Econ Development; non-profits; faith-based orgs; community groups; HOAs; EC

Milestones and Next Steps:

- Meet with stakeholders to understand unmet needs/where funding is most needed.
- Review and guidelines for federal definitions of energy equity (and identify these populations in the County) and pursue IRA funding.
- Coordinate with development of overall County equity plan.

Sample Report



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Important Considerations

- Positive and balanced direction for energy sustainability efforts, can be adjusted as needed
- Implementation over decades, work already begun
- Will have fiscal impacts
- Involves multiple departments, non-profits and community to include data centers
- Extensive feedback from Environmental Commission and informed by public input
- Begins to address energy equity
- Approved strategy required to obtain some Federal grants

Final Thoughts

- This is a “high touch” effort
- Must work with staff in other Departments
- Invite broad participation
- Don’t get in front of your Board
- Separate the Strategy from the Implementation

Contact Information

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Environmental Commission Webpage

<https://onboard.loudoun.gov/board/3503>

Environment Webpage

<https://www.loudoun.gov/environment>