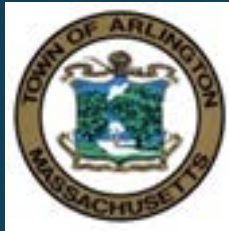


# Arlington Net Zero Plan



**Ken Pruitt**  
Energy Manager

Department of Planning  
and Community  
Development



October 7, 2020

# Goals for Today's Meeting

- Arlington's Net Zero commitment
- Origin of the CEFC and Net Zero Plan
- Greenhouse Gas Inventory Findings
- Results from Net Zero Survey
- Overview of Net Zero Plan
- Timeline for plan completion and implementation
- Presentation and input on draft greenhouse gas mitigation measures

# Arlington's Net Zero Commitment

- January 2018 Select Board Vote committed Arlington to net zero emissions of greenhouse gases from Arlington by 2050
- Primary greenhouse gases: Carbon dioxide, Methane, Nitrous oxide. Primary is carbon dioxide, from burning fossil fuels for heating, cooking, transportation, either on-site or off-site to produce electricity
- Net Zero: Reduce GHG emissions as low as possible, and offset the rest by purchasing RECs, generating power with solar, etc.

# Continuation of Past Successes

- 2000: Joined Cities for Climate Protection
- 2005: Arlington Sustainability Action Plan (10% by 2010 and 20% by 2020 - we made it!)
- 2010: Green Community (\$1.7M in grants so far)
- 2012: Solarize Mass
- 2017: Community Choice Aggregation
- 2018: Net Zero Commitment; CEFC established
- 2019: HeatSmart
- 2020: Net Zero Plan (by Dec. 31)

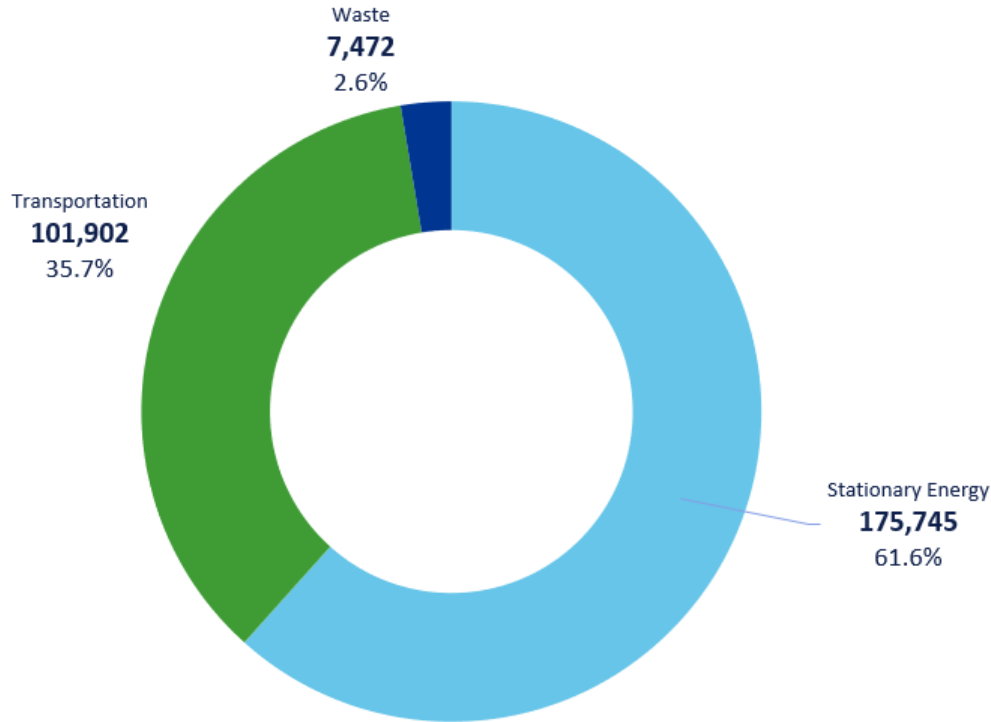
# Clean Energy Future Committee

- Established by Select Board in July, 2018
- Mission (short version): guide the Town to a future where, by 2050, net emissions of carbon dioxide and other greenhouse gases attributable to all sources in Town are zero
- 15 members: Town employees, elected officials, residents, Town Meeting Members, business and real estate

# Net Zero Plan Project

- Funding from Executive Office of Energy and Environmental Affairs with Town match
- Technical support from MAPC
- Partnership with MAPC, Natick and Melrose
- Work began late spring, 2019
- Plan to be finished by end of this year

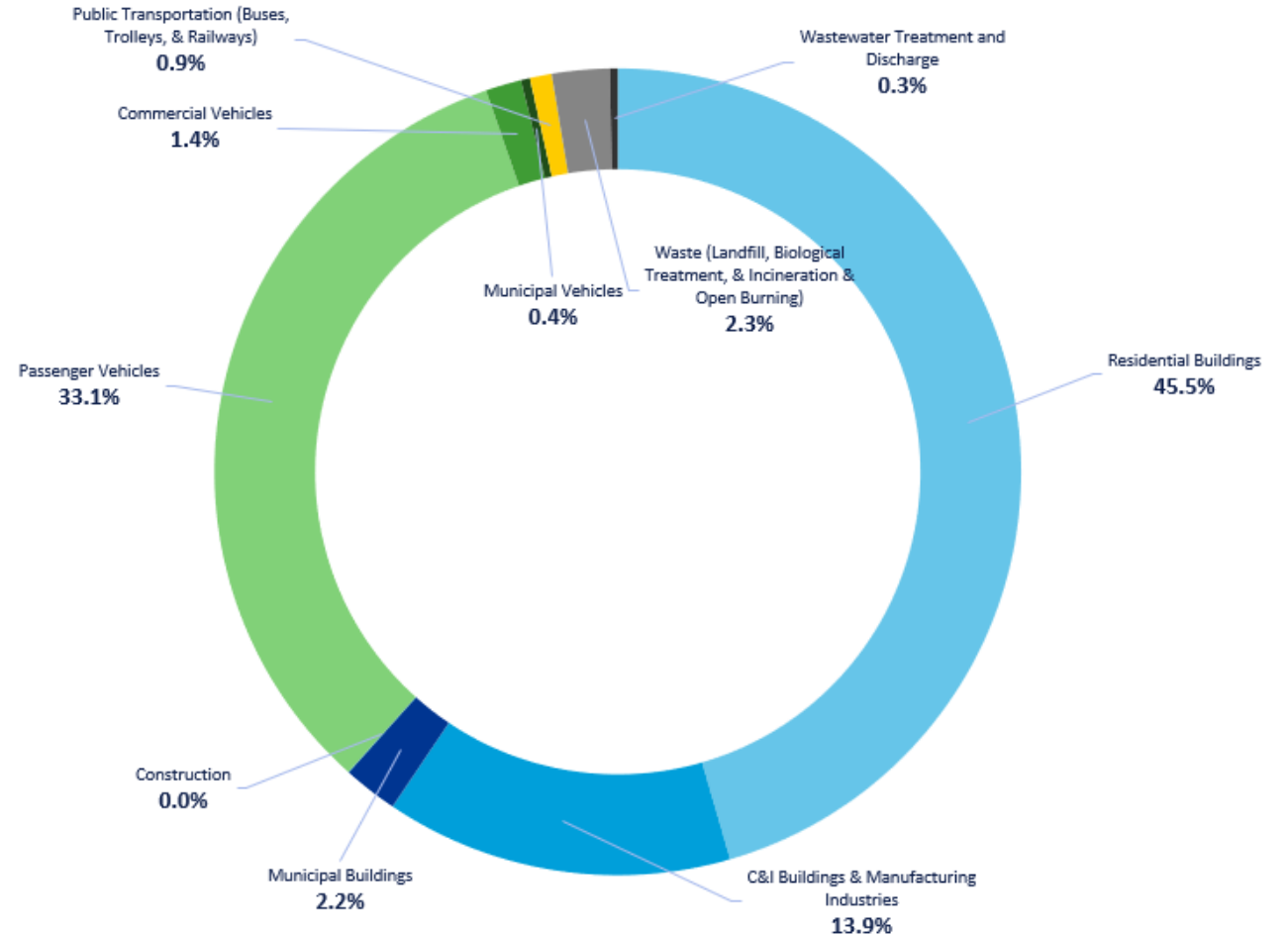
## Community-wide Emissions (MT CO2e) by Sector



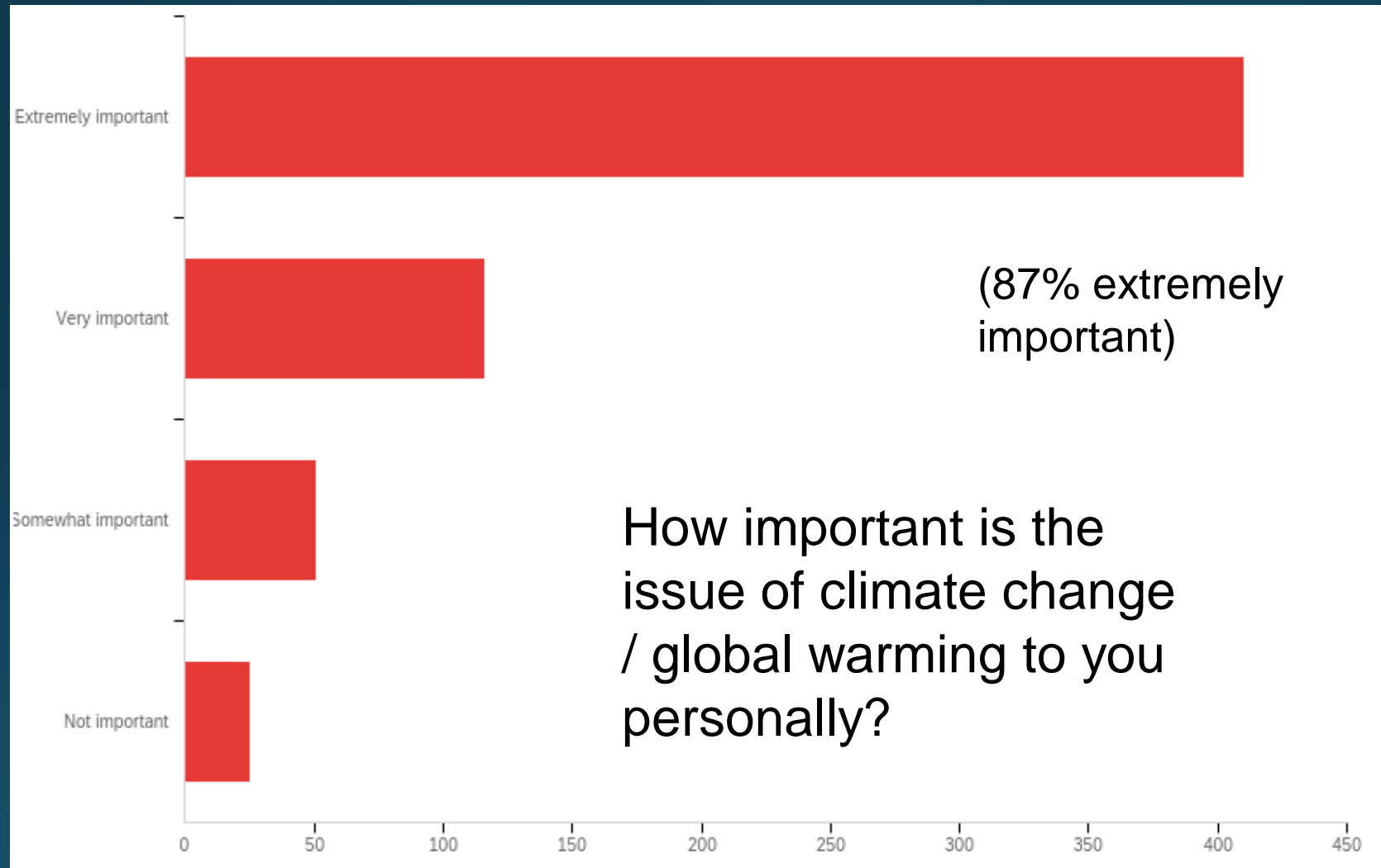
Total 2017 emissions:  
284,078 MT CO2e

# GHG Inventory

## Percent of Total Community-Wide Emissions by Subsector (with Municipal Emissions Disaggregated)

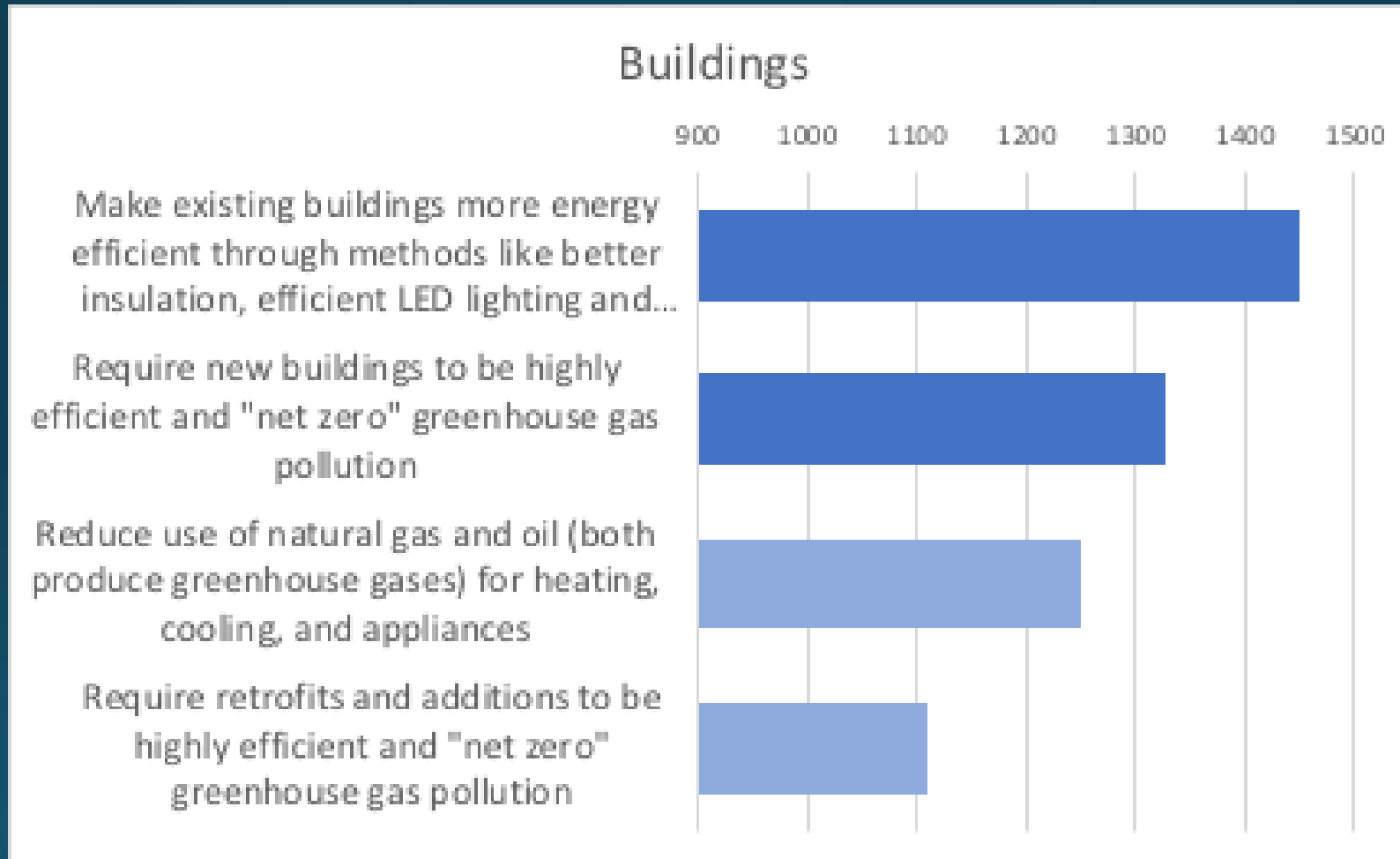


# Survey Results (N=667)

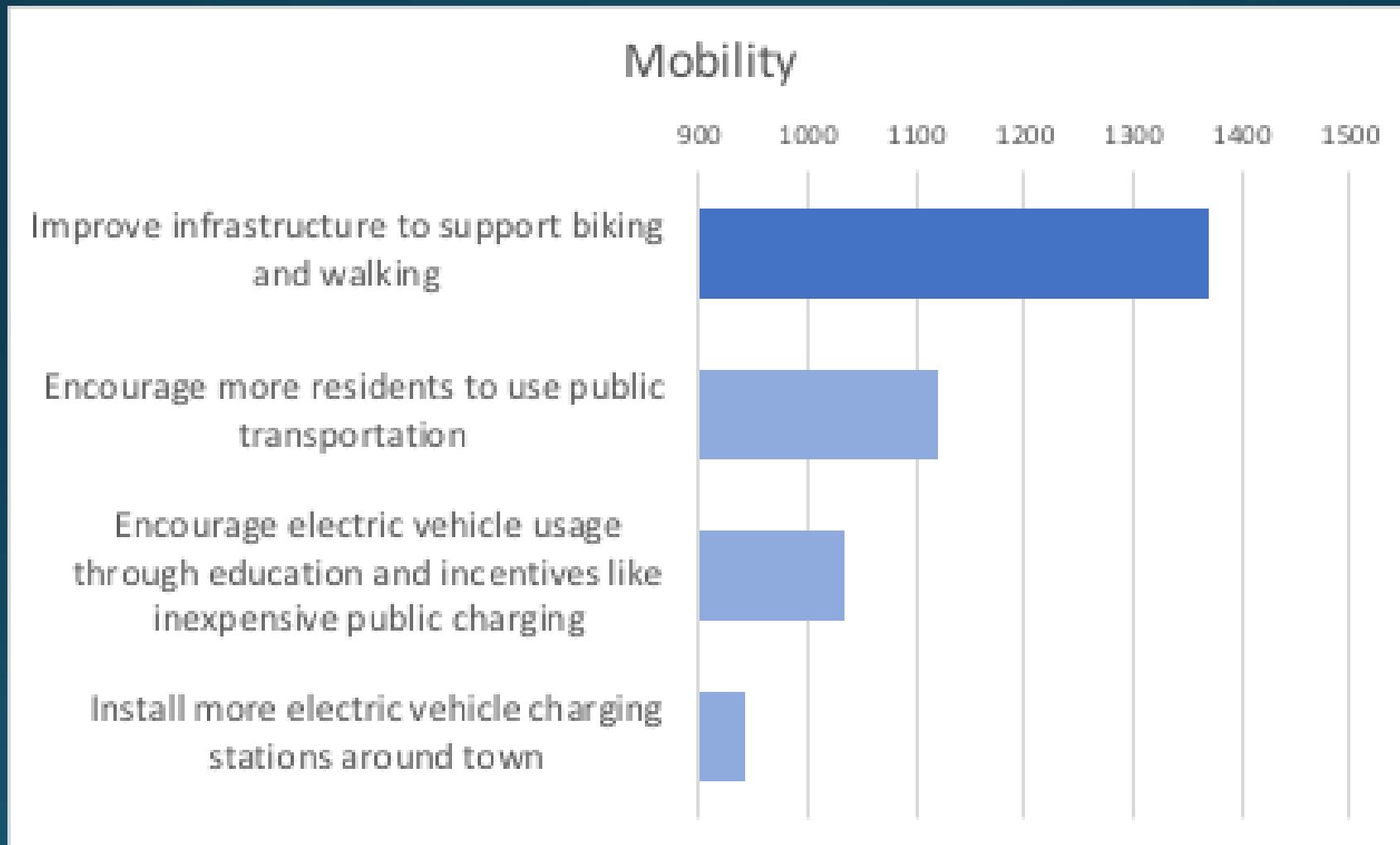




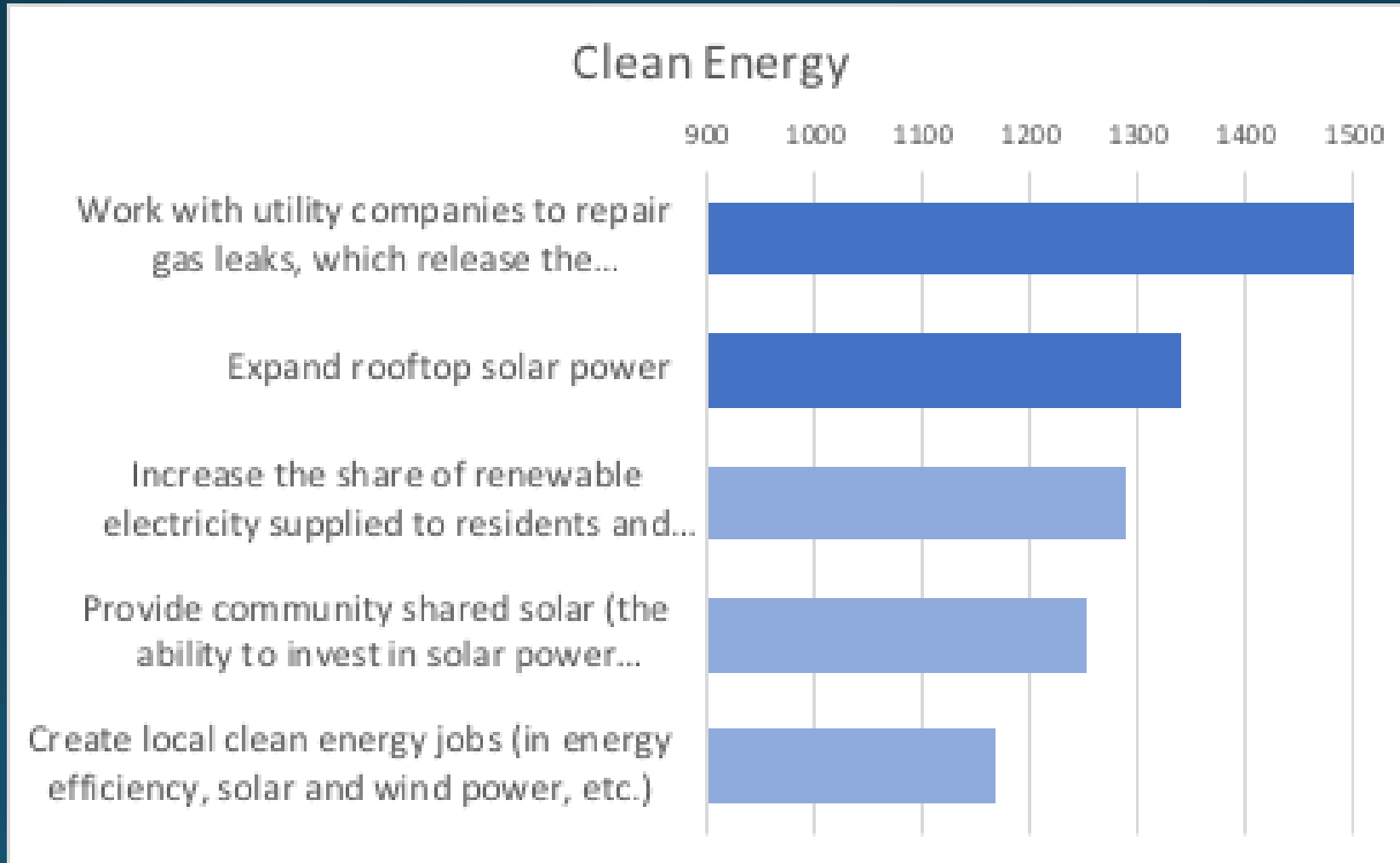
# Survey results



# Survey results



# Survey results



# Net Zero Plan Overview / Outline

- Letter from the Future (~1 page) – CEFC to draft
- Getting to Net Zero (~2-4 pages) – MAPC has drafted
- **Net Zero Action Roadmap (~13-17 pages) – CEFC & MAPC have drafted (review today)**
- Implementation: What's next? (~2-4 pages) – CEFC to draft
- Appendices (still in formation).

# Roadmap: Overview

- Three sections:
  - Net Zero Buildings
  - Zero Emissions Mobility
  - Clean Energy Supply
- Goal is to get Arlington on path to Net Zero
  - Will get us on path – good start
  - BUT: we will need additional measures not yet conceived of
    - New technology
    - New federal or state laws.

# Roadmap: Overall Approach

- Maximize energy efficiency
  - Promote building energy efficiency
- Electrify everything
  - Building space heating, water heating, cooking
  - Transportation (but first reduce VMTs)
- Green the grid
  - Advocate for increase in RPS
  - Green Arlington's electricity supply (ACE, municipal contracts)
  - Generate more local solar power

# Roadmap: Overview (cont.)

- 31 GHG mitigation measures
  - 17 in Buildings
  - 9 in Mobility
  - 5 in Energy
- Reflects role of sectors in GHG emissions:
  - 62% from buildings
  - 36% from transportation
  - Clean Energy Supply measures aimed at greening electricity supply to power those two sectors.

# Plan is Beginning, Not End

- CEFC not bound by Net Zero Plan; can add new measures later
- Net Zero Plan is a living document. Plan should be refreshed periodically (every 5 years?)
- Don't sweat the small stuff!



# Equity: A Plan for Everyone

- Households who earn a low-income are disproportionately burdened by climate change and should stand to benefit the most from net zero planning actions and outcomes
- Climate issues intersect with many existing inequities related to race, socioeconomic class, age, ability, immigration status, and language
- This plan will ensure that the measures and policies will address any impacts on equity

# Roadmap: Net Zero Buildings

- High Priority Measures

1. Electrify building heating, hot water, cooking via “Electrify Arlington” campaign
2. Community-wide deep energy retrofit campaign
3. Change Zoning to both allow & incentivize net zero buildings (including with new foundations on non-conforming lots)
4. Create “Electrify Arlington” website (also applies to Mobility and Energy sections)

# Roadmap: Net Zero Buildings

- Priority Measures

5. Retrofit Town buildings for energy efficiency & renewable generation
6. Advocate for state Net Zero Energy Stretch Code
7. Evaluate policies for low- or zero-emissions standards for Town contracts for goods and services, and when selling property
8. Review Historic District Commission Design Guidelines
9. Prohibit fossil fuel heating in new construction & major renovations
10. Allow adjustments to dimensional requirements by Special Permit for energy efficiency and renewable energy installations

# Roadmap: Net Zero Buildings

- Priority Measures (cont.)

11. Require new commercial buildings and Apartment Buildings to include solar PV and/or solar thermal (or be “solar ready”)
12. Explore opting-into commercial Property Assessed Clean Energy
13. Promote planting trees on private property near the sidewalk
14. Partner with local vocational / technical schools to encourage more HVAC and clean tech workers
15. Consider establishing a Chapter 40R Smart Growth Zoning Overlay District to allow for dense residential or mixed-use development
16. Support training opportunities on LEED, Net Zero, Passive House, etc.
17. Continue and Expand Participation in Green Communities and Similar Programs

## Buildings: High Priority Measures

1. Electrify buildings, “Electrify Arlington” campaign
2. Community-wide deep energy retrofit campaign
3. Change Zoning for net zero buildings (incl. new foundations)
4. Create “Electrify Arlington” website

## Buildings: Priority Measures

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17. Continue and Expand Participation in Green Communities and Similar Programs

# Roadmap: Zero Emissions Mobility

- High Priority Measures

1. Support full implementation of the Connect Arlington plan
2. Create and implement a plan to expand public charging at libraries, shopping centers, etc., both on- and off-street
3. Provide a suite of education and awareness building services to promote electric vehicle adoption
4. Adopt a zero-emission municipal fleet plan/policy (complete transition to zero emission vehicle purchases by 2030)

# Roadmap: Zero Emissions Mobility

- Priority Measures

5. Create an action plan to advocate for community transit service needs
6. Evaluate changes to parking policies to promote efficient use of space, reduce use of single occupancy vehicles, and promote electric vehicles
7. Develop policies and guidelines to promote safe use of electric bicycles, scooters, and other micromobility technology
8. Advocate for improved utility rate designs to facilitate smart electric vehicle charging and accelerate EV adoption
9. Promote car sharing.

## Mobility: High Priority Measures

1. Support full implementation of the Connect Arlington plan
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# Roadmap: Clean Energy Supply

- High Priority Measures
  1. Increase renewable energy in default ACE to 100% by 2030
  2. Transition municipal electricity supply to 100% renewable by 2030
  3. Support state legislation and policies that decarbonize the region's electricity supply.

# Roadmap: Clean Energy Supply

- Priority Measures

4. Partner with utilities and others to promote pilot neighborhood-scale shared ground source heat pump projects
5. Advocate for accelerated repair of gas leaks and phasing-out the natural gas distribution supply network.

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## Clean Energy Supply: Priority Measures

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**Thank you!**

**Questions or ideas?**

**Ken Pruitt**

**781-316-3428**

**[Kpruitt@town.arlington.ma.us](mailto:Kpruitt@town.arlington.ma.us)**