

Arlington Initiative to
***Rethink
Energy***



Arlington's Community Energy Plan

Civic Federation Meeting

October 15, 2019

Overview

- Why we have a Community Energy Plan (CEP)
- Since 2013:
 - Implementation success stories
 - Changes to the 2013 CEP to create the 2019 CEP Update

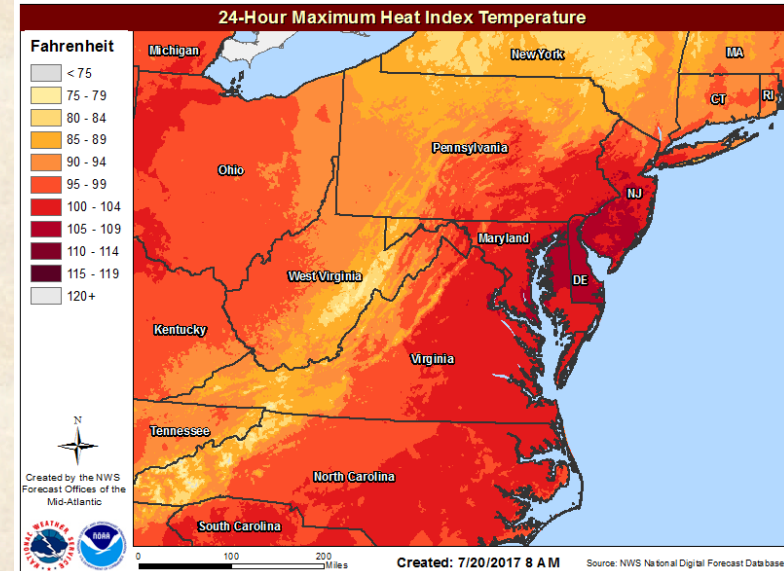


What Is the CEP?

- Long-term vision for transforming how we generate, distribute, store, and use energy.
- Adopted as an element of the County's Comprehensive Plan in 2013.
- Organized by six Goal Areas and related Policies.

Focus on:

- Energy Security
- Economic Competitiveness
- Environmental Commitment
- **Energy Equity (2019 addition)**





Lower Density Zoning

Lower Density Zoning



Merge *Energy Planning* with Smart Growth

CEP Implementation (2013-18)


- First LEED Platinum community in the nation
- APS & Net Zero Energy Schools
 - Discovery ES, Alice West Fleet ES
- Innovative Solar PV & EV Charger Co-op
- Green Home Choice Program, results in ~50% reduction in energy costs for participating homes
- Energy Lending Library
- Updated Bonus Density Program
- Updated policies, e.g., Sustainable Buildings Policy



Saving Energy & Money Every Day


\$4,700,000
 saved annually by the community & county government through actionable AIRE program outreach & projects.

Community greenhouse gas emissions
 2007-2017




↓ 24%

10 Million Square Feet
 of LEED certified space in 38 buildings through AIRE's Green Building program, saving businesses and residents more than \$2 million per year.




325
 Green Home Choice certified homes, saving an average of 50% on utility bills.




\$460,000 saved annually by businesses and residents through AIRE's commercial and home energy efficiency rebates.



Doubled
 the number of solar systems since 2015. 118 homeowners have installed solar through Arlington Solar Co-ops.

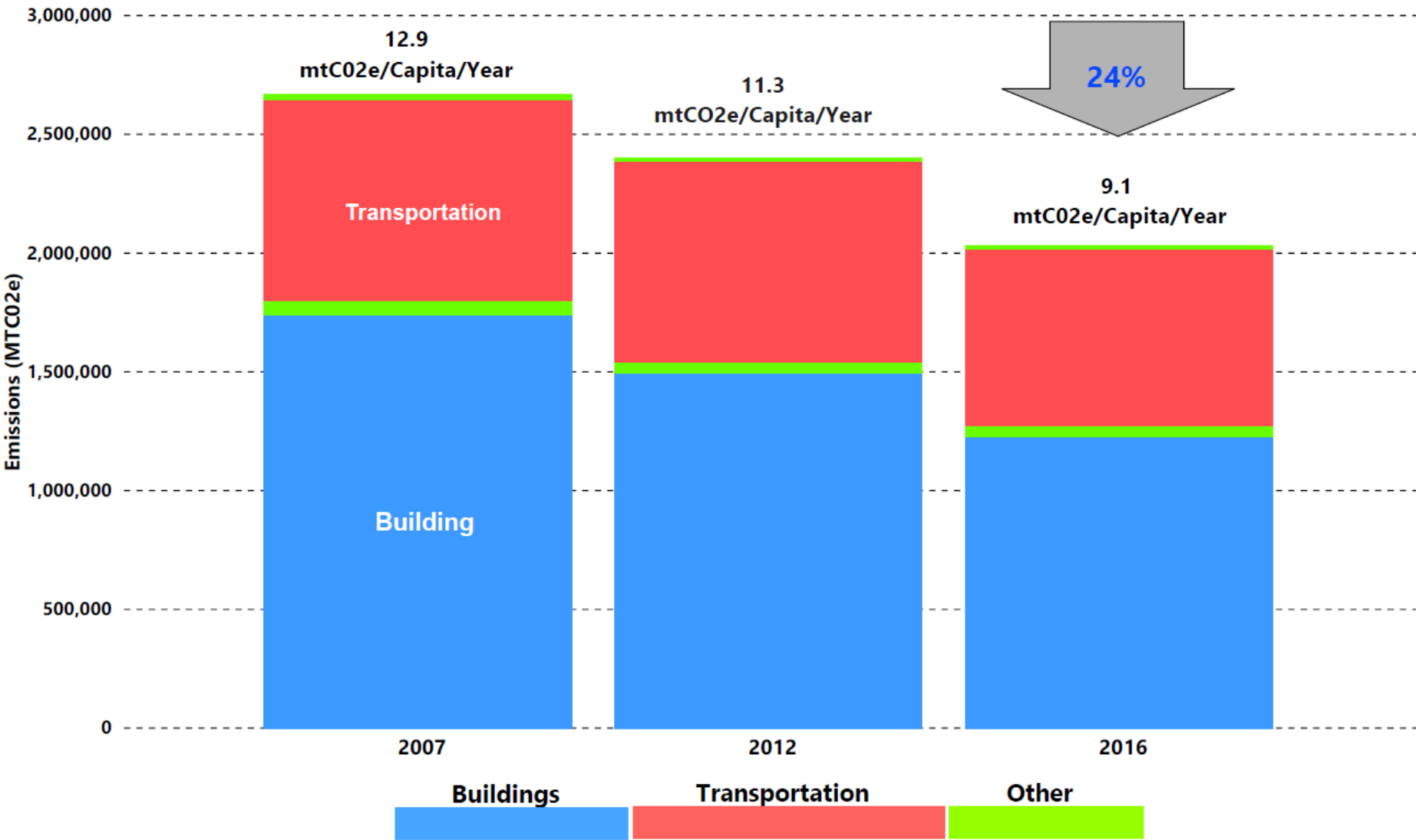


Program energy savings are equivalent to taking 4,000 cars off the road annually.



Arlington's Community Emissions Profile

Units = metric tons of CO₂e per capita per year

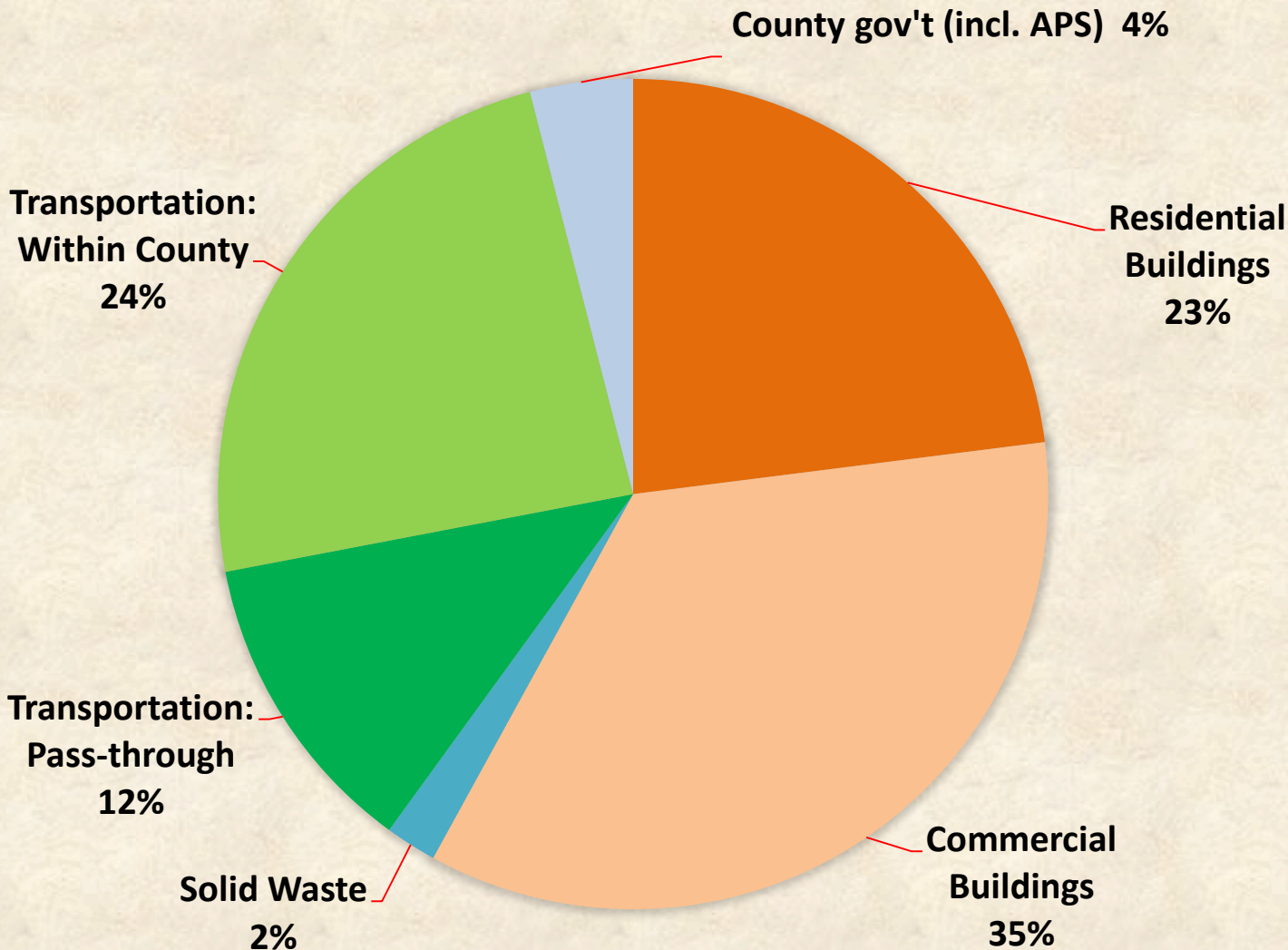


Continual Transformation: Making Steady Progress Indicators 2007 - 2016

- Over 18,000 new residents (8% growth in population)
- Employment grew by 10,700 workers (5% growth)
- Number of housing units grew by 13,110 (a 12% increase)
- Electric grid emissions rate (carbon per kWh) fell by 28%
- Total energy use in buildings decreased 11%, with declines across all fuels: electricity, natural gas, and fuel oil.
- Total energy use in transportation declined 13%

Arlington's Emissions Profile

ARLINGTON GHG EMISSIONS BY SECTOR - 2016





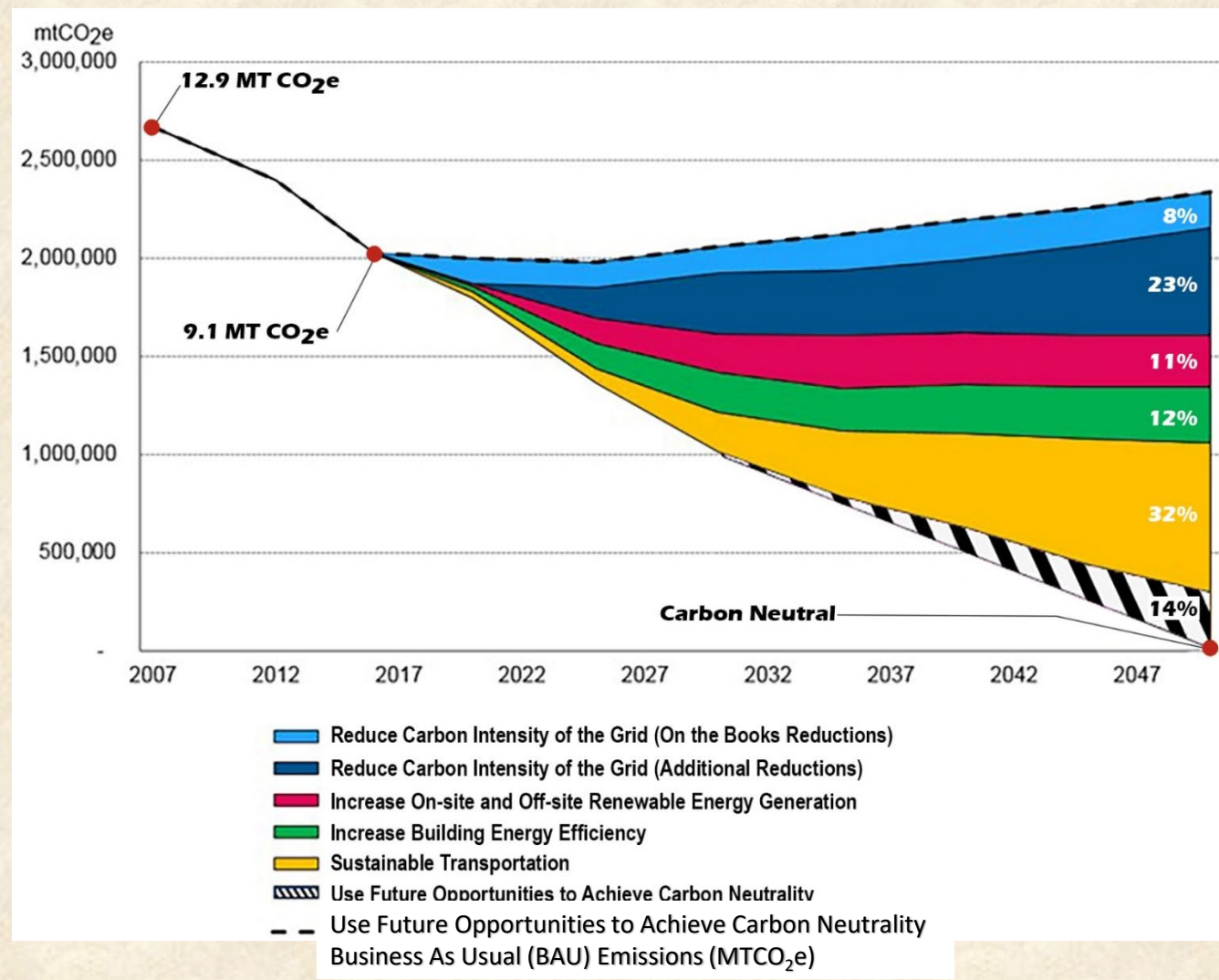
From 2013 to the 2019 CEP





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Pathway to Carbon Neutrality by 2050



Old %s

- 9%
- 25%
- 9%
- 14%
- 43%

8%

23%

11%

12%

32%

14%

Changes to CEP Since 2013

- Changed 2050 greenhouse gas emissions goal to become carbon neutral (used to be 3.0 mt CO₂e/capita/year)
- Added the following policies:
 - a. 50% Renewable Electricity for Gov't Operations by 2022 & 100% Renewable Electricity for Gov't Operations by 2025
 - b. 100% Renewable Electricity for the community by 2035





Changes to CEP Since July

- Added *Energy Equity* as a 4th lens through which we look at CEP implementation
- Added a new policy to show how the County fleet will transition to electric vehicles over time



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Questions?

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Additional Slides, if needed



Community Engagement



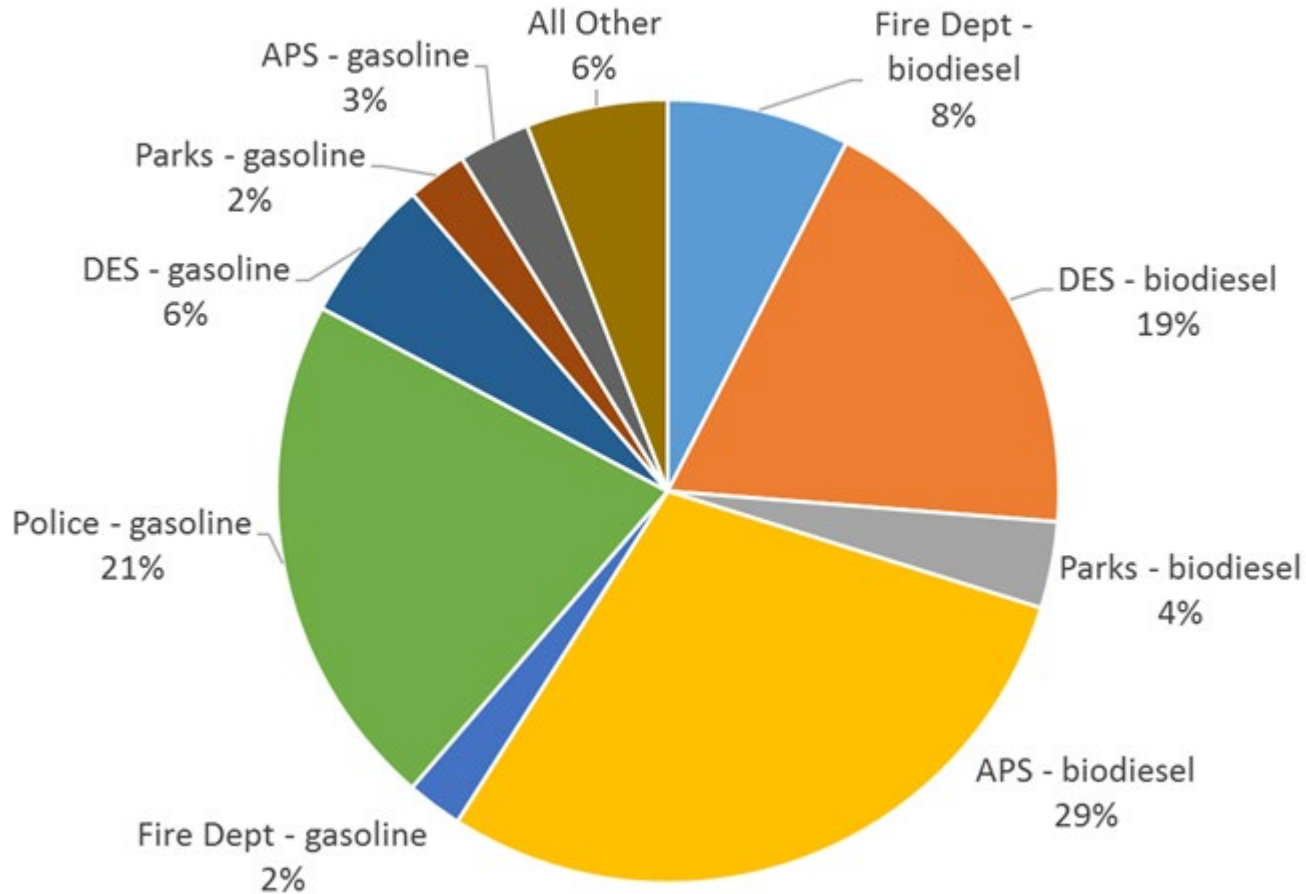
- E2C2 Energy Committee (multiple)
- Long Range Planning Committee
- Community Energy Plan Interactive Forum (George Mason University)
- CEP Community Open House (Key Elementary School)
- CEP Virtual Forum
- Environment & Energy Conservation Commission
- County Board Work Session
- NAIOP
- Citizens Advisory Commission on Housing
- Transportation Commission (2x)
- Planning Commission (2x)
- Economic Development Commission
- Chamber of Commerce Sustainability Committee
- Emergency Preparedness Advisory Commission
- Fiscal Affairs Advisory Commission
- Parks and Recreation Commission
- Urban Forestry Commission
- Chamber Government Affairs & Economic Development Committee

County Vehicle Fuel Use



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Fuel Use by Arlington County Government and APS, Calendar 2018,
by Share of Total Gallons Used (1.1 million gallons)





County Fleet Inventory

- 107 Sedans
- 90 Light Trucks
- 207 Heavy Duty vehicles
- 68 SUVs
- 79 Vans

375 public safety vehicles

- 29 Sheriff vehicles
- 260 Police Department vehicles
- 81 Fire Department vehicles
- 5 Emergency Mgmt. vehicles

- 7 electric vehicles

• EV Chargers

- 3 at Bozeman GC
- 3 at the Equipment Bureau
- 2 at Water, Sewer, Streets
- 2 at Sequoia



APS Fleet Inventory

- 3 Sedans
- 59 Vans
- 9 Light Pickups
- 21 SUVs
- 27 Heavy pieces of equipment
- 199 Buses

How Can Arlington Achieve 100% Renewable Electricity?



Any combination of:

- On-site (rooftop) solar PV
 - Customer-owned
 - Power purchase agreements (PPAs)
- Contracts for off-site solar and/or wind
- Increased utility tariffs for renewable energy
- Renewable Energy Certificates (RECs)
- Renewable energy as part of the utility (grid) mix
- Increased efficiencies in solar and wind systems



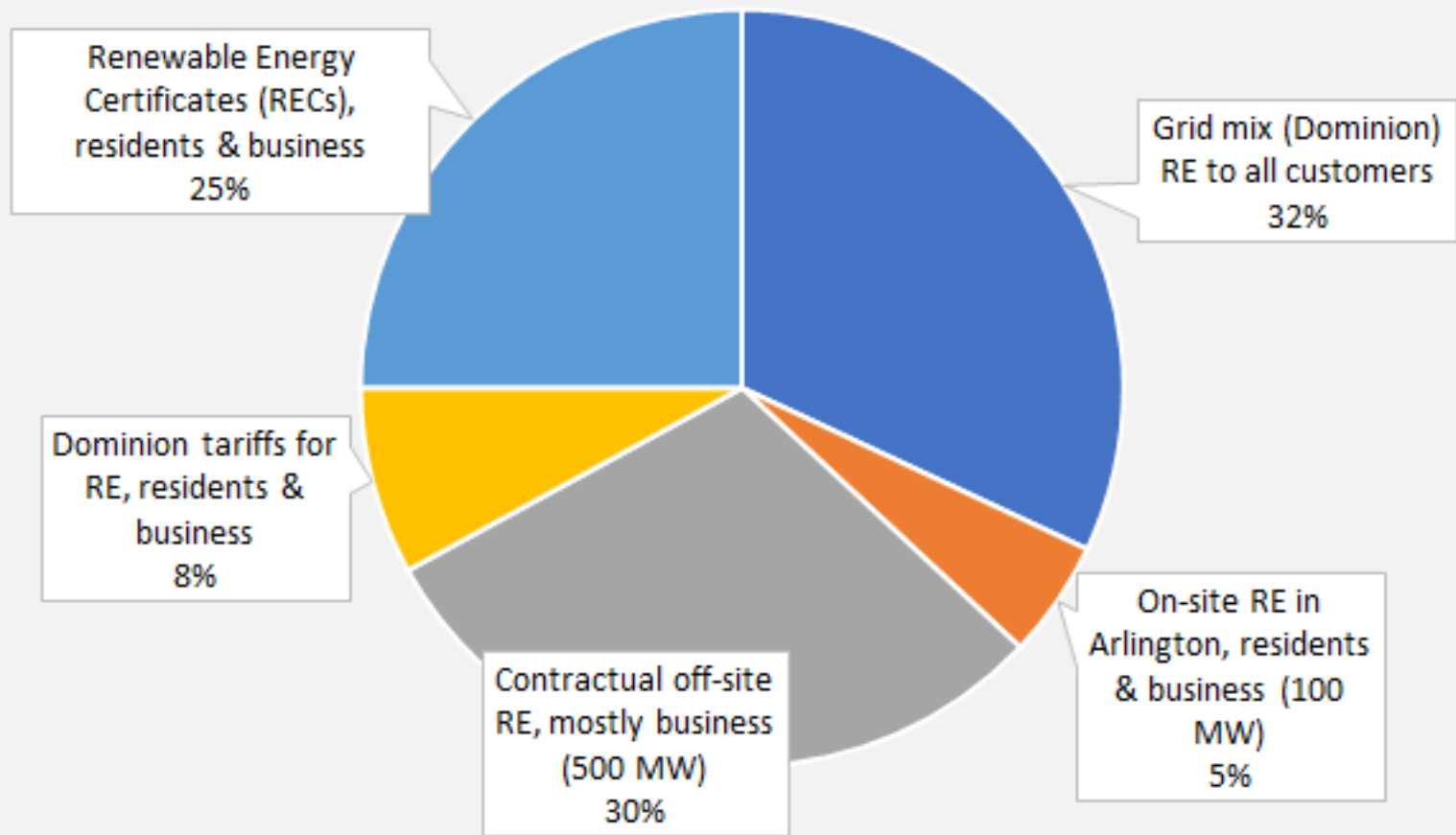
Community & Renewable Electricity

- Proposal for Community Target:
 - 100% Renewable Electricity for the community by 2035



Envisioning 100% Renewable Electricity (RE) in Arlington in 2035

Multiple pathways provide options
Assumes total electricity use in 2035 is 2.5 billion kWh



Government & Renewable Electricity

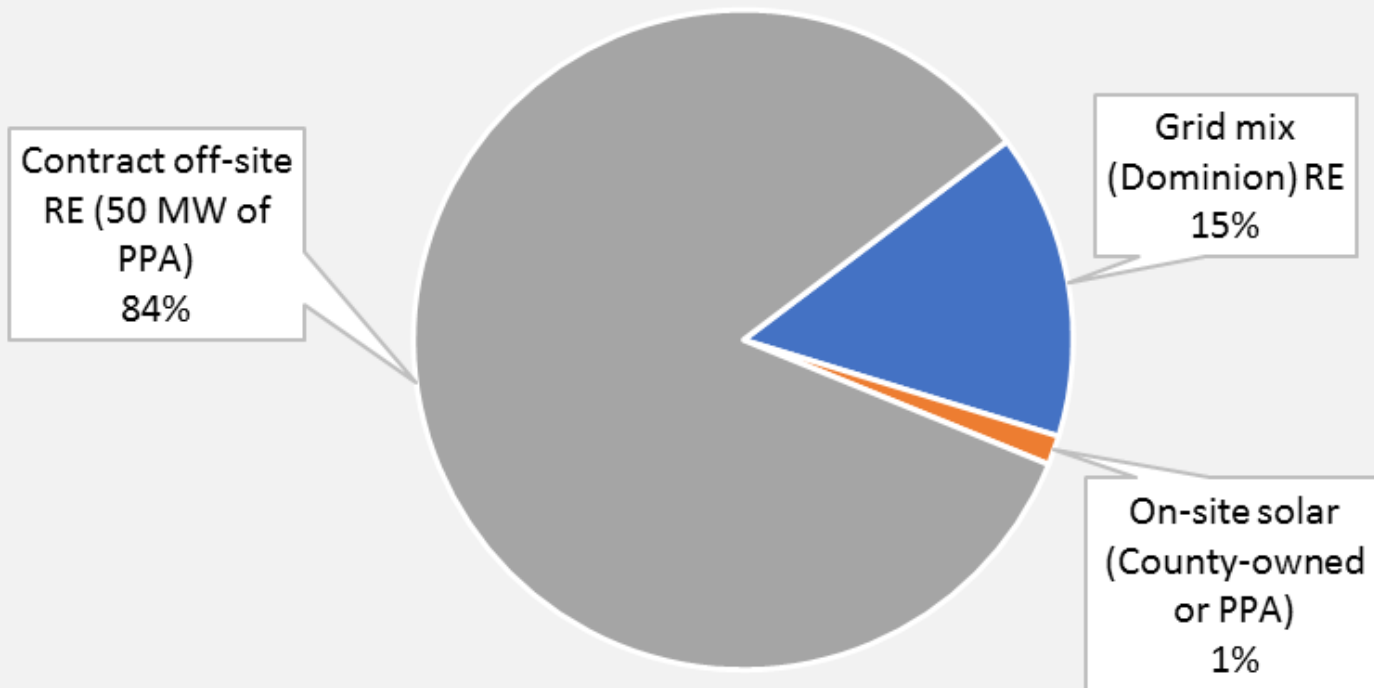


- Proposal for Government Targets:
 - 50% Renewable Electricity for Government Operations by 2022
 - 100% Renewable Electricity for Government Operations by 2025



Getting to 100% Renewable Electricity (RE) for Arlington County government operations in 2025

Assumes total electricity use in 2025 is 90 million kWh





What About Energy Equity?

- Recommendations:
 - Make “Energy Equity” the fourth lens through which we look at all possible CEP implementation items.
 - Draft 2019 CEP will include this definition: *“Ensure that access to and the impact of energy upgrades, participation in energy programs, and the movement toward a clean, reliable and secure grid is equitable across all socioeconomic and racial and ethnic groups, including low-to-moderate income and disadvantaged communities”*