Hillsborough Clean Energy Resolution

Andrea Eilers

Energy & Environment Program Manager

Lyndsay Gavin

Program Analyst





TJCOG's Role in the Region

Mission Statement

"To serve as an intergovernmental organization for local elected officials that works proactively on regional issues in order to sustain and improve the quality of life for our citizens."

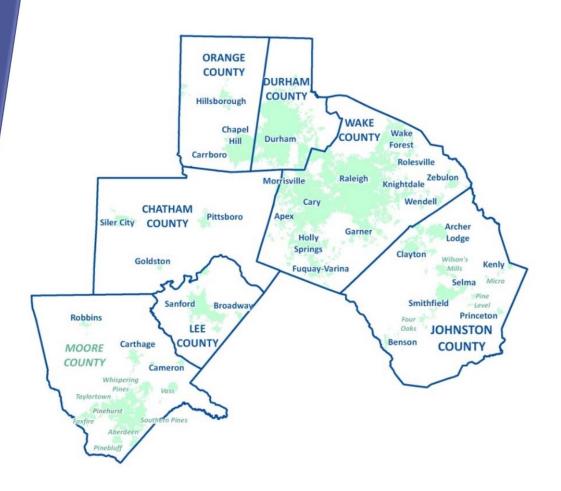
TJCOG's work plan covers tough issues that transcend jurisdictional lines, achieving its work through multiple roles:

- Convener and common ground for research, project development, relationship building and information sharing;
- Coordinator of efficient regional service;
- Manager of regional planning projects;
- Administrator for regional institutions addressing development, conservation, infrastructure and the delivery of human services; and
- Provider of technical assistance and data to its member communities.





TJCOG's Region & Board



- The Board of Delegates is our governing board at TJCOG. It consists of a representative elected official from each of our 42 member communities.
- The Board also engages the TJCOG staff in discussions on regional challenges of importance to their communities.





TJCOG Program Areas

Regional Planning

- Environmental Impact
- Development & Infrastructure
- Housing
- Transportation
- Transit

Aging & Caregiving

- Community Resource Connections
- Long-Term Care Facility Advocates/Resources
- Administrator of Regional & County Programs

Member Services

- Regional Committees –
 CIOs, Emergency
 Response, Managers,
 Mayors & Chairs,
 Legislative Committee,
 Regional Appearance
 Committee
- Drug & Alcohol Testing
- Educational Events & Opportunities
- Weekly Communications

► <u>Economic Development</u>

- Foreign Trade Zone #93
- Economic Development Distric





Clean Energy Resolution

- Resolution Supporting the Goal of 100% Clean Energy by 2050 for the Town of Hillsborough, and the Fostering of a Resilient and Sustainable Community
 - Resolution #20170911-10.D
- ▶ Adopted September 11, 2017
- Resolution effective upon adoption



esolution #20170911-10.D

Resolution Supporting the Goal of 100% Clean Energy by 2050 for the Town of Hillsborough, and the Fostering of a Resilient and Sustainable Community

Whereas, climate change is real, is affecting our community now, and the choices we make today will affect future generations;

Whereas, climate change is human-caused, primarily due to emissions from burning coal, oil, and natural gas, is already affecting and will continue to affect North Carolina's temperatures, precipitation and sea level with harmful consequences:

Whereas, 15 of the 16 hottest years on record have occurred since the year 2000, and the 3 hottest years on record were 2014, 2015, and 2016:

Whereas, the ongoing increase in global temperature, if not stopped, will continue having major adverse impacts on both natural and human-made environments including the effects of more and frequent and intense extreme weather events:

Whereas, the harmful consequences are already being felt locally and across the state, for example, in wetter, more destructive storms; longer, deeper droughts, and heavy rains that threaten our local food system and economy; increased suffering from seasonal allergies and asthma; increased threat and instances of tick-borne and other diseases;

Whereas, these consequences will be most severe for low-income neighborhoods and communities; low-income communities and communities of color in North Carolina and the United States are inordinately exposed to pollution, which causes serious health problems such as cancer and asthma from fossil fuels, including the dirtiest coal-fired power plants, which produce coal ash, are disproportionately located in communities of color; and the town of Hillsborough contributes to that pollution by dependency on coal-fired energy;

Whereas all scientific bodies in the U.S. and the world have concluded, based on the evidence, the human activities are the dominant cause of climate change. These scientific bodies include the Intergovernmental Panel on Climate Change, U.S. National Academy of Science, American Meteorological Society, U.S. Environmental Protection Agency, U.S. Department of Defense, and mar

Whereas, leading economists, policy experts, and business leaders conclude that transitioning to a clean energy economy available for all would create millions of green jobs nationally and improve the living standard for a wider range of people:

Whereas, Stanford University and University of California-Davis studies conclude the United States energy supply could be based entirely on renewable energy by the year 2050 using current technologies and 80% renewable energy by 2030, while creating numerous green jobs;

Whereas the Intergovernmental Panel of Climate Change Fifth Assessment Report found that near zero greenhouse gas emissions are necessary to stabilize the global temperature and avoid climate

Whereas government bodies at every level, including local government, have a moral obligation to



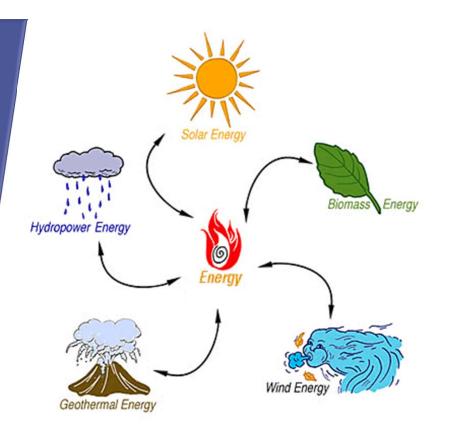


The Goal-

- ► "The Town of Hillsborough, North Carolina shall establish a transition from fossil fuel-powered operations to 100% clean/renewable energy by December 31, 2050 or sooner and 80% clean/renewable energy by 2030"
- "...all energy sectors in town operations, including electricity, heating and cooling, and transportation."
- ► "Clean, renewable energy is defined as carbon and pollution free energy, sustainably collected from renewable sources including wind, solar, geothermal"
 - ► "Other approaches may be included after being evaluated for sustainability and environmental justice implications."

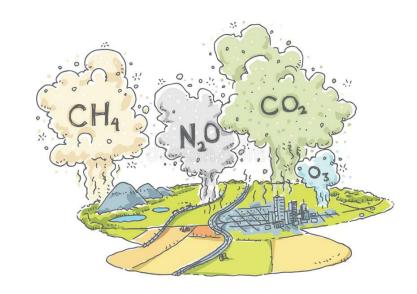






► The Town's goal is based on total energy use, not a decrease from a baseline.

► The goal is not based on GHG emission reductions but will intrinsically have related benefits.







Partnerships-

- "The Town commits to work with surrounding communities and municipalities in achieving aligned clean energy and equity goals"
- ▶ Potential Partners
 ▶ National Efforts
 - ► Energy Providers
 - Academic
 - ▶ Non-Profits
 - ▶ Governmental Agencies



- - ► Aspen, CO
 - Greensburg, KS
 - ▶ Burlington, VT
 - Kodiak Island, AK
 - Rock Port, MO





Citizen Engagement

- "we commit to a transparent and inclusive process for planning and implementation, ensuring that the public has an opportunity to participate as the town adopts a transition roadmap."
- ► This is where you come in!







Next Steps-

Finalize Baseline Staff Education

Funding Research

Developing Partnerships





Questions?





Town of Hillsborough Energy Use Baseline Data

Public Outreach Meeting – Town of Hillsborough May 31, 2018



Municipal Energy



Energy Use (Electricity) kWh





Fuel Use (Gasoline, Diesel, Ethanol) gallons





Baseline – How much energy do we use?

Electricity

- Buildings
- Facilities/ Utilities
- Parks/StreetLights

Fuel

Fleets

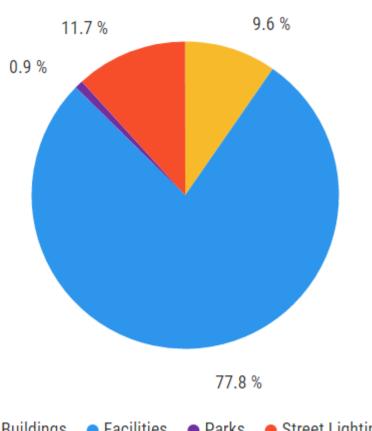
Annual usage: May 2017 - April 2018

Note: the following baseline figures are still in draft form and are subject to change before final publication as more sites are identified



Electricity – Total Use

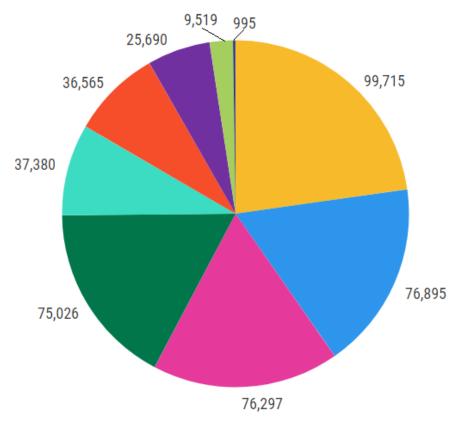
	Annual Electricity Usage (kWh)	Percentage of Total
Buildings	438,082	10%
Facilities/Utilities	3,536,106	78%
Parks	39,238	1%
Street Lighting	533,937	12%
TOTAL	4,650,624	







Electricity - Buildings



Building	Annual kWh	Percentage of Total
Police Main Station	99,715	23%
Town Hall, Town Barn	76,895	18%
Hwy 86 N Facility	76,297	17%
Fire Department	75,026	17%
New Town Hall Annex	37,380	9%
Town Hall Annex	36,565	8%
Police Substation	25,690	6%
Police Substation Community Center	9,519	2%
Public Safety Training Facility	995	0%
TOTAL	438,082	

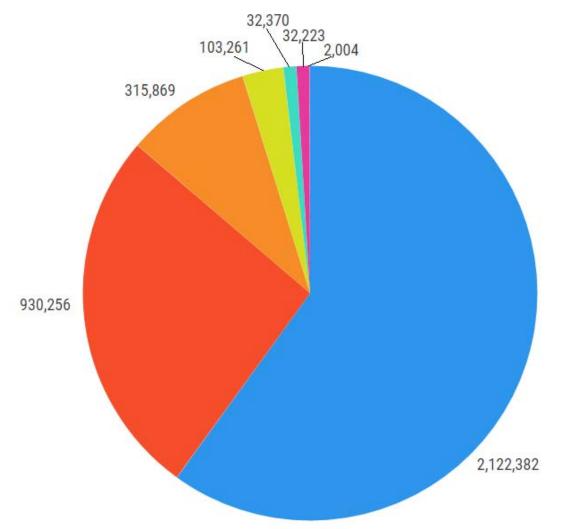
Police Main Station
 Town Hall/Barn
 Highway 86 N Facility
 Fire Department

■ New Town Hall Annex
■ Town Hall Annex
■ Police Substation

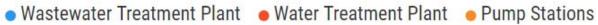
Police Substation Community Center
 Public Safety Training Facility



Electricity – Facilities



Facility	Annual kWh	Percent of Total	
Wastewater			
Treatment Plant	2,122,382	60%	
Water Treatment			
Plant	930,256	26%	
Pump Stations	315,869	9%	
Water Supply			
Tanks	101,002	3%	
Old Water			
Treatment / PW	32,370	1%	
Water Treatment			
Plant Intake	32,223	1%	
West Fork			
Reservoir Site	2,004	0%	
TOTAL	3,536,106		

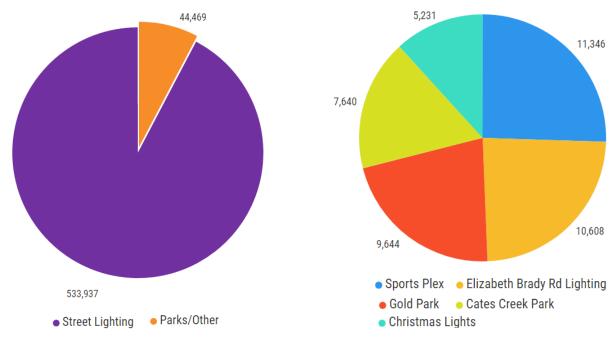


Water Supply Tanks
 Old Water Treatment / Public Works

Water Treatment Plant Intake
 West Fork Reservoir Site



Electricity – Parks/Street Lights

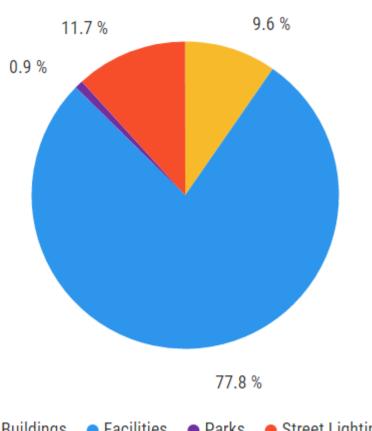


	Annual kWh	Percentage of Total
Street Lighting	533,937	92%
Sports Plex	11,346	2%
Elizabeth Brady Rd	10,608	2%
Gold Park	9,644	2%
Cates Creek Park	7,640	1%
Christmas Lights	5,231	1%
TOTAL	578,406	



Electricity – Total Use

	Annual Electricity Usage (kWh)	Percentage of Total
Buildings	438,082	10%
Facilities/Utilities	3,536,106	78%
Parks	39,238	1%
Street Lighting	533,937	12%
TOTAL	4,650,624	

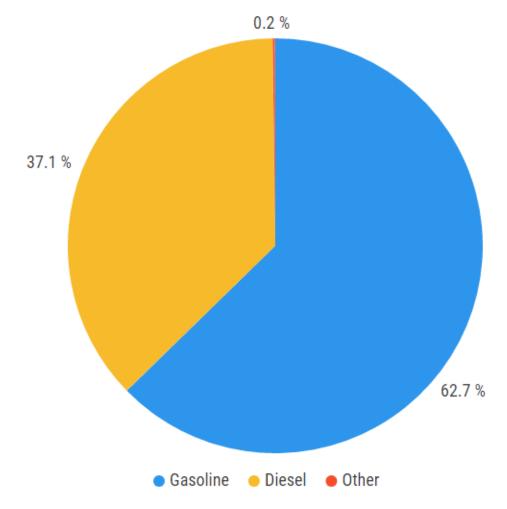






Fuel - Fleets

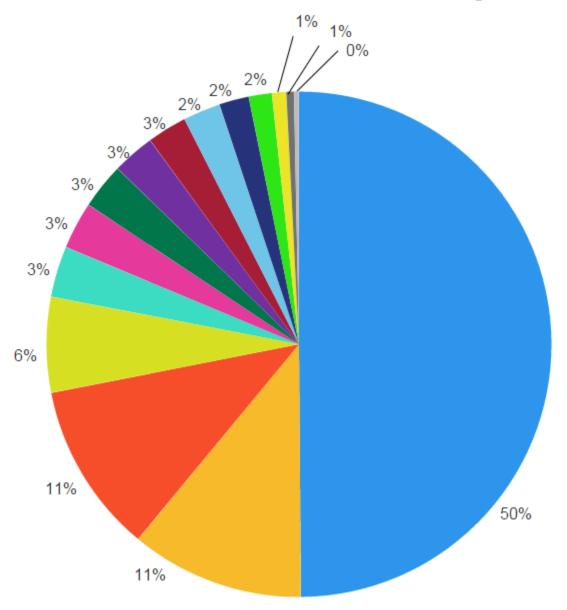
Percentage of Total Fuel Use by Fuel Type



	Annual Consumption (gallons of fuel)		
	Gasoline	Diesel	Other
Engineering	893		
Fire Inspections	832		
Fleet Maintenance	584		30
Meter Reader	1,867		
Motor Pool	93	74	
Police			
Administration	999		62
Police Community	778		
Police Investigation	3,333		
Police Patrol	15,240	9	
Safety/Risk			
Management	454		
Sanitation	921	9,051	1
Wastewater			
Treatment Plant	729	194	
Stormwater	153		
Street	3,393	1,105	
Water Distribution	275	5,863	
Water Distribution/			
Wastewater Control		1,777	
TOTAL	30,544	18,073	93



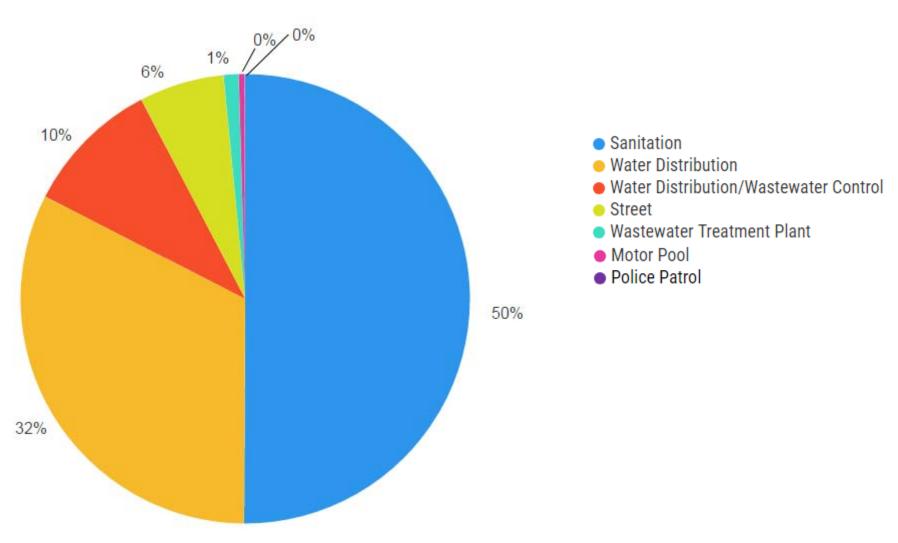
Fuel – Gasoline Usage



- Police Patrol
- Street
- Police Investigation
- Meter Reader
- Police Administration
- Sanitation
- Engineering
- Fire Inspections
- Police Community
- Wastewater Treatment Plant
- Fleet Maintenance
- Safety/Risk Management
- Water Distribution
- Stormwater
- Motor Pool



Fuel – Diesel Usage





Clean Energy Resolution

- Convert to 80% clean energy by 2030
- Convert to 100% clean energy by 2050



- Renewable/Alternative Sources
 Energy/Fuel Reduction and Efficiency



Opportunities and Input

Hillsborough Clean Energy Resolution





What do you see as "low-hanging fruit" in meeting this commitment?

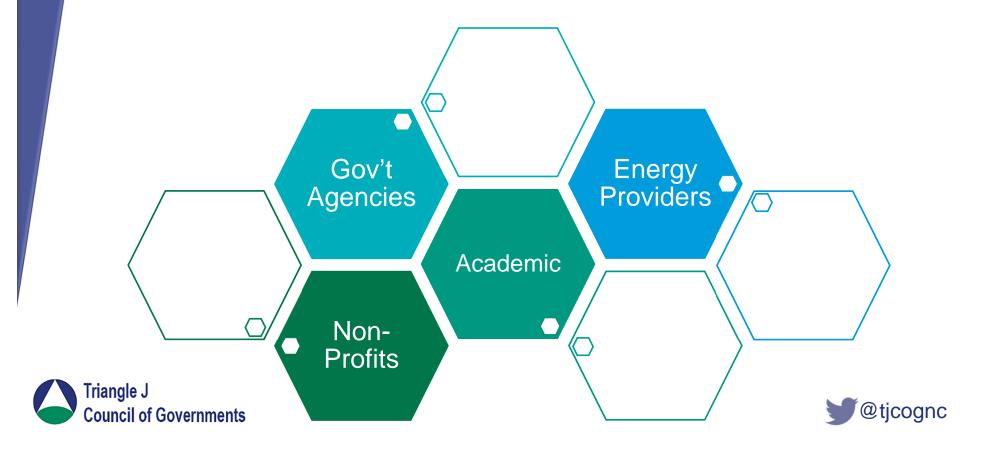
- Motor efficiency at the water and wastewater treatment plants
- Get in early when new buildings and structures are being built
- Phased-in fleet improvements
- Street lights efficiency
- Funding opportunities from Duke Energy and other sources
- Renewable installation, supply-side requirements; work with Duke energy in partnership
- Resources needed for water treatment
- Look at large scale users, not just "low-hanging fruit"
- ~80% of energy in the water/wastewater plants go toward pumps
 - Creates an opportunity as moving water can generate energy
 - Harness energy embedded in these processes





Who should be a partner?

- NC State Energy Program
- Cooperative purchasing agreements
- No "silver bullet" → obtain lessons learned from other communities working toward this goal or who have already met this goal



How do you want to be involved?

- Treat residents and local businesses as partners (advocacy, support)
- Possible residential and public cooperative agreement in solar
- Involve local solar installers/providers
- Community partnerships, e.g. electric vehicle charging stations
- Accounting/budgeting help price out options



Contact Us!

Andrea Eilers
aeilers@tjcog.org
919-558-2705

Lyndsay Gavin
Igavin@tjcog.org
919-558-2704



