



# Proposed Operational Energy Strategy (OES) Update

Recommendation

Susan Hafeli, Deputy Director, Office of Environmental and Energy Coordination

June 15, 2021

# Background



# Committing to Carbon Neutrality

## Policy Statements

- **Carbon Neutrality**

- Overarching 2040 target for county operations
- Interim emissions reduction target

- **Energy**

- Renewable energy
- Energy use and efficiency
- Green buildings

- **Transportation**

- Bus and vehicle fleet electrification
- Charging infrastructure
- Bike and pedestrian improvements

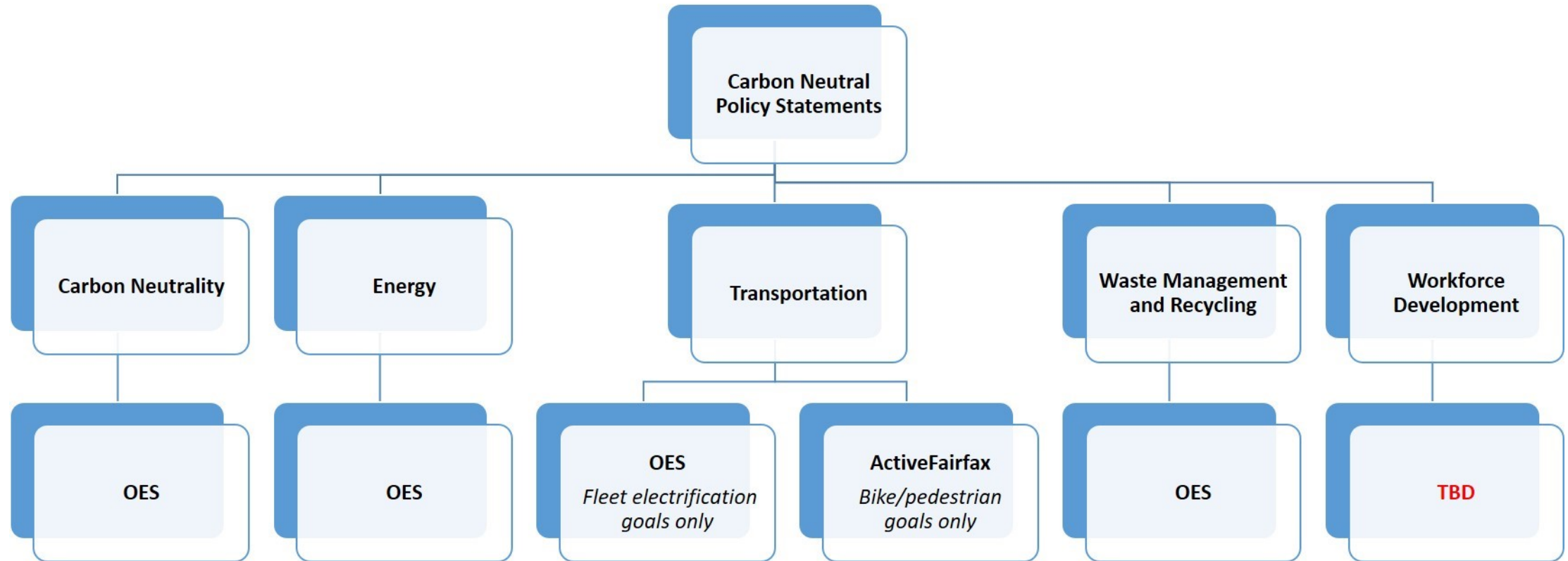
- **Waste Management and Recycling**

- Zero waste
- Sustainable purchasing program
- Expanded composting

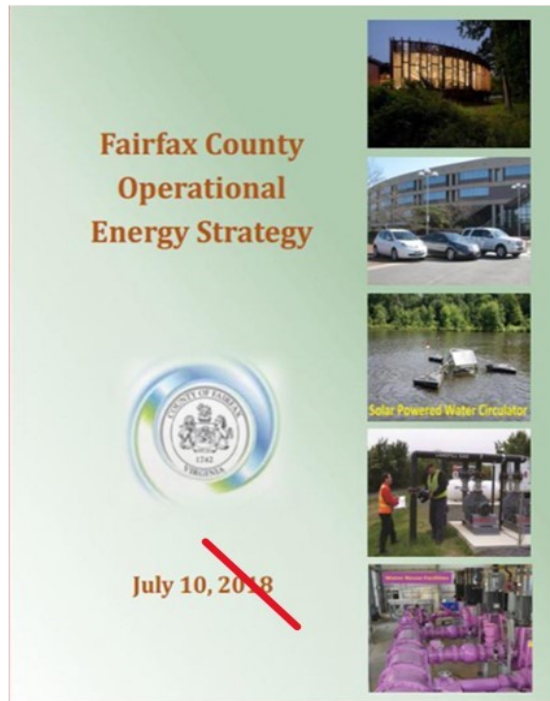
- **Workforce Development**

- Support for green career programs
- Sharing resources on green career opportunities
- Buildings as learning tools

# Tracking Commitments



# Operational Energy Strategy Update



- Emissions
- Energy Use & Efficiency
- Green Buildings
- Renewables
- Fleet Electrification
- Goods & Services
- Waste Management
- Water Use & Efficiency
- Awareness & Engagement
- Utility Cost Management
- Reporting & Collaboration

NEW Overarching Emission Goals
2030: 50% Emissions Reduction
2040: Energy Carbon Neutral

More ambitious targets to support carbon goals, e.g.:

- Energy use in existing buildings cut 25% by 2030 and 50% by 2040
- Buildings in design are NZE by 2021 and electric-ready by 2022
- Renewables provide 25% of county electricity by 2030 and 50% by 2040

Areas in green remain substantially the same

# OES Update – Building and Energy Focus Areas

Focus Area	Current Targets	Proposed Targets
Emissions: Overarching Goal*	N/A	<ol style="list-style-type: none"> <li>1. Energy carbon neutral by 2040</li> <li>2. 50% emissions reduction by 2030</li> </ol>
Energy Use and Efficiency*	<ol style="list-style-type: none"> <li>1. 20% reduction in kBtu by 2029</li> </ol>	<ol style="list-style-type: none"> <li>1. Decrease energy use 25% by 2030</li> <li>2. Decrease energy use 50% by 2040</li> </ol>
Water Use and Efficiency	<ol style="list-style-type: none"> <li>1. 20% reduction for new construction or renovations</li> </ol>	No change
Green Buildings	<ol style="list-style-type: none"> <li>1. LEED Silver</li> </ol>	<ol style="list-style-type: none"> <li>1. Projects beginning planning and design in 2021 must be Net Zero Energy unless the Director advises the Board otherwise</li> <li>2. Facilities entering design are electric-ready by 2022 and electric-only by 2024</li> </ol>
Renewables* <i>(Previously: Innovative Energy Solutions)</i>	<ol style="list-style-type: none"> <li>1. Pilot project at Springfield Warehouse</li> </ol>	<ol style="list-style-type: none"> <li>1. Produce 25% of county electricity from renewables by 2030</li> <li>2. Produce 50% of county electricity from renewables by 2040</li> </ol>

\*Baselines are FY2018.

# OES Update – Fleet Electrification

Focus Area	Current Targets	Proposed Targets
<ul style="list-style-type: none"> <li>Fleet Electrification <i>(Previously: Electric Vehicles)</i></li> </ul>	<ol style="list-style-type: none"> <li>Level 2 chargers at up to 20 government facilities by 2025</li> <li>5% of passenger vehicle purchases are EV by 2030</li> </ol>	<ol style="list-style-type: none"> <li>County buses and fleet vehicles will be electric or non-carbon emitting alternative by 2035               <ol style="list-style-type: none"> <li>By 2035, 99% of Connector bus fleet miles traveled will be with non-carbon emitting vehicles</li> </ol> </li> <li>No diesel buses will be purchased after FY2024 unless the Director informs the Board as to why               <ol style="list-style-type: none"> <li>For non-bus fleet vehicles that may not have carbon-emitting alternatives, develop a plan to mitigate emissions</li> </ol> </li> <li>Install necessary charging infrastructure for county fleet vehicles</li> <li>Apply for grant funding for county fleet vehicles when possible</li> <li>Reserve parking for hybrids and EVs at county government buildings</li> <li>Use the social cost of carbon when considering costs for county fleet vehicles</li> </ol>

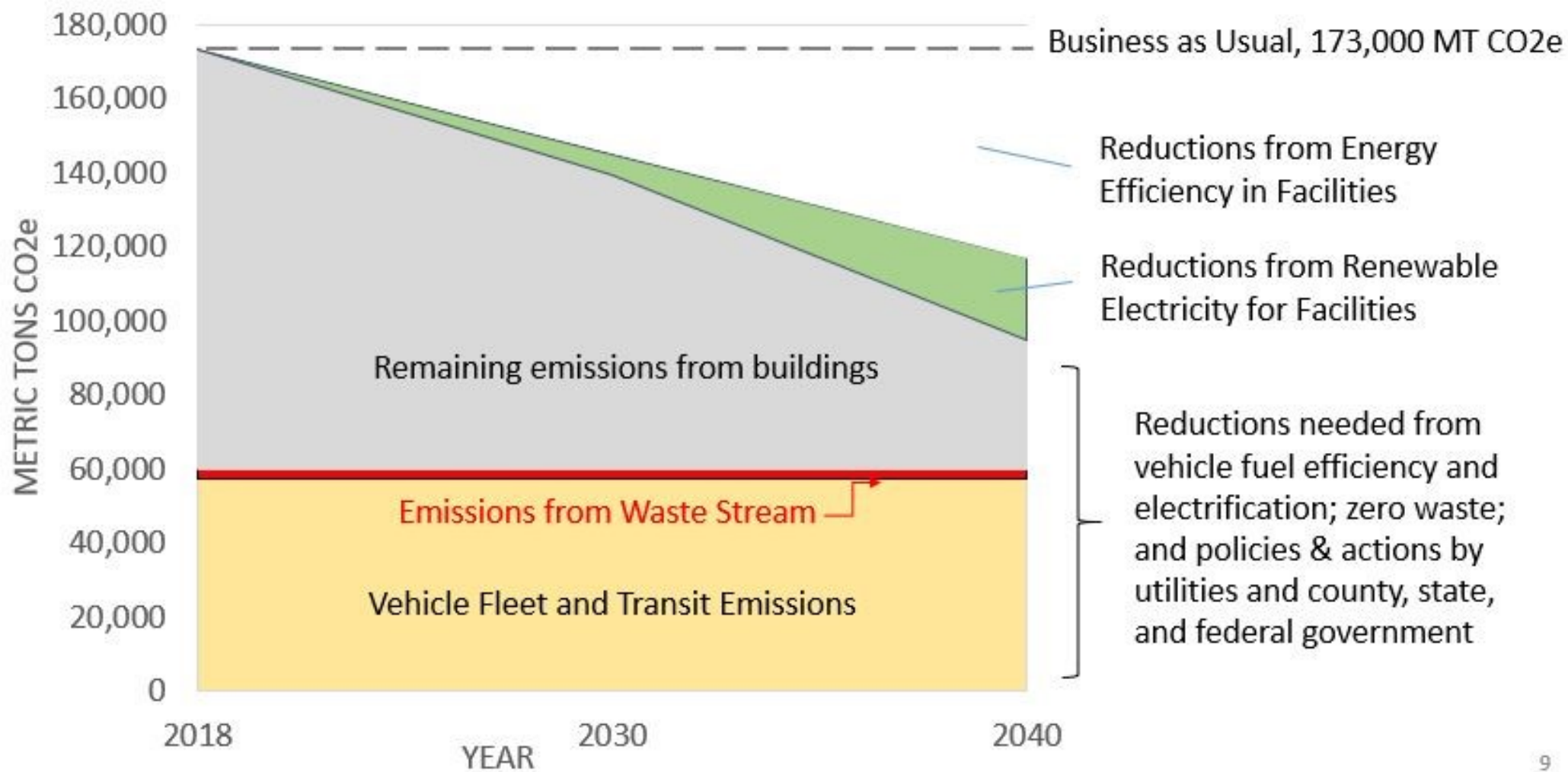


# OES Update – Procurement and Waste

Focus Area	Current Targets	Proposed Targets
Goods and Services	1. By 2020, require that all major appliances are ENERGY STAR	1. Review purchasing and develop a sustainable purchasing program.
Waste Management	1. By 2030, divert 3% more waste from the 2016 rate (50%)	<ol style="list-style-type: none"> <li>1. Be zero waste by 2030</li> <li>2. Create a plan to be zero waste by 6/30/21</li> <li>3. Conduct a trash and recycling audit</li> <li>4. Encourage expanded composting</li> </ol>
Awareness and Engagement	1. FEEE will host at least 4 events per year	No change
Utility Cost Management	1. Quarterly review of best practices	No change
Reporting and Collaboration	1. Report on OES in Sustainability Initiatives and to the BOSEC	No change



# Contributions to Carbon Neutrality by Energy Efficiency and Renewable Energy for County Operations



# Updated Targets Help Achieve Carbon Neutrality

## Emissions Avoidance Equivalencies

### Energy Reduction Targets

	25% Reduction by 2030	50% Reduction by 2040
Energy Savings (kBtu)	341,000,000	682,000,000
Avoided CO <sub>2</sub> /CH <sub>4</sub> /NO <sub>2</sub> Emissions (MT)	28,300	56,700
Equivalent Gallons of Gasoline <sup>1</sup>	3,200,000	6,410,000
Equivalent Wind Turbines Running for One Year <sup>1</sup>	5.9	11.8
Equivalent Social Benefit <sup>2</sup>	\$1,450,000	\$2,910,000

### Renewable Energy Targets

	25% Renewables by 2030	50% Renewables by 2040
Electricity Offset (kWh)	65,500,000	131,000,000
Avoided CO <sub>2</sub> /CH <sub>4</sub> /NO <sub>2</sub> Emissions (MT)	22,100	44,200
Equivalent Gallons of Gasoline <sup>1</sup>	2,500,000	5,000,000
Equivalent Wind Turbines Running for One Year <sup>1</sup>	4.6	9.2
Equivalent Social Benefit <sup>2</sup>	\$1,130,000	\$2,270,000

<sup>1</sup>Gasoline and wind turbine equivalencies are from the [EPA Greenhouse Gas Equivalencies Calculator](#).

<sup>2</sup>Equivalent Social Benefit estimates are from a Biden Administration Interagency Working Group [report](#).

# Funding the Transition

- Achieving the updated OES targets will present much greater challenges than achieving the initial targets.
  - Will require sustained, substantial investment and significant staff resources.
- Cost estimates for most OES initiatives haven't yet been determined.
  - Absence of comparable completed projects is a complicating factor.
- Given uncertainties, at this time OEEC anticipates continuing to request funding for OES projects through quarterly reviews.
  - Approach will allow staff to present a clearer picture of the costs and cost benefits associated with OES initiatives and specific projects.

# Recommendation

- Adopt update to the 2018 Operational Energy Strategy, which will be brought as an Action Item to the July 13 Board of Supervisors meeting.



# Response Board Matter JET Policy Development

Board Environmental Committee Meeting  
June 15, 2021

Dwayne Pelfrey, Chief Transit Services Division  
Fairfax County Department of Transportation

# Board Motion on JET Recommendations

- Staff supports the Board motion on JET recommendations and will work to exceed them
- Staff preparing for Board Transportation Committee meeting on June 29<sup>th</sup>
- Presentation will include details on steps for Zero Emission Bus implementation
- Goals for bus pilot project-Road to Success
- Discussion on challenges and transition planning
- Current staff actions underway
- Bus purchases during pilot and engineering-impact to transit riders
- High level capital cost assumptions

# Additional Information

For more information on the Operational Energy Strategy, please contact Susan Hafeli at [Susan.Hafeli@fairfaxcounty.gov](mailto:Susan.Hafeli@fairfaxcounty.gov)

For more information on the Fairfax Connector fleet, please contact Dwayne Pelfrey at [Dwayne.Pelfrey@fairfaxcounty.gov](mailto:Dwayne.Pelfrey@fairfaxcounty.gov)