



THE UNIVERSITY  
*of* NORTH CAROLINA  
at CHAPEL HILL

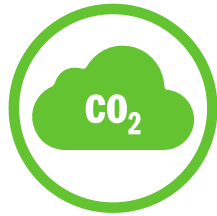
# UNC ENERGY SERVICES

## Chapel Hill Town Council

Wednesday, Feb. 13, 2019



# Three Zeros Environmental Initiative



## Net Zero GHG Emissions

- Minimize fossil fuel use
- Increase energy efficiency
- Switch to renewable energy
- Pursue carbon off-sets as last option



## Water Neutrality

- Conserve drinking water
- Increase non-potable water usage
- Protect the quality of downstream waters



## Zero Waste to Landfills

- Minimize materials brought onto campus
- Maximize recycling, reuse and composting



# Three Zeros Successes



## NET ZERO WATER

- UNC is water neutral.
- UNC's reclaimed water system allows the town to be more drought resilient.



## ZERO WASTE TO LANDFILLS

- UNC diverted 40% of its waste from the landfill in 2017-2018.
- Studying waste streams to identify opportunities for waste improvement on campus and in the town.

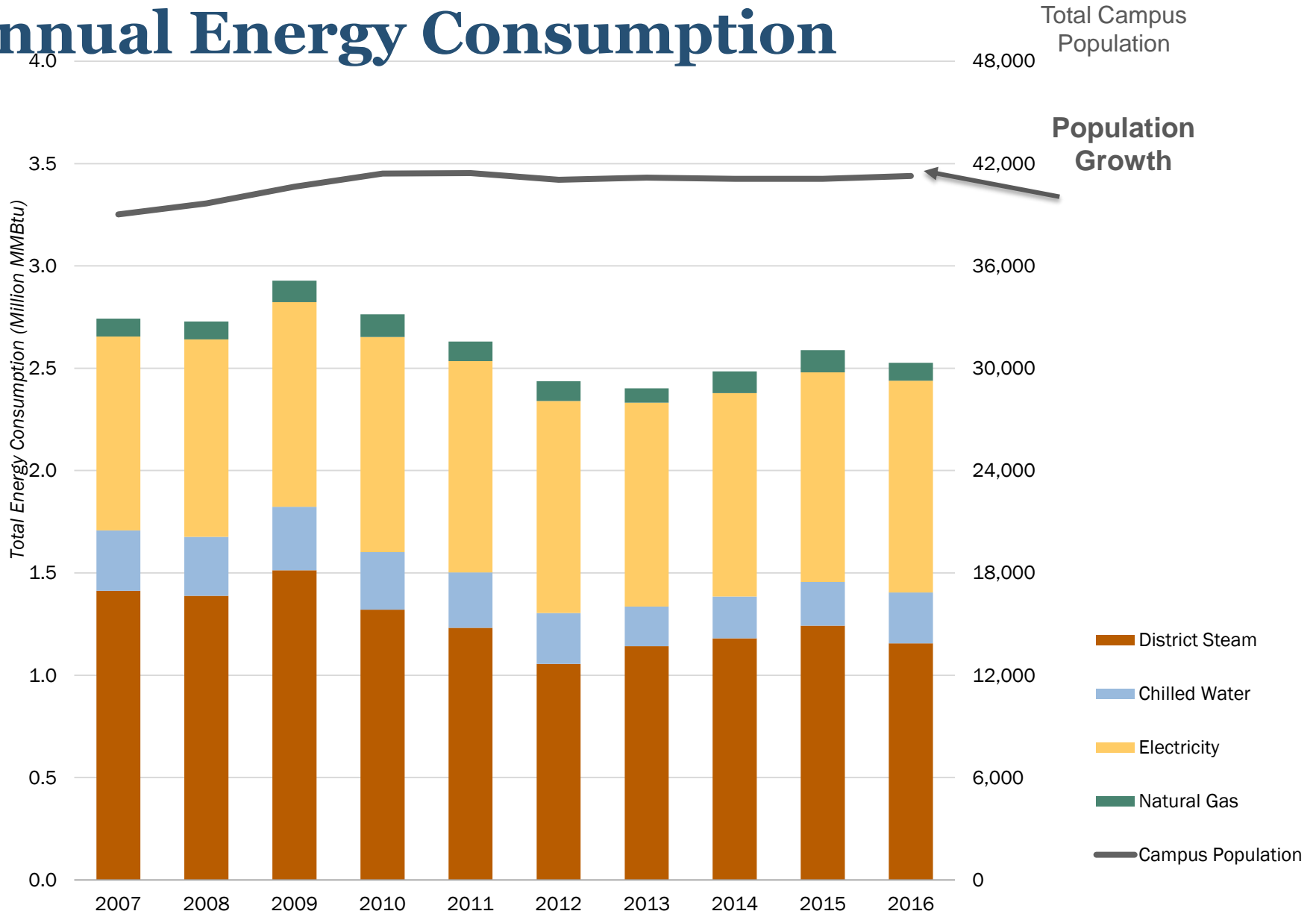


## NET ZERO GREENHOUSE GAS EMISSIONS

- Since 2007, UNC has reduced its greenhouse gas emissions by 17%, while avoiding \$340M in energy costs.

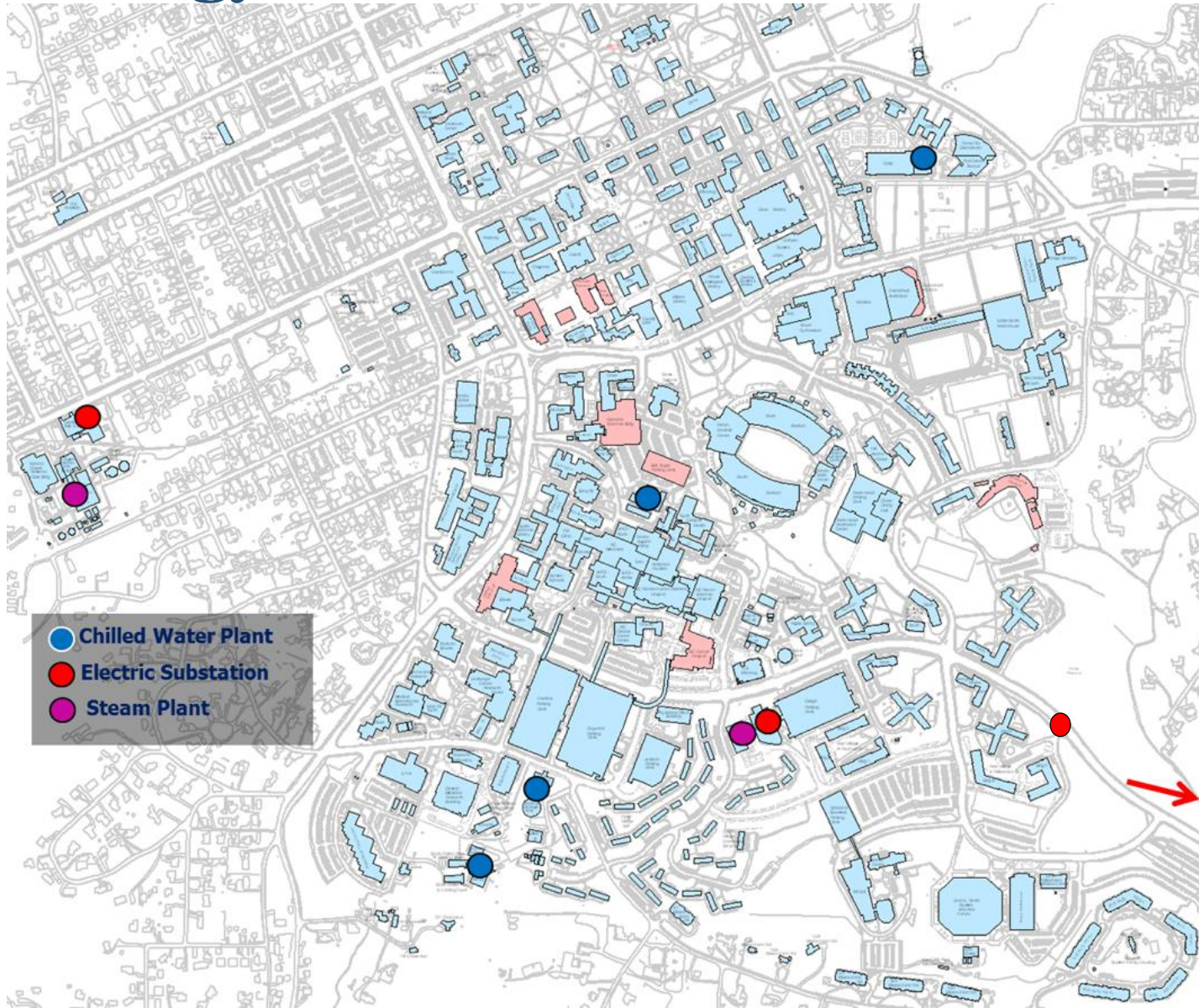


# Annual Energy Consumption





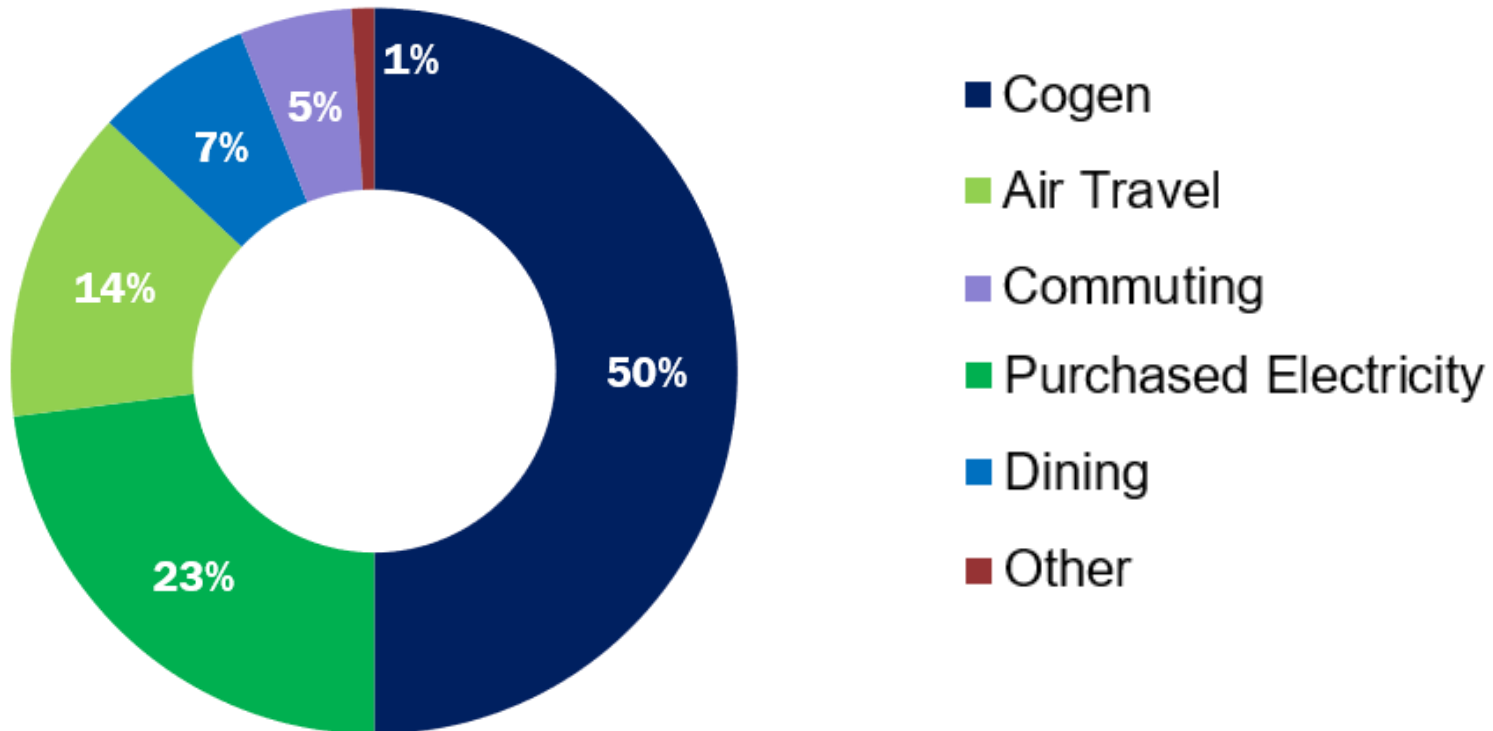
# Key Energy Services Facilities









# Greenhouse Gas Reduction at UNC

UNC seeks to reduce Scope 1, 2 and 3 emissions through policy change, behavioral change and implementing energy efficient projects across campus.





# Cogeneration System

-  Generates steam with electricity as a by-product
-  Generates ~ 20% of campus electricity use
  - UNC buys 80% of electricity from Duke Energy
-  Recent fuel use:
  - 72% coal
  - 28% natural gas
  - 0% oil
-  One of the nation's most efficient, cleanest energy production facilities



# Path to UNC's future



## NEAR -TERM

- Solar & Storage project at Horace Williams
- Burner Modification will take Cogen plant from **25% to 50% natural gas**, reducing coal usage by a third by end of 2019
- New **Dry Sorbent Injection System** at Cogen Plant to further improve air quality
- Renewable options are limited currently



## LONG-TERM

- **Utility Master Plan** process leading to roadmap for lower Scope 1 emissions and pathway off of coal
- Focusing on Scope 2 emissions (Duke Energy) during planning period





THANK YOU