

Community Greenhouse Gas (GHG)
Emission Inventory and Forecast
for the Village of Pinecrest

December 19, 2013

PINECREST



Reynolds, Smith and Hills, Inc.
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Jacksonville, Florida 32256
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December 19, 2013

Yocelyn Galiano Gomez, ICMA-CM
Office of the Village Manager
Village of Pinecrest
12645 Pinecrest Parkway
Pinecrest, Florida 33156

Re: Pinecrest Community Greenhouse Gas Inventory and Forecast

Dear Ms. Gomez,

RS&H is pleased to provide this Greenhouse Gas Inventory Report for the Village of Pinecrest. The *Community Greenhouse Gas (GHG) Emission Inventory and Forecast* quantifies GHG emissions for the Pinecrest community as a whole, for both the baseline year (2010) and the inventory year (2012). The report also includes a forecast of future emissions under a business-as-usual scenario for 2014, 2020, and 2030.

The report provides a better understanding of Pinecrest's carbon emissions footprint, a baseline against which to measure progress, and insight into which sectors of the community have the greatest potential for significant emissions reductions.

Now that the initial inventory is completed Pinecrest is positioned to achieve subsequent ICLEI Milestones, including: establishing emission reduction targets, developing a Climate Action Plan, implementing policies, and verifying the results. RS&H looks forward to helping Pinecrest achieve these objectives and the economic benefits they can generate. We thank you for the opportunity to support Pinecrest's journey toward sustainability, and look forward to working with the Village in the future.

Sincerely,

Reynolds, Smith and Hills, Inc.

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Environment & Sustainability Group Leader
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Section 1: Executive Summary

In 2011, the Village of Pinecrest (herein referred to as “Pinecrest”) adopted a Green Action Plan to proactively reduce overall greenhouse gas (GHG) emissions by 7% below 1996 levels by 2014. This report details the GHG emissions inventory for Pinecrest and provides a baseline to evaluate the Village’s progress towards its GHG emissions reduction goals.

In 2010, the base year, the Pinecrest community as a whole emitted 256,414 metric tons of CO₂e¹, with the Transportation Sector contributing the largest single source at 55% of the total emissions. In 2012, the current emissions year, the Pinecrest community emitted 273,819 metric tons of CO₂e and the Transportation Sector was again the largest single source of emissions at 55% of the total. These results indicate that fuel conservation in the Transportation Sector represents the greatest opportunity for Pinecrest to reduce emissions community-wide.

Since data from 1996 was not available, a back-casting approach was used to estimate the likely GHG emissions total in that year. This rough order of magnitude estimate indicates that the Pinecrest community as a whole emitted approximately 251,900 metric tons of CO₂e in 1996.

The “business as usual” emissions

forecast for Pinecrest characterized future emissions in the absence of any new local effort to reduce those emissions. In 2014, 2020, and 2030, the forecast demonstrates that under a business-as-usual scenario, emissions will increase overall.

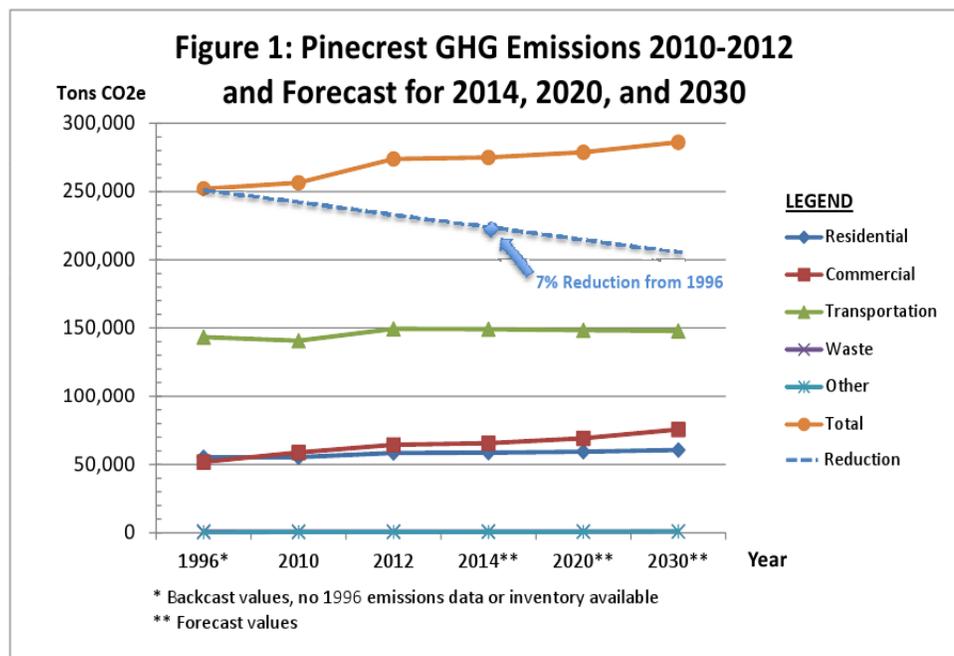


Figure 1 above summarizes Pinecrest’s GHG inventory and forecast. The Village’s GHG emissions inventory, methodologies, and results are detailed in Sections 2, 3, and 4, respectively. Appendix A provides details on Pinecrest’s Community GHG Inventory and Forecast.

¹ CO₂e refers to carbon dioxide equivalent (CO₂e), a measure that describes how much warming a given type and amount of a greenhouse gas may cause, using the functionally equivalent amount of carbon dioxide (CO₂) as the reference.

Section 2: Introduction

On April 12, 2011, Pinecrest committed to joining ICLEI - Local Governments for Sustainability (ICLEI) as a full member and pledged to take a leadership role in promoting public awareness in the community about the causes and impacts of climate change. In 2011, Pinecrest also committed to reduce GHG emissions of the community at large to 7% below 1996 emission levels by 2014. This inventory supports the long-term efforts of Pinecrest to reduce emissions and is critical to clearly understanding the Village's contribution and path toward fighting climate change.

Presented here are estimates of GHG emissions resulting from activities in Pinecrest as a whole in 2010 (the base year) and 2012. These data provide a baseline against which Pinecrest can compare future performance and demonstrate progress in reducing emissions.

Pinecrest, along with more than 1,200 local governments, including over 600 in the United States, has joined ICLEI, an association for local governments to share knowledge and successful strategies toward increasing local sustainability. ICLEI members represent the most forward-thinking and adept local governments working to make their communities more livable, prosperous, equitable, and environmentally sound. The network is a source of continual technical and local innovative thinking designed to help local governments achieve the vision of a truly sustainable community.

ICLEI USA, the US branch of ICLEI, provides a framework and methodology for local governments to identify and reduce greenhouse gas emissions, organized along the following Five Milestones:

1. Conduct an inventory and forecast of local greenhouse gas emissions;
2. Establish a greenhouse gas emissions reduction target
3. Develop a climate action plan for achieving the emissions reduction target;
4. Implement the climate action plan; and,
5. Monitor and report on progress.



This report represents the completion of the community-wide emissions inventory, part of ICLEI's Climate Mitigation Milestone One, and provides a foundation for future work to reduce Pinecrest's greenhouse gas emissions.

Section 3: Methodology

The first step toward achieving tangible greenhouse gas emission reductions requires identifying baseline levels and sources of emissions in the community. As local governments continue to join the climate protection movement, the need for a standardized approach to quantify GHG emissions has increased. Standard processes of accounting for emissions have been developed to which this inventory adheres. Staff used the ICLEI U.S. Community Protocol for Accounting and Reporting Greenhouse Gas Emissions (Community Protocol) to inventory Pinecrest's community emissions.

The community inventory includes emissions attributable to government operations; for example, data on commercial energy use by the community includes energy consumed by municipal buildings, and community vehicle-miles-traveled estimates include miles driven by municipal fleet vehicles. A local government operations (LGOP) inventory (provided under a separate cover) supplies additional detail on emissions directly attributable to Pinecrest's municipal operations and facilities. By analyzing emissions in this manner, Pinecrest's local government is enabled to understand its own impact within the community and lead by example to reduce its impact on climate change.

To facilitate community efforts to reduce greenhouse gas emissions, ICLEI developed the Clean Air and Climate Protection 2009 (CACP 2009) software package in partnership with the National Association of Clean Air Agencies (NACAA) and the U.S. Environmental Protection Agency (EPA). CACP 2009 is designed for compatibility with the Community Protocol and determines emissions by combining activity data (i.e. energy consumption, waste generation, etc.) with verified emission factors.

The CACP software has been and continues to be used by over 600 U.S. local governments to reduce their greenhouse gas emissions. However, it is worth noting that, although the software provides governments with a sophisticated and useful tool, calculating emissions from energy use with precision is difficult. Calculating GHG emissions depends upon numerous assumptions, and the accuracy of the inventory is limited by the quantity and quality of available data. With this in mind, it is prudent to think of any specific number generated by the CACP 2009 software as an approximation, rather than an exact value.

Section 4: Community-Wide GHG Inventory and Forecast

The Village of Pinecrest emitted approximately 256,414 metric tons of CO₂e in 2010 and 273,819 metric tons of CO₂e in 2012. Table 1 and 2 below show 2010 and 2012 Community Emissions by sector. The majority of Pinecrest's emissions (i.e., approximately 55%) came from the Transportation Sector in both 2010 and 2012. Commercial Sector electricity and natural gas usage accounted for 23% and 24% of total community emissions in 2010 and 2012, respectively. During this same period, electricity and natural gas consumption within the Residential Sector contributed 22% and 21% of Pinecrest's overall emissions. Appendix A provides further detail on each sector.

Table 1: 2010 Community GHG Emissions by Sector

2010 Community Emissions by Sector	Residential	Commercial	Transportation	Waste	Other	TOTAL
CO ₂ e (metric tons)	55,392	58,799	140,668	995	561	256,414
% of Total CO ₂ e	22%	23%	55%	0.4%	0.2%	100%

Table 2: 2012 Community GHG Emissions by Sector

2012 Community Emissions by Sector	Residential	Commercial	Transportation	Waste	Other	TOTAL
CO ₂ e (metric tons)	58,477	64,454	149,353	957	578	273,819
% of Total CO ₂ e	21%	24%	55%	0.3%	0.2%	100%

Pinecrest's future emissions were forecast for the years 2014, 2020 and 2030 based on projected energy use, driving habits, job growth, and population growth trends from the baseline year. Under a business-as-usual scenario, Pinecrest's emissions will grow approximately 7% by the year 2014, from 256,414 to 274,727 metric tons CO₂e. Table 3 presents the results of the 2014, 2020, and 2030 forecasts. A variety of different assumptions and projections were used to create the emissions forecast. Appendix A provides additional detail on the emissions forecast.

Table 3: 2014 Community GHG Emissions Forecast

Community Emissions Growth Forecast by Sector	Base Year 2010 CO ₂ e (metric tons)	Forecast Year 2014 CO ₂ e (metric tons)	Forecast Year 2020 CO ₂ e (metric tons)	Forecast Year 2030 CO ₂ e (metric tons)	Percent Change from 2010 to 2014
Residential	55,392	58,711	59,418	60,615	6%
Commercial / Industrial	58,799	65,613	69,216	75,667	12%
Transportation	140,668	149,067	148,380	147,829	6%
Waste Generation	995	957	957	957	-4%
Other ²	561	616	742	1,013	10%
TOTAL	256,414	274,727	278,712	286,080	7%

² Category includes emissions related to process energy for water and wastewater distribution.

Appendix A

Community Greenhouse Gas Emissions in 2010

Detailed Report

Scope 1 + Scope 2 + Scope 3

CO ₂ (tons)	N ₂ O (lbs)	CH ₄ (lbs)	Equiv CO ₂ (tons)	Bio CO ₂ (tons)	Energy (kWh)
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Residential

Village of Pinecrest, FL

Community Electricity Consumption, 2010

Electricity	55,069	1,377	3,718	55,322	0	90,269,463
Subtotal Community Electricity Con	55,069	1,377	3,718	55,322	0	90,269,463

Residential Electricity Consumption, 2010

Pinecrest electricity consumption data was estimated based on Pinecrest population and per-capita usage in Miami-Dade County. The local Electric Utility (FPL) was unable to provide data at the municipal level. Miami-Dade County was the smallest geographic area for which data was available.

Miami-Dade per-capita electricity usage for Residential and Commercial customer categories was multiplied by Pinecrest population for each inventory year to estimate Residential and Commercial energy use.

Electricity Consumption was estimated only for the Residential and Commercial categories. Pinecrest is primarily residential with approximately 5% commercial landuse and almost no industry.

Data Source: Miami-Dade
 Contact Person: Patricia Gomez
 Contact Info: GomezP@miamidade.gov

Add'l Data Source: Florida power and Light (FPL)
 Contact Person: Marlen Oria, FPL Miami-Dade Account Manager
 Email: Marlen.Oria@FPL.com
 Phone: 305-442-5575

Community Residential Natural Gas Consumption, 2010

Natural Gas	70	0	13	70	0	351,600
Subtotal Community Residential Nat	70	0	13	70	0	351,600

Community Residential Natural Gas Consumption, 2010

Data Source: Florida City Gas
 Contact Person: Elda Moyer, Account Executive Market Development
 Contact Info: (305) 835-3604 office, (786) 459-3814 mobile,
 (305) 691-7335 fax, EMoyer@aglresources.com

Subtotal Residential	55,139	1,377	3,731	55,392	0	90,621,063
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Community Greenhouse Gas Emissions in 2010

Detailed Report

Scope 1 + Scope 2 + Scope 3

	CO ₂ (tons)	N ₂ O (lbs)	CH ₄ (lbs)	Equiv CO ₂ (tons)	Bio CO ₂ (tons)	Energy (kWh)
Commercial						
Village of Pinecrest, FL						
<i>Commercial Electricity Consumption, 2010</i>						
Electricity	58,151	1,454	3,926	58,417	0	95,320,767
Carbon Dioxide	0	0	0	0	0	0
<i>Subtotal Commercial Electricity Co</i>	58,151	1,454	3,926	58,418	0	95,320,767
Commercial Electricity Consumption, 2010						
Pinecrest electricity consumption data was estimated based on population and per-capita usage in Miami-Dade County. The local Electric Utility (FPL) was unable to provide data at the municipal level. Miami-Dade County was the smallest geographic area for which data was available.						
Miami-Dade per-capita electricity usage for Residential and Commercial customer categories was multiplied by Pinecrest population for each inventory year to estimate Residential and Commercial energy use.						
Electricity Consumption was estimated only for the Residential and Commercial categories. Pinecrest is primarily residential with approximately 5% commercial landuse and almost no industry.						
Data Source: Miami-Dade Contact Person: Patricia Gomez Contact Info: GomezP@miamidade.gov						
Add'l Data Source: Florida Power and Light (FPL) Contact Person: Marlen Oria, FPL Miami-Dade Account Manager Email: Marlen.Oria@FPL.com Phone: 305-442-5575						
<i>Commercial Natural Gas Consumption, 2010</i>						
Natural Gas	380	1	72	381	0	1,904,500
<i>Subtotal Commercial Natural Gas</i>	380	1	72	381	0	1,904,500
Commercial Natural Gas Consumption, 2010						
Data Source: Florida City Gas Contact Person: Elda Moyer, Account Executive Market Development Contact Info: (305) 835-3604 office, (786) 459-3814 mobile, (305) 691-7335 fax, EMoyer@aglresources.com						
Subtotal Commercial	58,531	1,455	3,998	58,799	0	97,225,267

Community Greenhouse Gas Emissions in 2010

Detailed Report

Scope 1 + Scope 2 + Scope 3

	CO ₂ (tons)	N ₂ O (lbs)	CH ₄ (lbs)	Equiv CO ₂ (tons)	Bio CO ₂ (tons)	Energy (kWh)
Transportation						
Village of Pinecrest, FL						
<i>Community Transportation, based on Total Annual VMT, 2010</i>						
Diesel	23,364	136	140	23,386	0	83,987,664
Gasoline	114,765	15,350	13,032	117,282	0	434,253,379
Subtotal Community Transportation	138,129	15,486	13,172	140,668	0	518,241,043
Community Transportation, based on Total Annual VMT, 2010						
Community transportation emissions were calculated as a function of vehicle miles travelled (VMT) within the study area. Roadway networks, congested speeds and associated VMT were modeled using the Southeast Florida Regional Planning Model.						
Subtotal Transportation	138,129	15,486	13,172	140,668	0	518,241,043

Waste

Village of Pinecrest, FL

Waste to Incinerator, Anthropogenic, 2010

Disposal Method - Controlled Incineration

	CO ₂ (tons)	N ₂ O (lbs)	CH ₄ (lbs)	Equiv CO ₂ (tons)	Bio CO ₂ (tons)	Energy (kWh)
Paper Products	0	0	8,886	93	0	
Food Waste	0	0	4,892	51	0	
Plant Debris	0	0	3,003	32	0	
Wood or Textiles	0	0	1,424	15	0	
All Other Waste	0	0	76,534	804	0	
Subtotal Waste to Incinerator, Anth:	0	0	94,739	995	0	

Waste to Incinerator, Anthropogenic, 2010

Data Source: Miami-Dade County Public Works & Waste Management Department
 Contact Person: Jeanmarie Manze Massa, Recycling Manager
 Contact Info: 2525 NW 62nd Street, 5th Floor, Miami, Florida 33147
 305-514-6631 Phone * 305-790-2295 Cell * 305-514-6219 Fax
 massaj@miamidade.gov, www.miamidade.gov/dswm

Pinecrest waste is incinerated outside the community boundary. The ICLEI default breakdown of 65% biogenic/ 35% anthropogenic waste was used. Emissions from anthropogenic waste incinerated outside the community are counted as Scope 2.

Subtotal Waste	0	0	94,739	995	0	
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Community Greenhouse Gas Emissions in 2010

Detailed Report

Scope 1 + Scope 2 + Scope 3

	CO ₂ (tons)	N ₂ O (lbs)	CH ₄ (lbs)	Equiv CO ₂ (tons)	Bio CO ₂ (tons)	Energy (kWh)
Other						
Village of Pinecrest, FL						
<i>Energy Associated with Pinecrest Wastewater Collection and Treatment, 2010</i>						
Carbon Dioxide	66	0	0	66	0	
<i>Subtotal Energy Associated with P.</i>	66	0	0	66	0	
Energy Associated with Pinecrest Wastewater Collection and Treatment, 2010						
ICLEI requires communities to report process energy emissions related to water distribution and wastewater collection and treatment. Although it may seem such emissions are outside the operational control of Pinecrest government (Scope 3), ICLEI reasons that the municipality can influence community water and wastewater demand through incentives and educational measures.						
Pinecrest's wastewater collection system is owned and operated by Miami- Dade County. Approximately 99% of Pinecrest residences use a septic system for wastewater disposal. Of those properties connected to municipal sewer, most appear to be commercial properties or schools.						
ICLEI Method WW.15 was used to estimate the upstream process energy associated with collection and treatment of wastewater generated by the community. Daily wastewater volume estimates based on pumping station data from Miami-Dade water and sewer were used to improve the estimate.						
Wastewater treatment plant process emissions (CH ₄) associated with Pinecrest wastewater generation are de minimus (less than 1 ton CO ₂ -e).						
Data Source: Miami-Dade Water and Sewer Contact Person: Dan Edwards, Master Planning Section Chief Contact Info: Phone: 786-552-8354, Email: DJEDW01@miamidade.gov						
<i>Energy Associated with Pinecrest Water Supply, 2010</i>						
Carbon Dioxide	495	0	0	495	0	
<i>Subtotal Energy Associated with P.</i>	495	0	0	495	0	
Energy Associated with Pinecrest Water Supply, 2010						
ICLEI requires communities to report process energy emissions related to water distribution and wastewater collection and treatment. Although it may seem such emissions are outside the operational control of Pinecrest government (Scope 3), ICLEI reasons that the municipality can influence community water and wastewater demand through incentives and educational measures.						
ICLEI method WW.14 was used to calculate upstream process emissions related to water supply. Total 2010 water consumption volume supplied by Miami-Dade Water and Sewer was used to improve the estimate.						
Data Source: Miami-Dade Water and Sewer Contact Person: Dan Edwards, Master Planning Section Chief Contact Info: Phone-786-552-8354, Email: DJEDW01@miamidade.gov						
Subtotal Other	561	0	0	561	0	
Total	252,361	18,318	115,640	256,414	0	706,087,373

Community Greenhouse Gas Emissions in 2012

Detailed Report

Scope 1 + Scope 2 + Scope 3

	CO ₂ (tons)	N ₂ O (lbs)	CH ₄ (lbs)	Equiv CO ₂ (tons)	Bio CO ₂ (tons)	Energy (kWh)
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Residential

Village of Pinecrest, FL

Residential Electricity Consumption, 2012

Electricity	58,105	1,453	3,923	58,372	0	95,246,293
Subtotal Residential Electricity Con	58,105	1,453	3,923	58,372	0	95,246,293

Residential Electricity Consumption, 2012

Pinecrest electricity consumption data was estimated based on population and per-capita usage in Miami-Dade County. The local Electric Utility (FPL) was unable to provide data at the municipal level. Miami-Dade County was the smallest geographic area for which data was available.

Miami-Dade per-capita electricity usage for Residential and Commercial customer categories was multiplied by Pinecrest population for each inventory year to estimate Residential and Commercial energy use.

Electricity Consumption was estimated only for the Residential and Commercial categories. Pinecrest is primarily residential with approximately 5% commercial landuse and almost no industry.

Data Source: Miami-Dade County
 Contact Person: Patricia Gomez
 Contact Info: Email: GomezP@miamidade.gov

Add'l Data Source: Florida Power and Light (FPL)
 Contact Person: Marlen Oria, FPL Miami-Dade Account Manager
 Contact info: Email: Marlen.Oria@FPL.com, Phone: 305-442-5575

Residential Natural Gas Consumption, 2012

Natural Gas	105	0	20	105	0	527,400
Subtotal Residential Natural Gas C	105	0	20	105	0	527,400

Residential Natural Gas Consumption, 2012

Data Source: Florida City Gas
 Contact Person: Elda Moyer, Account Executive Market Development
 Contact Info: (305) 835-3604 office, (786) 459-3814 mobile,
 (305) 691-7335 fax, EMoyer@aglresources.com

Subtotal Residential	58,211	1,453	3,943	58,477	0	95,773,693
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Community Greenhouse Gas Emissions in 2012

Detailed Report

Scope 1 + Scope 2 + Scope 3

CO ₂ (tons)	N ₂ O (lbs)	CH ₄ (lbs)	Equiv CO ₂ (tons)	Bio CO ₂ (tons)	Energy (kWh)
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Commercial

Village of Pinecrest, FL

Commercial Electricity Consumption, 2012

Electricity	63,343	1,583	4,277	63,633	0	103,831,663
Subtotal Commercial Electricity Co	63,343	1,583	4,277	63,633	0	103,831,663

Commercial Electricity Consumption, 2012

Pinecrest electricity consumption data was estimated based on population and per-capita usage in Miami-Dade County. The local Electric Utility (FPL) was unable to provide data at the municipal level. Miami-Dade County was the smallest geographic area for which data was available.

Miami-Dade per-capita electricity usage for Residential and Commercial customer categories was multiplied by Pinecrest population for each inventory year to estimate Residential and Commercial energy use.

Electricity Consumption was estimated only for the Residential and Commercial categories. Pinecrest is primarily residential with approximately 5% commercial landuse and almost no industry.

Data Source: Miami-Dade County
 Contact Person: Patricia Gomez
 Contact Info: Email: GomezP@miamidade.gov

Add'l Data Source: Florida Power and Light (FPL)
 Contact Person: Marlen Oria, FPL Miami-Dade Account Manager
 Contact info: Email: Marlen.Oria@FPL.com, Phone: 305-442-5575

Commercial Natural Gas Consumption, 2012

Natural Gas	818	3	154	820	0	4,102,000
Subtotal Commercial Natural Gas	818	3	154	820	0	4,102,000

Commercial Natural Gas Consumption, 2012

Data Source: Florida City Gas
 Contact Person: Elda Moyer, Account Executive Market Development
 Contact Info: (305) 835-3604 office, (786) 459-3814 mobile,
 (305) 691-7335 fax, EMoyer@aglresources.com

Subtotal Commercial	64,161	1,587	4,431	64,454	0	107,933,663
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Transportation

Village of Pinecrest, FL

Community transportation, based on Total Annual VMT, 2012

Diesel	25,041	145	150	25,065	0	90,015,734
Gasoline	121,591	16,452	13,968	124,288	0	460,080,495
Subtotal Community transportation	146,632	16,597	14,117	149,353	0	550,096,229

Community Transportation, based on Total Annual VMT, 2012

Community Greenhouse Gas Emissions in 2012

Detailed Report

Scope 1 + Scope 2 + Scope 3

CO ₂ (tons)	N ₂ O (lbs)	CH ₄ (lbs)	Equiv CO ₂ (tons)	Bio CO ₂ (tons)	Energy (kWh)
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Community transportation emissions were calculated as a function of vehicle miles travelled (VMT) within the study area. Roadway networks, congested speeds and associated VMT were modeled using the Southeast Florida Regional Planning Model.

Subtotal Transportation	146,632	16,597	14,117	149,353	0	550,096,229
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Waste

Village of Pinecrest, FL

Waste to Incinerator, Anthropogenic, 2012

Disposal Method - Controlled Incineration

Paper Products	0	0	8,547	90	0
Food Waste	0	0	4,705	49	0
Plant Debris	0	0	2,889	30	0
Wood or Textiles	0	0	1,370	14	0
All Other Waste	0	0	73,615	773	0
Subtotal Waste to Incinerator, Anth.	0	0	91,126	957	0

Waste to Incinerator, Anthropogenic, 2012

Data Source: Miami-Dade County Public Works & Waste Management Department
 Contact Person: Jeanmarie Manze Massa, Recycling Manager
 Contact Info: 2525 NW 62nd Street, 5th Floor, Miami, Florida 33147
 305-514-6631 Phone * 305-790-2295 Cell * 305-514-6219 Fax
 massaj@miamidade.gov, www.miamidade.gov/dswm

Pinecrest waste is incinerated outside the community boundary. The ICLEI default breakdown of 65% biogenic/ 35% anthropogenic waste was used. Emissions from anthropogenic waste incinerated outside the community are counted as Scope 2.

Subtotal Waste	0	0	91,126	957	0
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Other

Village of Pinecrest, FL

Energy Associated with Pinecrest Wastewater Collection and Treatment, 2012

Carbon Dioxide	69	0	0	69	0
Subtotal Energy Associated with P.	69	0	0	69	0

Energy Associated with Pinecrest Wastewater Collection and Treatment, 2012

ICLEI requires communities to report process energy emissions related to water distribution and wastewater collection and treatment. Although it may seem such emissions are outside the operational control of Pinecrest government (Scope 3), ICLEI reasons that the municipality can influence community water and wastewater demand through incentives and educational measures.

Pinecrest's wastewater collection system is owned and operated by Miami- Dade County. Approximately 99% of Pinecrest residences use a septic system for wastewater disposal. Of those properties connected to municipal sewer, most appear to be commercial properties or schools.

Community Greenhouse Gas Emissions in 2012

Detailed Report

Scope 1 + Scope 2 + Scope 3

CO ₂ (tons)	N ₂ O (lbs)	CH ₄ (lbs)	Equiv CO ₂ (tons)	Bio CO ₂ (tons)	Energy (kWh)
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ICLEI Method WW.15 was used to estimate the upstream process energy associated with collection and treatment of wastewater generated by the community. Daily wastewater volume estimates based on pumping station data from Miami-Dade water and sewer were used to improve the estimate.

Wastewater treatment plant process emissions (CH₄) associated with Pinecrest wastewater generation are de minimus (less than 1 ton CO₂-e).

Data Source: Miami-Dade Water and Sewer
 Contact Person: Dan Edwards, Master Planning Section Chief
 Contact Info: Phone: 786-552-8354, Email: DJEDW01@miamidade.gov

Energy Associated With Pinecrest Water Supply, 2012

Carbon Dioxide	509	0	0	509	0
<i>Subtotal Energy Associated With F</i>	509	0	0	509	0

Energy Associated With Pinecrest Water Supply, 2012

ICLEI requires communities to report process energy emissions related to water distribution and wastewater collection and treatment. Although it may seem such emissions are outside the operational control of Pinecrest government (Scope 3), ICLEI reasons that the municipality can influence community water and wastewater demand through incentives and educational measures.

ICLEI method WW.14 was used to calculate upstream process emissions related to water supply. Total 2012 water consumption volume supplied by Miami-Dade Water and Sewer was used to improve the estimate.

Data Source: Miami-Dade Water and Sewer
 Contact Person: Dan Edwards, Master Planning Section Chief
 Contact Info: Phone- 786-552-8354, Email- DJEDW01@miamidade.gov

Subtotal Other	578	0	0	578	0
Total	269,582	19,637	113,617	273,819	0 753,803,585

Village of Pinecrest

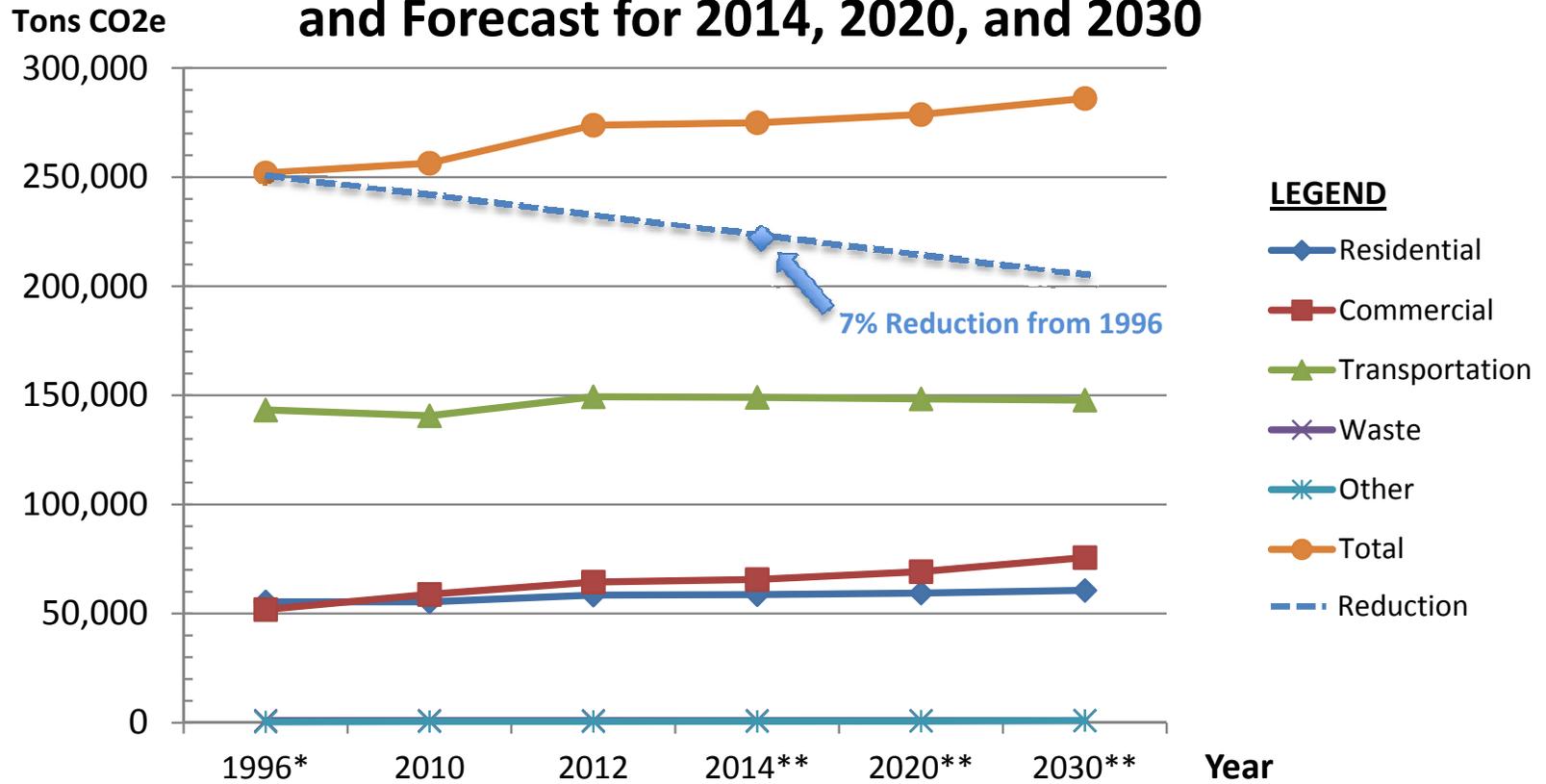
Community Greenhouse Gas Emissions

Time Series Report

Scope 1 + Scope 2 + Scope 3

Year	2010	2012	2014	2020	2030
Residential					
eCO2 (tons)	55,392.1	58,477.3	58,711.0	59,417.8	60,614.8
Energy (kWh)	90,621,063.0	95,773,693.0	96,155,059.2	97,308,344.1	99,261,476.7
Commercial					
eCO2 (tons)	58,798.5	64,453.7	65,612.5	69,215.6	75,667.1
Energy (kWh)	97,225,267.0	107,933,663.0	109,852,165.8	115,816,300.1	126,490,378.6
Transportation					
eCO2 (tons)	140,668.0	149,352.7	149,067.2	148,379.5	147,829.1
Energy (kWh)	518,241,042.5	550,096,228.8	548,961,029.7	546,167,973.8	543,668,960.0
Waste					
eCO2 (tons)	994.8	956.8	956.8	956.8	956.8
Other					
eCO2 (tons)	560.6	578.3	615.5	741.8	1,012.5
Total					
eCO2 (tons)	256,414.0	273,818.8	274,962.9	278,711.5	286,080.2
Energy (kWh)	706,087,372.5	753,803,584.8	754,968,254.7	759,292,617.9	769,420,815.3
Cost (\$)	0.0	0.0	0.0	0.0	0.0

Figure 1: Pincrest GHG Emissions 2010-2012 and Forecast for 2014, 2020, and 2030



* Backcast values, no 1996 emissions data or inventory available

** Forecast values

Pinecrest Emissions Forecast for 2014, 2020 and 2030- Data Sources and Notes

<i>Residential</i>	<i>Commercial</i>	<i>Industrial</i>	<i>Transportation</i>	<i>Waste</i>	<i>Other (Water and Wastewater process energy)</i>
Used a +0.64% change in household number based on Pinecrest 2012 Annual Report data.	Used the 2010-2011 change in Private Employment (+3.1%) from the 2011 Miami-Dade Economic and Demographic Profile as a surrogate for growth in commercial sector employment. Although Pinecrest has negligible increase in commercial floor space or number of commercial establishments, it is reasonable to project a modest level of economic growth.	Not Applicable (N/A). Pinecrest has very little industrial land use or emissions.	Used transportation fuel energy consumption projections from EIA for the South Atlantic Region for the period 2010-2035. These projections show an expected increase in renewable fuel use (CNG and Ethanol) and slight decrease in gasoline consumption.	Used -3.82% change in CO2e related to Pinecrest waste generation from 2010-2012.	Used +3.16% change in CO2e related to Pinecrest wastewater treatment from 2010-2012.

PINECREST

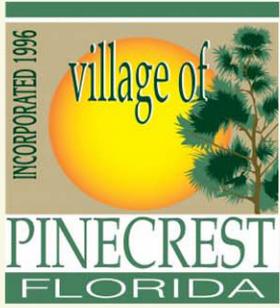


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Local Government Operations
Greenhouse Gas (GHG) Emission
Inventory for the Village of Pinecrest

December 19, 2013

PINECREST



Reynolds, Smith and Hills, Inc.
10748 Deerwood Park Blvd. S.
Jacksonville, Florida 32256
Phone: 904.256.2500
Fax: 904.256.2501

December 19, 2013

Yocelyn Galiano Gomez, ICMA-CM
Office of the Village Manager
Village of Pinecrest
12645 Pinecrest Parkway
Pinecrest, Florida 33156

Re: Pinecrest Local Government Operations Greenhouse Gas Inventory

Dear Ms. Gomez,

RS&H is pleased to provide the following Greenhouse Gas Inventory Report for the Village of Pinecrest. The *Local Government Operations Greenhouse Gas (GHG) Emission Inventory* quantifies emissions directly attributable to Pinecrest's facilities and municipal operations for both the baseline year (2010) and the inventory year (2012).

The report provides a better understanding of Pinecrest's carbon emissions footprint, a baseline against which to measure progress, and insight into which sectors of local government operations have the most potential for significant emissions reductions.

Now that the initial inventory is completed Pinecrest is positioned to achieve subsequent ICLEI Milestones, including: establishing emission reduction targets, developing a Climate Action Plan, implementing policies, and verifying the results. RS&H looks forward to helping Pinecrest achieve these objectives and the economic benefits they can generate. We thank you for the opportunity to support Pinecrest's journey toward sustainability, and look forward to working with the Village in the future.

Sincerely,

Reynolds, Smith and Hills, Inc.

Mike McCarthy, MBA, PG
Environment & Sustainability Group Leader
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Sustainability Professional
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Section 1: Executive Summary

In 2011, the Village of Pinecrest (herein referred to as “Pinecrest”) adopted a Green Action Plan to proactively reduce overall greenhouse gas (GHG) emissions by 7% below 1996 levels by 2014. This report details the Local Government Operations (LGOP) GHG emissions inventory and provides an emissions baseline to evaluate the Village’s progress towards its GHG emissions reduction goals.

The LGOP inventory is a subset of the community inventory; for example, data on commercial energy use by the community includes energy consumed by municipal buildings, and community vehicle-miles-traveled estimates include miles driven by municipal fleet vehicles. The LGOP Inventory allows Pinecrest’s local government to understand its own impact on the community’s emissions and to effectively plan to reduce those emissions over which it has direct control.

In 2010, the base year, the Pinecrest community as a whole emitted 256,414 metric tons of CO₂e¹, with the Transportation Sector contributing the largest single source at 55% of the total emissions. In 2012, the current emissions year, the Pinecrest community emitted 273,819 metric tons of CO₂e.

Within this community-wide total, Pinecrest’s LGOP Inventory found that local government operations (i.e. operations related to facilities, vehicles, and infrastructure directly owned and/or controlled by the Village) were responsible for emitting 2,337 metric tons of CO₂e in the 2010 base year, with emissions from purchased electricity and fuel for the Village’s buildings and facilities contributing the most to this total (44.9%). Pinecrest’s vehicle fleet and employee commuting also contributed significantly to the total LGOP emissions, at 24.0% and 20.7% of the total, respectively.

The current year emission inventory (2012) found that Pinecrest’s local government operations were responsible for emitting 2,287 metric tons of CO₂e. In 2012, emissions from purchased electricity and fuel for the Village’s buildings and facilities contributed 44.3% to the emissions total, while Pinecrest’s vehicle fleet and employee commuting contributed 23.0% and 22.0%, respectively.

¹ CO₂e refers to carbon dioxide equivalent (CO₂e), a measure that describes how much warming a given type and amount of a greenhouse gas may cause, using the functionally equivalent amount of carbon dioxide (CO₂) as the reference.

Figures 1 and 2 below summarize Pinecrest’s LGOP GHG inventory for 2010 and 2012. Appendix A provides further details on Pinecrest’s LGOP GHG Inventory.

Figure 1: Pinecrest LGOP GHG Emissions Inventory, 2010

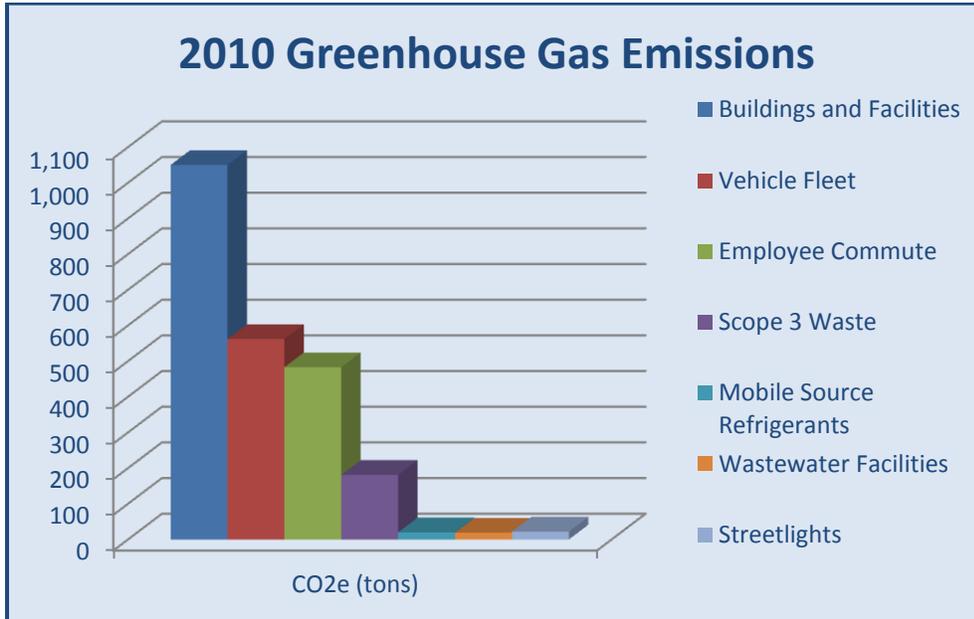
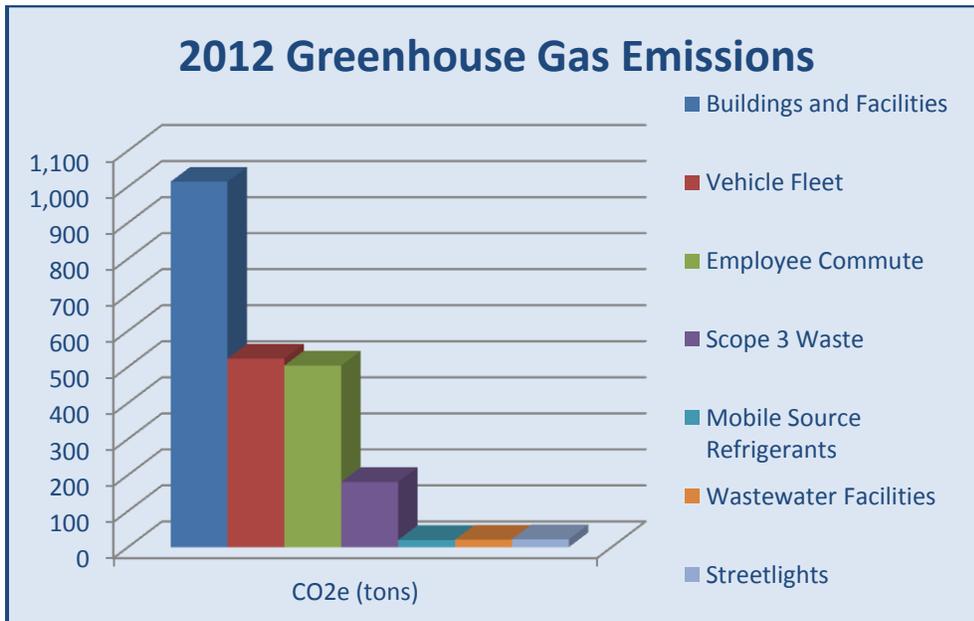


Figure 2: Pinecrest LGOP GHG Emissions Inventory, 2012



Section 2: Introduction

On April 12, 2011, Pinecrest committed to joining ICLEI - Local Governments for Sustainability (ICLEI) as a full member and pledged to take a leadership role in promoting public awareness in the community about the causes and impacts of climate change. In 2011, Pinecrest also committed to reduce GHG emissions of the community at large to 7% below 1996 emission levels by 2014. This inventory supports the long-term efforts of Pinecrest to reduce emissions and is critical to clearly understanding the Village's contribution and path toward fighting climate change.

Presented here are estimates of GHG emissions resulting from activities in Pinecrest as a whole in 2010 (the base year) and 2012. These data provide a baseline against which Pinecrest can compare future performance and demonstrate progress in reducing emissions.

Pinecrest, along with more than 1,200 local governments, including over 600 in the United States, has joined ICLEI – Local Governments for Sustainability, an association for local governments to share knowledge and successful strategies toward increasing local sustainability. ICLEI members represent the most forward-thinking and adept local governments working to make their communities more livable, prosperous, equitable, and environmentally sound. The network is a source of continual technical and local innovative thinking designed to help local governments achieve the vision of a truly sustainable community.

ICLEI USA, the US branch of ICLEI, provides a framework and methodology for local governments to identify and reduce greenhouse gas emissions, organized along Five Milestones:

1. Conduct an inventory and forecast of local greenhouse gas emissions;
2. Establish a greenhouse gas emissions reduction target;
3. Develop a climate action plan for achieving the emissions reduction target;
4. Implement the climate action plan; and,
5. Monitor and report on progress.



This report represents the completion of the LGOP emissions inventory, part of ICLEI's Climate Mitigation Milestone One, and provides a foundation for future work to reduce Pinecrest's greenhouse gas emissions.

Section 3: Methodology

The first step toward achieving tangible greenhouse gas emission reductions requires identifying baseline levels and sources of emissions in the community. As local governments continue to join the climate protection movement, the need for a standardized approach to quantify GHG emissions has increased. Standard processes of accounting for emissions have been developed to which this inventory adheres. Staff used ICLEI's Local Government Operations Protocol version 1.1 to inventory Pinecrest's LGOP emissions.

Emissions counted in the LGOP inventory are also counted in the community inventory; for example, data on commercial energy use by the community includes energy consumed by municipal buildings, and community vehicle-miles-traveled estimates include miles driven by municipal fleet vehicles. As a result, the government operations inventory is a subset of the community inventory.

To facilitate community efforts to reduce greenhouse gas emissions, ICLEI developed the Clean Air and Climate Protection 2009 (CACP 2009) software package in partnership with the National Association of Clean Air Agencies (NACAA) and the U.S. Environmental Protection Agency (EPA). CACP 2009 is designed for compatibility with the ICLEI Protocols and calculates emissions by combining activity data (i.e. energy consumption, waste generation, etc.) with verified emission factors.

The CACP software has been and continues to be used by over 600 U.S. local governments to quantify their greenhouse gas emissions. However, it is worth noting that, although the software provides governments with a sophisticated and useful tool, calculating emissions from energy use with precision is difficult. Calculating GHG emissions depends upon numerous assumptions, and the accuracy of the inventory is limited by the quantity and quality of available data. With this in mind, it is prudent to think of any specific number generated by the CACP 2009 software as an approximation of reality, rather than an exact value.

Whenever possible, ICLEI's "Recommended Approach" was used to calculate GHG emissions for each sector. In some cases, data was not available to support the recommended approach and ICLEI's alternate approach was used instead. These instances and details on the methodology used are documented in the notes included in the CACP software reports in Appendix A.

Section 4: LGOP GHG Inventory

The Village of Pinecrest’s local government operations emitted approximately 2,337 metric tons of CO₂e in the year 2010 and 2,287 metric tons of CO₂e in 2012. As shown in Tables 1 and 2 below, the majority of emissions were from buildings and facilities, which accounted for approximately 45% and 44% of total LGOP emissions in 2010 and 2012, respectively. In 2010 and 2012, vehicle fuel consumption was the second highest emissions source with 24% and 23% of total community emissions, respectively. The third highest source of emissions in 2010 and 2012 was from employee commuting at approximately 21% and 22% of total LGOP emissions, respectively. Appendix A provides further detail on each sector.

Table 1: 2010 LGOP GHG Emissions

2010 LGOP Emissions by Sector	Buildings and Facilities	Vehicle Fleet	Employee Commuting	Waste Generation (Scope 3)	Streetlights	Mobile Source Refrigerants	Wastewater Facilities	TOTAL
CO ₂ e (metric tons)	1,050	562	483	181	22	20	19	2,337
% of Total CO ₂ e	44.9%	24.0%	20.7%	7.7%	0.9%	0.9%	0.8%	100%

Table 2: 2012 LGOP GHG Emissions

2012 LGOP Emissions by Sector	Buildings and Facilities	Vehicle Fleet	Employee Commuting	Waste Generation (Scope 3)	Streetlights	Mobile Source Refrigerants	Wastewater Facilities	TOTAL
CO ₂ e (metric tons)	1,014	527	502	181	22	20	21	2,287
% of Total CO ₂ e	44.3%	23.0%	22.0%	7.9%	1.0%	0.9%	0.9%	100%

ICLEI generally does not recommend the use of forecasting to predict changes in LGOP emissions unless evidence exists that local government operations are growing at a high rate or predicted to undergo substantial changes. In addition, the CACP software does not support forecasting for local government operations. Pinecrest’s local government operations are relatively stable, as evidenced by only a 2.6 percent increase in full-time employees from 2010 to 2012. Significant changes in Pinecrest’s LGOP emissions are unlikely over the near term unless emissions reductions strategies are implemented. Table 3 shows the percent change in each sector of Pinecrest’s LGOP inventory from 2010 to 2012.

Table 3: LGOP Inventory Percent Change by Sector, 2010-2012

LGOP Emissions Percent Change by Sector	Base Year 2010 CO ₂ e (metric tons)	Current Year 2012 CO ₂ e (metric tons)	Percent Change from 2010 to 2012
Buildings and Facilities	1,050	1,014	-3.4%
Vehicle Fleet	562	527	-6.2%
Employee Commuting	483	502	3.9%
Solid Waste (Scope 3)	181	181	0.0%
Streetlights	22	22	0.0%
Mobile Source Refrigerants	20	20	0.0%
Wastewater Facilities	19	21	10.5%
TOTAL	2,337	2,285	-2.2%

Of the three sectors contributing most to Pinecrest’s total LGOP emissions, Buildings and Facilities and Vehicle Fleet emissions declined from 2010 to 2012, but employee commuting emissions increased (primarily due to an increase in the number of employees). Solid Waste Generation, Streetlights, and Mobile Source Refrigerants (i.e., fugitive emissions from vehicle air conditioning systems) showed no change; however these are areas of the inventory where data limitations necessitated the use of alternate methods. Improved data collection would be necessary to quantify trends related to these sectors in future inventories, for example, the use of waste audits and tracking dumpster weights to better quantify solid waste generation.

The increase in wastewater facility fugitive emissions is due to the increase in annual visitors to Pinecrest Gardens, Pinecrest Community Center, and Coral Pine Park from 2010-2012. Pinecrest owns and operates septic systems at these locations and visitor attendance numbers were used to estimate methane (CH₄) emissions from these sources.

Results of the inventory indicate that Buildings and Facilities, Vehicle Fleets, and Employee Commuting are responsible for the majority of the Village’s GHG emissions. Pinecrest’s greatest opportunities to reduce emissions are through decreasing facility energy use and vehicle fuel consumption, and promoting alternatives to single-occupancy commuting.

Appendix A

Government Greenhouse Gas Emissions in 2010

Detailed Report

Scope 1 + Scope 2 + Scope 3

	CO ₂ (tons)	N ₂ O (lbs)	CH ₄ (lbs)	Equiv CO ₂ (tons)	Bio CO ₂ (tons)	Energy (kWh)	Cost (\$)
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Buildings and Facilities

Village of Pinecrest, FL

Community Center

Electricity	255	6	17	256	0	418,178	34,419
Subtotal Community Center	255	6	17	256	0	418,178	34,419

2010 Purchased electricity consumption, Community Center.

Data Source: Pinecrest utility billing records
 Contact Person: Angela Gasca
 Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Coral Pine Park

Electricity	44	1	3	44	0	71,820	11,560
Subtotal Coral Pine Park	44	1	3	44	0	71,820	11,560

2010 Purchased electricity consumption, Coral Pine Park

Data Source: Pinecrest utility billing records
 Contact Person: Angela Gasca
 Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Diesel Generator

Fuel Oil (#1 2 4)	2	0	1	2	0	8,087	0
Subtotal Diesel Generator	2	0	1	2	0	8,087	0

2010 Purchased Diesel Consumption, Diesel Generator (Scope 1)
 Note: No. 2 fuel oil emissions factor is equivalent to diesel fuel.

Data Source: Pinecrest records
 Contact Person: Angela Gasca
 Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Evelyn Greer Park

Electricity	107	3	7	108	0	175,800	34,630
Subtotal Evelyn Greer Park	107	3	7	108	0	175,800	34,630

2010 Purchased electricity consumption, Evelyn Greer Park.

Data Source: Pinecrest utility billing records
 Contact Person: Angela Gasca
 Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Government Greenhouse Gas Emissions in 2010

Detailed Report

Scope 1 + Scope 2 + Scope 3

	CO ₂ (tons)	N ₂ O (lbs)	CH ₄ (lbs)	Equiv CO ₂ (tons)	Bio CO ₂ (tons)	Energy (kWh)	Cost (\$)
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Flagler Grove Park

Electricity	16	0	1	16	0	26,683	4,941
Subtotal Flagler Grove Park	16	0	1	16	0	26,683	4,941

2010 Purchased electricity consumption, Flagler Grove Park.

Data Source: Pinecrest utility billing records
 Contact Person: Angela Gasca
 Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Municipal Center

Electricity	480	12	32	482	0	786,600	66,885
Subtotal Municipal Center	480	12	32	482	0	786,600	66,885

2010 Purchased electricity consumption, Municipal Center.

Data Source: Pinecrest utility billing records
 Contact Person: Angela Gasca
 Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Propane Generator

Stationary LPG	1	0	0	1	0	3,989	0
Subtotal Propane Generator	1	0	0	1	0	3,989	0

2010 Purchased Propane Consumption, Propane Generator (Scope 1)

Data Source: Pinecrest records
 Contact Person: Angela Gasca
 Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Public Works

Electricity	24	1	2	24	0	39,505	4,129
Subtotal Public Works	24	1	2	24	0	39,505	4,129

2010 Purchased electricity consumption, Public Works.

Data Source: Pinecrest utility billing records
 Contact Person: Angela Gasca
 Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Suniland Park

Electricity	105	3	7	105	0	172,117	32,975
Subtotal Suniland Park	105	3	7	105	0	172,117	32,975

2010 Purchased electricity consumption, Suniland Park.

Data Source: Pinecrest utility billing records
 Contact Person: Angela Gasca
 Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Government Greenhouse Gas Emissions in 2010

Detailed Report

Scope 1 + Scope 2 + Scope 3

	CO ₂ (tons)	N ₂ O (lbs)	CH ₄ (lbs)	Equiv CO ₂ (tons)	Bio CO ₂ (tons)	Energy (kWh)	Cost (\$)
<i>Veterans Wayside Park</i>							
Electricity	11	0	1	11	0	17,881	1,852
Subtotal Veterans Wayside Park	11	0	1	11	0	17,881	1,852
2010 Purchased electricity consumption, Veterans Wayside Park.							
Data Source: Pinecrest utility billing records Contact Person: Angela Gasca Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov							
Subtotal Buildings and Facilities	1,046	26	71	1,050	0	1,720,660	191,391
Streetlights & Traffic Signals							
Village of Pinecrest, FL							
<i>Red Road Linear Park</i>							
Electricity	18	0	1	19	0	30,240	17,737
Subtotal Red Road Linear Park	18	0	1	19	0	30,240	17,737
2010 Purchased electricity consumption, Red Road Linear Park (streetlights).							
Data Source: Pinecrest utility billing records Contact Person: Angela Gasca Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov							
<i>Suniland Park Annex</i>							
Electricity	3	0	0	3	0	5,280	1,378
Subtotal Suniland Park Annex	3	0	0	3	0	5,280	1,378
2010 Purchased electricity consumption, Suniland Park Annex (streetlights).							
Data Source: Pinecrest utility billing records Contact Person: Angela Gasca Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov							
Subtotal Streetlights & Traffic Signa	22	1	1	22	0	35,520	19,115

Wastewater Facilities

Village of Pinecrest, FL

Community Center

Carbon Dioxide	7	0	0	7	0	0	0
Subtotal Community Center	7	0	0	7	0	0	0

Pinecrest Community Center has one (1) septic tank. Pinecrest estimated the 2010 population served at 180,000. The daily number of visitors was calculated from the annual total. A ratio of transient to resident population use of water closets from LEED Water Use Reduction Additional Guidance, Version 7, dated December 2009, was then used to estimate an equivalency for the full-time resident population served.

ICLEI Equation 10.6 was used to calculate CH₄ emissions from the equivalent population served estimate.

Government Greenhouse Gas Emissions in 2010

Detailed Report

Scope 1 + Scope 2 + Scope 3

	CO ₂ (tons)	N ₂ O (lbs)	CH ₄ (lbs)	Equiv CO ₂ (tons)	Bio CO ₂ (tons)	Energy (kWh)	Cost (\$)
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Data Source: Pinecrest
 Contact Person: Angela Gasca
 Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Coral Pine Park

Carbon Dioxide	2	0	0	2	0	0	0
Subtotal Coral Pine Park	2	0	0	2	0	0	0

Pinecrest's Coral Pines Park has one (1) septic tank. Pinecrest estimated the 2010 population served at 70,000. The daily number of visitors was calculated from the annual total. A ratio of transient to resident population use of water closets from LEED Water Use Reduction Additional Guidance, Version 7, dated December 2009, was then used to estimate an equivalency for the full-time resident population served.

ICLEI Equation 10.6 was used to calculate CH₄ emissions from the equivalent population served estimate.

Data Source: Pinecrest
 Contact Person: Angela Gasca
 Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Pinecrest Gardens

Carbon Dioxide	10	0	0	10	0	0	0
Subtotal Pinecrest Gardens	10	0	0	10	0	0	0

Pinecrest Gardens has four (4) septic tanks. Pinecrest estimated the 2010 population served at 260,000. The daily number of visitors was calculated from the annual total. A ratio of transient to resident population use of water closets from LEED Water Use Reduction Additional Guidance, Version 7, dated December 2009, was then used to estimate an equivalency for the full-time resident population served.

ICLEI Equation 10.6 was used to calculate CH₄ emissions from the equivalent population served estimate.

Data Source: Pinecrest
 Contact Person: Angela Gasca
 Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Subtotal Wastewater Facilities	19	0	0	19	0	0	0
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Vehicle Fleet

Village of Pinecrest, FL

Building and Planning

Gasoline	21	1	1	22	0	81,035	0
Subtotal Building and Planning	21	1	1	22	0	81,035	0

2010 Emissions related to gasoline consumption, Building and Planning Fleet Group.
 In lieu of a complete vehicle inventory with mileage driven, the percentage of vehicles in each vehicle class was applied to the fuel consumption totals for each fleet group.

Data Source: Pinecrest gasoline purchase records
 Contact Person: Angela Gasca
 Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Government Greenhouse Gas Emissions in 2010

Detailed Report

Scope 1 + Scope 2 + Scope 3

	CO ₂ (tons)	N ₂ O (lbs)	CH ₄ (lbs)	Equiv CO ₂ (tons)	Bio CO ₂ (tons)	Energy (kWh)	Cost (\$)
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Non-Highway Vehicles

OFF ROAD Gasoline	1	0	0	1	0	5,603	0
Subtotal Non-Highway Vehicles	1	0	0	1	0	5,603	0

2010 Non-Highway Vehicle gasoline consumption (John Deere Gator 4X4). Estimated annual fuel consumption was 153 gallons in 2010.

Data Source: Pinecrest records
 Contact Person: Angela Gasca
 Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Parks and Recreation

Gasoline	8	0	0	8	0	29,894	0
Subtotal Parks and Recreation	8	0	0	8	0	29,894	0

2010 Emissions related to gasoline consumption, Parks & Recreation Fleet Group.
 In lieu of a complete vehicle inventory with mileage driven, the percentage of vehicles in each vehicle class was applied to the fuel consumption totals for each fleet group.

Data Source: Pinecrest gasoline purchase records
 Contact Person: Angela Gasca
 Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Pinecrest Gardens

Gasoline	7	0	0	7	0	25,155	0
Subtotal Pinecrest Gardens	7	0	0	7	0	25,155	0

2010 Emissions related to gasoline consumption, Pinecrest Gardens Fleet Group.
 In lieu of a complete vehicle inventory with mileage driven, the percentage of vehicles in each vehicle class was applied to the fuel consumption totals for each fleet group.

Data Source: Pinecrest gasoline purchase records
 Contact Person: Angela Gasca
 Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Police Department

Gasoline	490	22	29	494	0	1,853,505	0
Subtotal Police Department	490	22	29	494	0	1,853,505	0

2010 Emissions related to gasoline consumption, Police Department Fleet Group.
 In lieu of a complete vehicle inventory with mileage driven, the percentage of vehicles in each vehicle class was applied to the fuel consumption totals for each fleet group.

Data Source: Pinecrest gasoline purchase records
 Contact Person: Angela Gasca
 Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Public Works

Gasoline	31	1	2	31	0	115,495	0
Subtotal Public Works	31	1	2	31	0	115,495	0

2010 Emissions related to gasoline consumption, Public Works Fleet Group.

Government Greenhouse Gas Emissions in 2010

Detailed Report

Scope 1 + Scope 2 + Scope 3

	CO ₂ (tons)	N ₂ O (lbs)	CH ₄ (lbs)	Equiv CO ₂ (tons)	Bio CO ₂ (tons)	Energy (kWh)	Cost (\$)
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In lieu of a complete vehicle inventory with mileage driven, the percentage of vehicles in each vehicle class was applied to the fuel consumption totals for each fleet group.

Data Source: Pinecrest gasoline purchase records
 Contact Person: Angela Gasca
 Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Subtotal Vehicle Fleet	558	25	34	562	0	2,110,687	0
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Employee Commute

Village of Pinecrest, FL

2010 Employee Commuting

Gasoline	475	52	34	483	0	1,795,915	0
Subtotal 2010 Employee Commuti	475	52	34	483	0	1,795,915	0

2010 Employee Commute Emissions, All Pinecrest Employees

Data Source: Pinecrest Employee Commuting Distance Records
 Contact Person: Angela Gasca
 Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Assumptions:
 Calculated total employee mileage based on 246 working days per year.
 Average age of a passenger vehicle in 2010 = 10.9 years (source: RL Polk).
 Average combined fuel economy of a 2000 model year passenger car / light truck = 17.4 mpg (Bureau of Transportation Statistics).

Subtotal Employee Commute	475	52	34	483	0	1,795,915	0
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Mobile Source Refrigerants

Village of Pinecrest, FL

2010 Mobile Source Fugitive Emissions

Carbon Dioxide	20	0	0	20	0		
Subtotal 2010 Mobile Source Fugiti	20	0	0	20	0		

2010 Mobile Source Refrigerant Emissions

Equation 7.3 was used to estimate mobile source fugitive emissions because records of refrigerant system capacity and service records were not available. A worst case-scenario emissions calculation was performed using maximum capacity estimates based on ICLEI's alternate approach. The total amounts to less than 1% of Pinecrest's total LGOP inventory and is therefore de minimis.

Subtotal Mobile Source Refrigerants	20	0	0	20	0		
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Government Greenhouse Gas Emissions in 2010

Detailed Report

Scope 1 + Scope 2 + Scope 3

CO ₂ (tons)	N ₂ O (lbs)	CH ₄ (lbs)	Equiv CO ₂ (tons)	Bio CO ₂ (tons)	Energy (kWh)	Cost (\$)
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Scope 3 Waste

Village of Pinecrest, FL

Community Center and Pinecrest Gardens

Disposal Method - Controlled Incineration

Paper Products	0	0	344	4	0	0
Food Waste	0	0	189	2	0	0
Plant Debris	0	0	116	1	0	0
Wood or Textiles	0	0	55	1	0	0
All Other Waste	0	0	2,963	31	0	0
Subtotal Community Center and Pi	0	0	3,668	39	0	0

2010 waste generation from Pinecrest Community Center and Pinecrest Gardens. Waste quantities were estimated based on dumpster volumes and pickup frequency (dumpsters assumed full at pickup).

Pinecrest waste is incinerated outside the community boundary. The waste characterization from the October 2010 County Waste Composition Study was used for percentage of each waste type. A municipal waste audit would improve the quality of the estimated Scope 3 emissions related to Pinecrest's government operations waste generation.

Data Source: Pinecrest
 Contact Person: Angela Gasca
 Contact Info: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Coral Pine Park & Flagler Grove Park

Disposal Method - Controlled Incineration

Paper Products	0	0	138	1	0	0
Food Waste	0	0	76	1	0	0
Plant Debris	0	0	47	0	0	0
Wood or Textiles	0	0	22	0	0	0
All Other Waste	0	0	1,185	12	0	0
Subtotal Coral Pine Park & Flagler	0	0	1,467	15	0	0

2010 waste generation from Coral Pine Park & Flagler Grove Park. Waste quantities were estimated based on dumpster volumes and pickup frequency (dumpsters assumed full at pickup).

Pinecrest waste is incinerated outside the community boundary. The waste characterization from the October 2010 County Waste Composition Study was used for percentage of each waste type. A municipal waste audit would improve the quality of the estimated Scope 3 emissions related to Pinecrest's government operations waste generation.

Data Source: Pinecrest
 Contact Person: Angela Gasca
 Contact Info: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Government Greenhouse Gas Emissions in 2010

Detailed Report

Scope 1 + Scope 2 + Scope 3

	CO ₂ (tons)	N ₂ O (lbs)	CH ₄ (lbs)	Equiv CO ₂ (tons)	Bio CO ₂ (tons)	Energy (kWh)	Cost (\$)
<i>Evelyn Greer Park & Municipal Center</i>							
<i>Disposal Method - Controlled Incineration</i>							
Paper Products	0	0	413	4	0		0
Food Waste	0	0	227	2	0		0
Plant Debris	0	0	140	1	0		0
Wood or Textiles	0	0	66	1	0		0
All Other Waste	0	0	3,556	37	0		0
Subtotal Evelyn Greer Park & Mun	0	0	4,402	46	0		0
2010 waste generation from Evelyn Greer Park & Municipal Center. Waste quantities were estimated based on dumpster volumes and pickup frequency (dumpsters assumed full at pickup).							
Pinecrest waste is incinerated outside the community boundary. The waste characterization from the October 2010 County Waste Composition Study was used for percentage of each waste type. A municipal waste audit would improve the quality of the estimated Scope 3 emissions related to Pinecrest's government operations waste generation.							
Data Source: Pinecrest Contact Person: Angela Gasca Contact Info: (305) 234-2121, Email: gasca@pinecrest-fl.gov							
<i>Public Works</i>							
<i>Disposal Method - Controlled Incineration</i>							
Paper Products	0	0	516	5	0		0
Food Waste	0	0	284	3	0		0
Plant Debris	0	0	174	2	0		0
Wood or Textiles	0	0	83	1	0		0
All Other Waste	0	0	4,445	47	0		0
Subtotal Public Works	0	0	5,503	58	0		0
2010 waste generation from Pinecrest Public Works. Waste quantities were estimated based on dumpster volumes and pickup frequency (dumpsters assumed full at pickup).							
Pinecrest waste is incinerated outside the community boundary. The waste characterization from the October 2010 County Waste Composition Study was used for percentage of each waste type. A municipal waste audit would improve the quality of the estimated Scope 3 emissions related to Pinecrest's government operations waste generation.							
Data Source: Pinecrest Contact Person: Angela Gasca Contact Info: (305) 234-2121, Email: gasca@pinecrest-fl.gov							
<i>Suniland Park</i>							
<i>Disposal Method - Controlled Incineration</i>							
Paper Products	0	0	206	2	0		0
Food Waste	0	0	114	1	0		0
Plant Debris	0	0	70	1	0		0
Wood or Textiles	0	0	33	0	0		0
All Other Waste	0	0	1,778	19	0		0
Subtotal Suniland Park	0	0	2,201	23	0		0

Government Greenhouse Gas Emissions in 2010

Detailed Report

Scope 1 + Scope 2 + Scope 3

CO ₂ (tons)	N ₂ O (lbs)	CH ₄ (lbs)	Equiv CO ₂ (tons)	Bio CO ₂ (tons)	Energy (kWh)	Cost (\$)
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2010 waste generation from Suniland Park. Waste quantities were estimated based on dumpster volumes and pickup frequency (dumpsters assumed full at pickup).

Pinecrest waste is incinerated outside the community boundary. The waste characterization from the October 2010 County Waste Composition Study was used for percentage of each waste type. A municipal waste audit would improve the quality of the estimated Scope 3 emissions related to Pinecrest's government operations waste generation.

Data Source: Pinecrest
 Contact Person: Angela Gasca
 Contact Info: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Subtotal Scope 3 Waste	0	0	17,241	181	0	0
Total	2,139	104	17,382	2,337	0	5,662,782 210,506

Government Greenhouse Gas Emissions in 2012

Detailed Report

Scope 1 + Scope 2 + Scope 3

	CO ₂ (tons)	N ₂ O (lbs)	CH ₄ (lbs)	Equiv CO ₂ (tons)	Bio CO ₂ (tons)	Energy (kWh)	Cost (\$)
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Buildings and Facilities

Village of Pinecrest, FL

Community Center

Electricity	271	7	18	272	0	443,695	36,828
Subtotal Community Center	271	7	18	272	0	443,695	36,828

2012 Purchased electricity consumption, Community Center

Data Source: Pinecrest utility billing records
 Contact Person: Angela Gasca
 Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Coral Pine Park

Electricity	45	1	3	45	0	73,280	12,192
Subtotal Coral Pine Park	45	1	3	45	0	73,280	12,192

2012 Purchased electricity consumption, Coral Pine Park

Data Source: Pinecrest utility billing records
 Contact Person: Angela Gasca
 Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Diesel Generator

Fuel Oil (#1 2 4)	2	0	1	2	0	8,087	0
Subtotal Diesel Generator	2	0	1	2	0	8,087	0

2012 Purchased Diesel Consumption, Diesel Generator (Scope 1)
 Note: No. 2 fuel oil emissions factor is equivalent to diesel fuel.

Data Source: Pinecrest records
 Contact Person: Angela Gasca
 Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Evelyn Greer Park

Electricity	122	3	8	123	0	200,280	38,405
Subtotal Evelyn Greer Park	122	3	8	123	0	200,280	38,405

2012 Purchased electricity consumption, Evelyn Greer Park

Data Source: Pinecrest utility billing records
 Contact Person: Angela Gasca
 Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Flagler Grove Park

Electricity	17	0	1	17	0	27,106	5,885
Subtotal Flagler Grove Park	17	0	1	17	0	27,106	5,885

2012 Purchased electricity consumption, Flagler Grove Park

Government Greenhouse Gas Emissions in 2012

Detailed Report

Scope 1 + Scope 2 + Scope 3

	CO ₂ (tons)	N ₂ O (lbs)	CH ₄ (lbs)	Equiv CO ₂ (tons)	Bio CO ₂ (tons)	Energy (kWh)	Cost (\$)
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Data Source: Pinecrest utility billing records
 Contact Person: Angela Gasca
 Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Municipal Center

Electricity	402	10	27	404	0	658,800	61,026
Subtotal Municipal Center	402	10	27	404	0	658,800	61,026

2012 Purchased electricity consumption, Municipal Center

Data Source: Pinecrest utility billing records
 Contact Person: Angela Gasca
 Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Propane Generator

Propane	1	0	0	1	0	3,946	0
Subtotal Propane Generator	1	0	0	1	0	3,946	0

2012 Purchased Propane Consumption, Propane Generator (Scope 1)

Data Source: Pinecrest records
 Contact Person: Angela Gasca
 Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Public Works

Electricity	29	1	2	29	0	47,977	4,941
Subtotal Public Works	29	1	2	29	0	47,977	4,941

2012 Purchased electricity consumption, Public Works

Data Source: Pinecrest utility billing records
 Contact Person: Angela Gasca
 Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Suniland Park

Electricity	110	3	7	110	0	179,767	35,154
Subtotal Suniland Park	110	3	7	110	0	179,767	35,154

2012 Purchased electricity consumption, Suniland Park

Data Source: Pinecrest utility billing records
 Contact Person: Angela Gasca
 Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Government Greenhouse Gas Emissions in 2012

Detailed Report

Scope 1 + Scope 2 + Scope 3

	CO ₂ (tons)	N ₂ O (lbs)	CH ₄ (lbs)	Equiv CO ₂ (tons)	Bio CO ₂ (tons)	Energy (kWh)	Cost (\$)
<i>Veterans Wayside Park</i>							
Electricity	11	0	1	11	0	18,545	1,964
<i>Subtotal Veterans Wayside Park</i>	11	0	1	11	0	18,545	1,964
Subtotal Buildings and Facilities	1,009	25	69	1,014	0	1,661,483	196,395

Streetlights & Traffic Signals

Village of Pinecrest, FL

Red Road Linear Park

Electricity	18	0	1	19	0	30,240	17,612
<i>Subtotal Red Road Linear Park</i>	18	0	1	19	0	30,240	17,612

2012 Purchased electricity consumption, Red Road Linear Park (streetlights)

Data Source: Pinecrest utility billing records
 Contact Person: Angela Gasca
 Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Suniland Park Annex

Electricity	3	0	0	3	0	5,280	1,354
<i>Subtotal Suniland Park Annex</i>	3	0	0	3	0	5,280	1,354

2012 Purchased electricity consumption, Suniland Park Annex (streetlights)

Data Source: Pinecrest utility billing records
 Contact Person: Angela Gasca
 Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Subtotal Streetlights & Traffic Signa	22	1	1	22	0	35,520	18,966
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Wastewater Facilities

Village of Pinecrest, FL

Community Center

Carbon Dioxide	8	0	0	8	0	0	0
<i>Subtotal Community Center</i>	8	0	0	8	0	0	0

The Community Center has one (1) septic tank. Pinecrest estimated the 2012 number of visitors at 200,000. The daily number of visitors was calculated from the annual total. A ratio of transient to resident population use of water closets from LEED Water Use Reduction Additional Guidance, Version 7, dated December 2009, was then used to estimate an equivalency for the full-time resident population served.

ICLEI Equation 10.6 was used to calculate CH4 emissions from the equivalent population served estimate.

Government Greenhouse Gas Emissions in 2012

Detailed Report

Scope 1 + Scope 2 + Scope 3

	CO ₂ (tons)	N ₂ O (lbs)	CH ₄ (lbs)	Equiv CO ₂ (tons)	Bio CO ₂ (tons)	Energy (kWh)	Cost (\$)
<i>Coral Pine Park</i>							
Carbon Dioxide	3	0	0	3	0	0	0
Subtotal Coral Pine Park	3	0	0	3	0	0	0
Coral Pines Park has one (1) septic tank. Pinecrest estimated the 2012 number of visitors at 80,000. The daily number of visitors was calculated from the annual total. A ratio of transient to resident population use of water closets from LEED Water Use Reduction Additional Guidance, Version 7, dated December 2009, was then used to estimate an equivalency for the full-time resident population served.							
ICLEI Equation 10.6 was used to calculate CH ₄ emissions from the equivalent population served estimate.							
<i>Pinecrest Gardens</i>							
Carbon Dioxide	10	0	0	10	0	0	0
Subtotal Pinecrest Gardens	10	0	0	10	0	0	0
Pinecrest Gardens has four (4) septic tanks. Pinecrest estimated the 2012 number of visitors at 275,000. The daily number of visitors was calculated from the annual total. A ratio of transient to resident population use of water closets from LEED Water Use Reduction Additional Guidance, Version 7, dated December 2009, was then used to estimate an equivalency for the full-time resident population served.							
ICLEI Equation 10.6 was used to calculate CH ₄ emissions from the equivalent population served estimate.							
Subtotal Wastewater Facilities	21	0	0	21	0	0	0

Vehicle Fleet

Village of Pinecrest, FL

Building and Planning

Gasoline	19	1	1	19	0	72,814	0
Subtotal Building and Planning	19	1	1	19	0	72,814	0

2012 Emissions related to gasoline consumption, Building and Planning Fleet Group.

In lieu of a complete vehicle inventory with mileage driven, the percentage of vehicles in each vehicle class was applied to the fuel consumption totals for each fleet group.

Data Source: Pinecrest gasoline purchase records

Contact Person: Angela Gasca

Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Non-Highway Vehicles

OFF ROAD Gasoline	1	0	0	1	0	5,603	0
Subtotal Non-Highway Vehicles	1	0	0	1	0	5,603	0

2012 Non-Highway Vehicle gasoline consumption (John Deere Gator 4X4). Estimated annual fuel consumption was 153 gallons in 2012.

Data Source: Pinecrest records

Contact Person: Angela Gasca

Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Government Greenhouse Gas Emissions in 2012

Detailed Report

Scope 1 + Scope 2 + Scope 3

	CO ₂ (tons)	N ₂ O (lbs)	CH ₄ (lbs)	Equiv CO ₂ (tons)	Bio CO ₂ (tons)	Energy (kWh)	Cost (\$)
<i>Parks and Recreation</i>							
Gasoline	8	0	0	8	0	29,894	0
Subtotal Parks and Recreation	8	0	0	8	0	29,894	0
2012 Emissions related to gasoline consumption, Parks and Recreation Fleet Group. In lieu of a complete vehicle inventory with mileage driven, the percentage of vehicles in each vehicle class was applied to the fuel consumption totals for each fleet group.							
Data Source: Pinecrest gasoline purchase records Contact Person: Angela Gasca Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov							
<i>Pinecrest Gardens</i>							
Gasoline	7	0	0	7	0	25,155	0
Subtotal Pinecrest Gardens	7	0	0	7	0	25,155	0
2012 Emissions related to gasoline consumption, Pinecrest Gardens Fleet Group. In lieu of a complete vehicle inventory with mileage driven, the percentage of vehicles in each vehicle class was applied to the fuel consumption totals for each fleet group.							
Data Source: Pinecrest gasoline purchase records Contact Person: Angela Gasca Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov							
<i>Police Department</i>							
Gasoline	457	15	26	459	0	1,727,598	0
Subtotal Police Department	457	15	26	459	0	1,727,598	0
2012 Emissions related to gasoline consumption, Police Department Fleet Group. In lieu of a complete vehicle inventory with mileage driven, the percentage of vehicles in each vehicle class was applied to the fuel consumption totals for each fleet group.							
Data Source: Pinecrest gasoline purchase records Contact Person: Angela Gasca Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov							
<i>Public Works</i>							
Gasoline	28	1	2	28	0	106,300	0
Subtotal Public Works	28	1	2	28	0	106,300	0
2012 Emissions related to gasoline consumption, Public Works Fleet Group. In lieu of a complete vehicle inventory with mileage driven, the percentage of vehicles in each vehicle class was applied to the fuel consumption totals for each fleet group.							
Data Source: Pinecrest gasoline purchase records Contact Person: Angela Gasca Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov							
Subtotal Vehicle Fleet	520	17	30	523	0	1,967,363	0

Government Greenhouse Gas Emissions in 2012

Detailed Report

Scope 1 + Scope 2 + Scope 3

	CO ₂ (tons)	N ₂ O (lbs)	CH ₄ (lbs)	Equiv CO ₂ (tons)	Bio CO ₂ (tons)	Energy (kWh)	Cost (\$)
Employee Commute							
Village of Pinecrest, FL							
<i>2012 Employee Commuting</i>							
Gasoline	499	32	22	504	0	1,888,783	0
Subtotal 2012 Employee Commutir	499	32	22	504	0	1,888,783	0
2012 Employee Commuting Emissions, All Pinecrest Employees							
Data Source: Pinecrest Employee Commuting Distance Records							
Contact Person: Angela Gasca							
Contact Info: Phone: (305) 234-2121, Email: gasca@pinecrest-fl.gov							
Assumptions:							
Calculated total employee mileage based on 246 working days per year.							
Average age of a passenger vehicle in 2010 = 11.2 years (source: RL Polk).							
Average combined fuel economy of a 2001 model year passenger car / light truck = 17.6 mpg (Bureau of Transportation Statistics).							
Subtotal Employee Commute	499	32	22	504	0	1,888,783	0
Mobile Source Refrigerants							
Village of Pinecrest, FL							
<i>Untitled</i>							
Carbon Dioxide	20	0	0	20	0		
Subtotal Untitled	20	0	0	20	0		
2012 Mobile Source Refrigerant Emissions							
Equation 7.3 was used to estimate mobile source fugitive emissions because records of refrigerant system capacity and service records were not available. A worst case-scenario emissions calculation was performed using maximum capacity estimates based on ICLEI's alternate approach. The total amounts to less than 1% of Pinecrest's total LGOP inventory and is therefore de minimis.							
Subtotal Mobile Source Refrigerants	20	0	0	20	0		
Scope 3 Waste							
Village of Pinecrest, FL							
<i>Community Center and Pinecrest Gardens</i>				<i>Disposal Method - Controlled Incineration</i>			
Paper Products	0	0	344	4	0		0
Food Waste	0	0	189	2	0		0
Plant Debris	0	0	116	1	0		0

Government Greenhouse Gas Emissions in 2012

Detailed Report

Scope 1 + Scope 2 + Scope 3

	CO ₂ (tons)	N ₂ O (lbs)	CH ₄ (lbs)	Equiv CO ₂ (tons)	Bio CO ₂ (tons)	Energy (kWh)	Cost (\$)
Wood or Textiles	0	0	55	1	0		0
All Other Waste	0	0	2,963	31	0		0
Subtotal Community Center and Pi	0	0	3,668	39	0		0

2012 waste generation from Pinecrest Community Center and Pinecrest Gardens. Waste quantities were estimated based on dumpster volumes and pickup frequency (dumpsters assumed full at pickup).

Pinecrest waste is incinerated outside the community boundary. The waste characterization from the October 2010 County Waste Composition Study was used for percentage of each waste type. A municipal waste audit would improve the quality of the estimated Scope 3 emissions related to Pinecrest's government operations waste generation.

Data Source: Pinecrest
 Contact Person: Angela Gasca
 Contact Info: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Coral Pine Park and Flagler Grove Park

Disposal Method - Controlled Incineration

Paper Products	0	0	137	1	0		0
Food Waste	0	0	75	1	0		0
Plant Debris	0	0	46	0	0		0
Wood or Textiles	0	0	22	0	0		0
All Other Waste	0	0	1,178	12	0		0
Subtotal Coral Pine Park and Flagl	0	0	1,458	15	0		0

2012 waste generation from Coral Pine Park and Flagler Grove Park. Waste quantities were estimated based on dumpster volumes and pickup frequency (dumpsters assumed full at pickup).

Pinecrest waste is incinerated outside the community boundary. The waste characterization from the October 2010 County Waste Composition Study was used for percentage of each waste type. A municipal waste audit would improve the quality of the estimated Scope 3 emissions related to Pinecrest's government operations waste generation.

Data Source: Pinecrest
 Contact Person: Angela Gasca
 Contact Info: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Evelyn Greer Park and Municipal Center

Disposal Method - Controlled Incineration

Paper Products	0	0	412	4	0		0
Food Waste	0	0	227	2	0		0
Plant Debris	0	0	139	1	0		0
Wood or Textiles	0	0	66	1	0		0
All Other Waste	0	0	3,552	37	0		0
Subtotal Evelyn Greer Park and M	0	0	4,397	46	0		0

2012 waste generation from Evelyn Greer Park and Municipal Center. Waste quantities were estimated based on dumpster volumes and pickup frequency (dumpsters assumed full at pickup).

Pinecrest waste is incinerated outside the community boundary. The waste characterization from the October 2010 County Waste Composition Study was used for percentage of each waste type. A municipal waste audit would improve the quality of the estimated Scope 3 emissions related to Pinecrest's government operations waste generation.

Government Greenhouse Gas Emissions in 2012

Detailed Report

Scope 1 + Scope 2 + Scope 3

	CO ₂ (tons)	N ₂ O (lbs)	CH ₄ (lbs)	Equiv CO ₂ (tons)	Bio CO ₂ (tons)	Energy (kWh)	Cost (\$)
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generation.

Data Source: Pinecrest
 Contact Person: Angela Gasca
 Contact Info: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Public Works

Disposal Method - Controlled Incineration

Paper Products	0	0	516	5	0		0
Food Waste	0	0	284	3	0		0
Plant Debris	0	0	174	2	0		0
Wood or Textiles	0	0	83	1	0		0
All Other Waste	0	0	4,445	47	0		0
Subtotal Public Works	0	0	5,503	58	0		0

2012 waste generation from Public Works. Waste quantities were estimated based on dumpster volumes and pickup frequency (dumpsters assumed full at pickup).

Pinecrest waste is incinerated outside the community boundary. The waste characterization from the October 2010 County Waste Composition Study was used for percentage of each waste type. A municipal waste audit would improve the quality of the estimated Scope 3 emissions related to Pinecrest's government operations waste generation.

Data Source: Pinecrest
 Contact Person: Angela Gasca
 Contact Info: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Suniland Park

Disposal Method - Controlled Incineration

Paper Products	0	0	207	2	0		0
Food Waste	0	0	114	1	0		0
Plant Debris	0	0	70	1	0		0
Wood or Textiles	0	0	33	0	0		0
All Other Waste	0	0	1,786	19	0		0
Subtotal Suniland Park	0	0	2,210	23	0		0

2012 waste generation from Suniland Park. Waste quantities were estimated based on dumpster volumes and pickup frequency (dumpsters assumed full at pickup).

Pinecrest waste is incinerated outside the community boundary. The waste characterization from the October 2010 County Waste Composition Study was used for percentage of each waste type. A municipal waste audit would improve the quality of the estimated Scope 3 emissions related to Pinecrest's government operations waste generation.

Data Source: Pinecrest
 Contact Person: Angela Gasca
 Contact Info: (305) 234-2121, Email: gasca@pinecrest-fl.gov

Subtotal Scope 3 Waste	0	0	17,237	181	0		0
Total	2,091	75	17,359	2,285	0	5,553,149	215,361

Village of Pinecrest

Government Greenhouse Gas Emissions

Time Series Report

Scope 1 + Scope 2 + Scope 3

Year	2010	2012
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Buildings and Facilities

eCO2 (tons)	1,050.3	1,014.1
Energy (kWh)	1,720,660.3	1,661,482.9
Cost (\$)	191,390.9	196,395.0

Streetlights & Traffic Signals

eCO2 (tons)	21.8	21.8
Energy (kWh)	35,520.0	35,520.0
Cost (\$)	19,115.0	18,966.0

Wastewater Facilities

eCO2 (tons)	18.7	20.9
Energy (kWh)	0.0	0.0
Cost (\$)	0.0	0.0

Vehicle Fleet

eCO2 (tons)	562.1	522.9
Energy (kWh)	2,110,687.2	1,967,363.4
Cost (\$)	0.0	0.0

Employee Commute

eCO2 (tons)	483.1	504.4
Energy (kWh)	1,795,914.6	1,888,782.7
Cost (\$)	0.0	0.0

Mobile Source Refrigerants

eCO2 (tons)	20.3	20.3
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Scope 3 Waste

eCO2 (tons)	181.0	181.0
Cost (\$)	0.0	0.0

Village of Pinecrest

Government Greenhouse Gas Emissions

Time Series Report

Scope 1 + Scope 2 + Scope 3

Year	2010	2012
Total		
eCO2 (tons)	2,337.3	2,285.3
Energy (kWh)	5,662,782.1	5,553,149.0
Cost (\$)	210,505.9	215,361.0

PINECREST



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