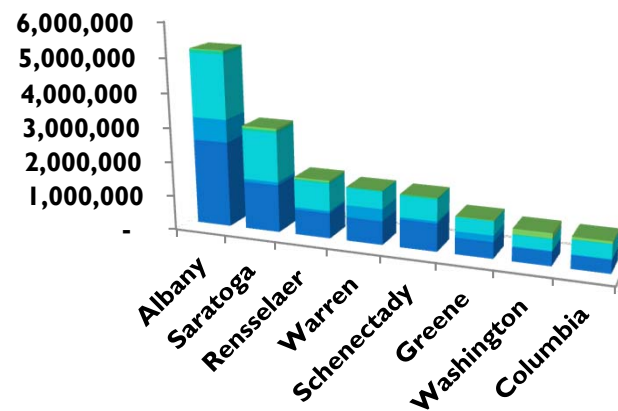


Capital District Regional GHG Inventory for 2010

Applying the Regional GHG Emissions Inventory to Your Community



GHG emissions (MTCDE)



Agenda

- Overview of the Regional GHG Inventory
 - What is it and why was it done?
 - Key findings
 - Available products and tools
- Using the inventory in your community
 - Meeting CSC commitments
 - Developing local GHG inventories
 - Climate, sustainability, comprehensive planning
 - Implementation: grant writing / resources development



What is it?

- Comprehensive GHG inventory for the Capital District REDC
- Supports local and regional planning
- Baseline Year 2010
- Available at CDRPC website



Capital District 2010 Regional GHG Inventory

With Community GHG Inventories
for all 160 Municipalities in the
Capital District.

Prepared for

The New York Energy Development and
Research Authority (NYSERDA), Albany, NY.
Jennifer Manierre, Associate Project Manager

Prepared by

The Capital District Regional Planning
Commission (CDRPC)
Todd Fabozzi, Project Manager



and

Climate Action Associates LLC
Jim Yienger, Lead Author

NYSERDA Contract #24253

FINAL DRAFT: 5/20/2013

Basic Purpose

- Provide baseline for long term local and regional planning
- Provides information to prioritize and select policies and measures
- Provides a framework to update the data and track progress



County GHG Inventories

- Appendix A
- All eight REDC counties
 - Albany
 - Columbia
 - Greene
 - Saratoga
 - Schenectady
 - Rensselaer
 - Warren
 - Washington



Albany County GHG Emissions 2010

5,117,333 MTCDE

Sector / Source	GHG Emissions (MTCDE)				
	Scope 1	Scope 2	Scope 3	Biogenic	Rolled up? (MMBT)
Residential Energy Consumption					
Electricity / Steam		181,769			Yes 2,701,766
Natural Gas	346,111				Yes 6,521,529
Propane / LPG	16,575				Yes 268,603
Distillate Fuel Oil (#1, #2, #4, Kerosene)	91,353				Yes 1,231,029
Coal	625				Yes 6,638
Wood	1,538			73,093	Yes 779,240
Commercial Energy Consumption					
Electricity / Steam		310,454			Yes 4,614,493
Natural Gas	281,503				Yes 5,304,172
Propane / LPG	7,879				Yes 127,679
Distillate Fuel Oil (#1, #2, #4, Kerosene)	58,403				Yes 787,002
Residual Fuel Oil (#5 and #6)	57,362				Yes 761,283
Coal	99				Yes 1,050
Wood	514			24,410	Yes 260,235
Industrial Energy Consumption					
Electricity / Steam		98,676			Yes 1,466,684
Natural Gas	254,734				Yes 4,799,783
Propane / LPG	1,073				Yes 17,001
Distillate Fuel Oil (#1, #2, #4, Kerosene)	12,769				Yes 172,070
Residual Fuel Oil (#5 and #6)	3,936				Yes 52,235
Coal	496,057				Yes 5,270,079
Petroleum Coke	48,468				Yes 472,122
Motor Gasoline (E-10)	6,456				Yes 91,617
Other Oils	35,307				Yes 475,518
Wood	269			12,763	Yes 136,065
Energy Generation and Supply					
Natural Gas	2,477,641				No 104,780,116
Distillate Fuel Oil (#1, #2, #4, Kerosene)	1,346				No 25,004
MSW	0			0	No 1,592,624
Landfill Gas	145			28,820	No 553,480
Electricity T/D Losses	30,692				Yes 463,739
Natural Gas T/D Losses	121,248				Yes 299,259
Industrial Processes					
Cement Production	544,401				Yes
Pulp and Paper Manufacturing	0				Yes
Product Use (HFC, ODS)					
Use of SF6 in the Utility Industry	8,090				Yes
All Refrigerants- except SF6	112,914				Yes
Transport: On-Road					
Motor Gasoline (E-10)	1,309,225			94,935	Yes 19,964,739
Diesel	187,525				Yes 2,485,457
Ethanol (E-85)	N/A				No
Biodiesel	N/A				No
Transport: Rail, Marine, Off-Road, Air					
Motor Gasoline (E-10)	32,317			3,487	Yes 509,507
Diesel	116,649				Yes 1,546,064
Residual Fuel Oil (#5 and #6)	59,882				Yes 794,725
Natural Gas	917				Yes 17,277
Propane / LPG	9,415				Yes 148,903
Jet Kerosene (Air)			150,131		Yes 1,989,840
Waste Management					
Landfill Methane	122,399		60,836		Yes (S3)
MSW incineration			5,064		Yes (S3)
Sewage treatment	29,554				Yes
Agriculture					
Enteric Fermentation / Manure	13,536				Yes
Soils / Fertilizer	13,008				Yes
Totals by Scope	6,911,934	590,899	216,032	237,507	171,488,628

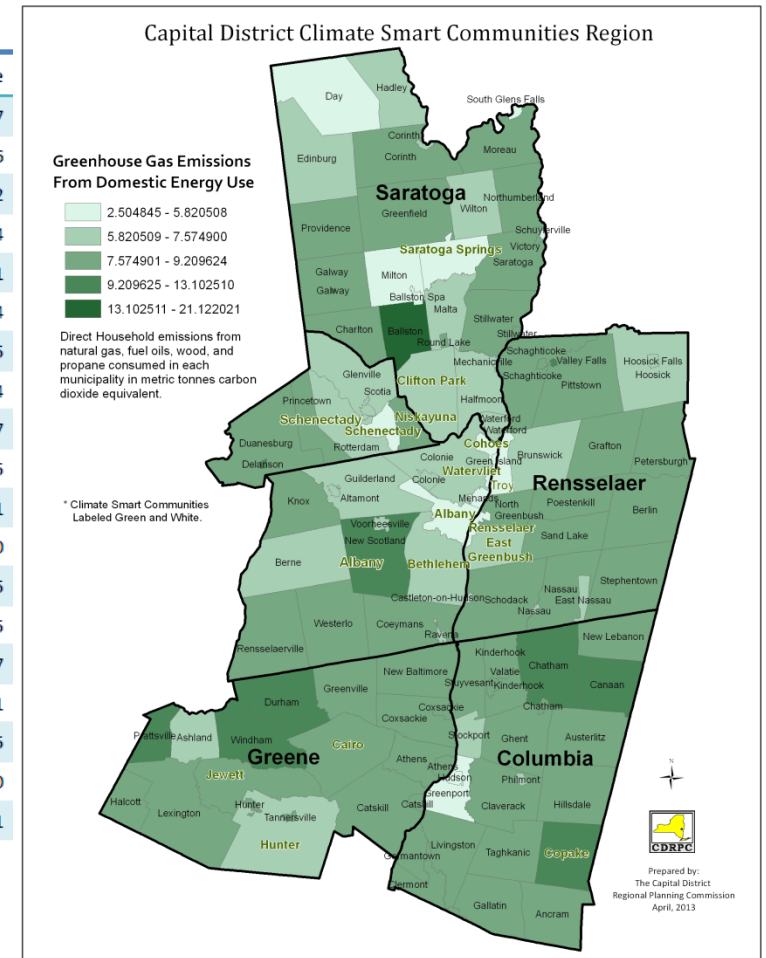
CSC Community GHG Inventories

Includes 160 community inventories with a 2010 baseline

APPENDIX B

Community GHG Emissions By Sector (MTCDE)

Community	Type	County	Res.	Com.	Indust.	Fugitive
Coeymans	Town	Albany	22,213	13,040	554,492	547,297
Albany	City	Albany	177,473	307,650	178,464	38,796
Ravena	Village	Albany	8,963	5,654	551,922	545,672
Colonie	Town	Albany	216,847	270,913	14,404	32,714
Bethlehem	Town	Albany	92,935	50,595	138,831	13,881
Guilderland	Town	Albany	91,299	69,965	219	13,904
New Scotland	Town	Albany	30,424	16,413	31,847	3,365
Cohoes	City	Albany	30,149	15,843	41,022	6,184
Colonie	Village	Albany	21,818	21,028	0	3,097
Watervliet	City	Albany	17,824	9,905	21,256	4,025
Menands	Village	Albany	10,208	25,958	4,209	1,691
Westerlo	Town	Albany	11,111	5,147	573	1,300
Green Island	Village	Albany	5,840	8,160	12,882	1,115
Green Island	Town	Albany	5,840	8,160	12,882	1,115
Berne	Town	Albany	8,511	3,969	0	1,077
Knox	Town	Albany	8,291	3,645	0	1,031
Rensselaerville	Town	Albany	7,076	3,317	47	715
Voorheesville	Village	Albany	7,699	3,417	0	1,070
Altamont	Village	Albany	4,993	1,947	0	661



Provides a Wealth of Sustainability Demographic Data for each community.

- Appendix B Tables
 - GHG emissions
 - Utility energy use, by sector
 - Solid waste generation (tons)
 - Vehicle Miles Traveled, vehicle mix
 - Household Energy, GHG emissions
 - Fuels use, e.g., wood, oil, propane, etc.
 - Major industrial sources



Why this was done?

- **Climate Smart Communities**
 - Developed by CDRPC under the CSC Coordinators Pilot to provide GHG Inventories to all CSCs in the region
- **Cleaner Greener Communities**
 - Developed as a baseline for Capital Region Regional Sustainability Plan



Regional Sustainability Plan Goals

Focus Area	Indicator	Baseline	Target
Energy	Annual Regional Energy Consumption Per Capita (Million British Thermal Units (MMBtu))	225 MMBtu/Capita	Reduce per capita energy consumption 20% by 2020
Governance	Number of Climate Smart Communities within Region.	16	Increase by 25% annually
GHG	Greenhouse Gas emissions per capita (metric tons of CO2 equivalent per person)	16.3 MTCDE (Metric Tons of Carbon Dioxide Equivalent) per capita	12 MTCDE per capita by 2020
Transportation	Housing + Transportation Index	Current baseline: Household H & T > 45%: 225,033 (66.5%)	Reduce percent of households with H & T >45% 10% by 2030
Transportation	Percent of Passengers Traveling by Mode	Single Occupancy Vehicle (SOV): 79.7%	Reduce SOV miles 25% by 2030
Transportation	Annual Vehicle Miles Traveled (VMT) Per Capita	11,593 miles/capita	Reduce VMT per capita 20% by 2030
Waste Management	Annual Waste Disposal Per Capita	Total Waste: 1.22 tons/capita/year Municipal Solid Waste: 0.72 tons/capita/year.	Reduce per capita disposal of MSW to 0.11 tons/capita/ per year by 2030.



GHG Inventory Methods

- New York GHG Guidance developed by an expert workgroup.
- Specifically for geospatial assessments to support community planning.
- Developed under Phase I of the CGC program
- Rulebook for updating or creating new GHG inventories



New York Community and Regional GHG Accounting Guidance

Consensus Methods for creating
GHG and Reporting GHG
emissions inventories

Prepared by the New York GHG Working Group,
convened under the Climate Smart and Cleaner
Greener Communities Programs.



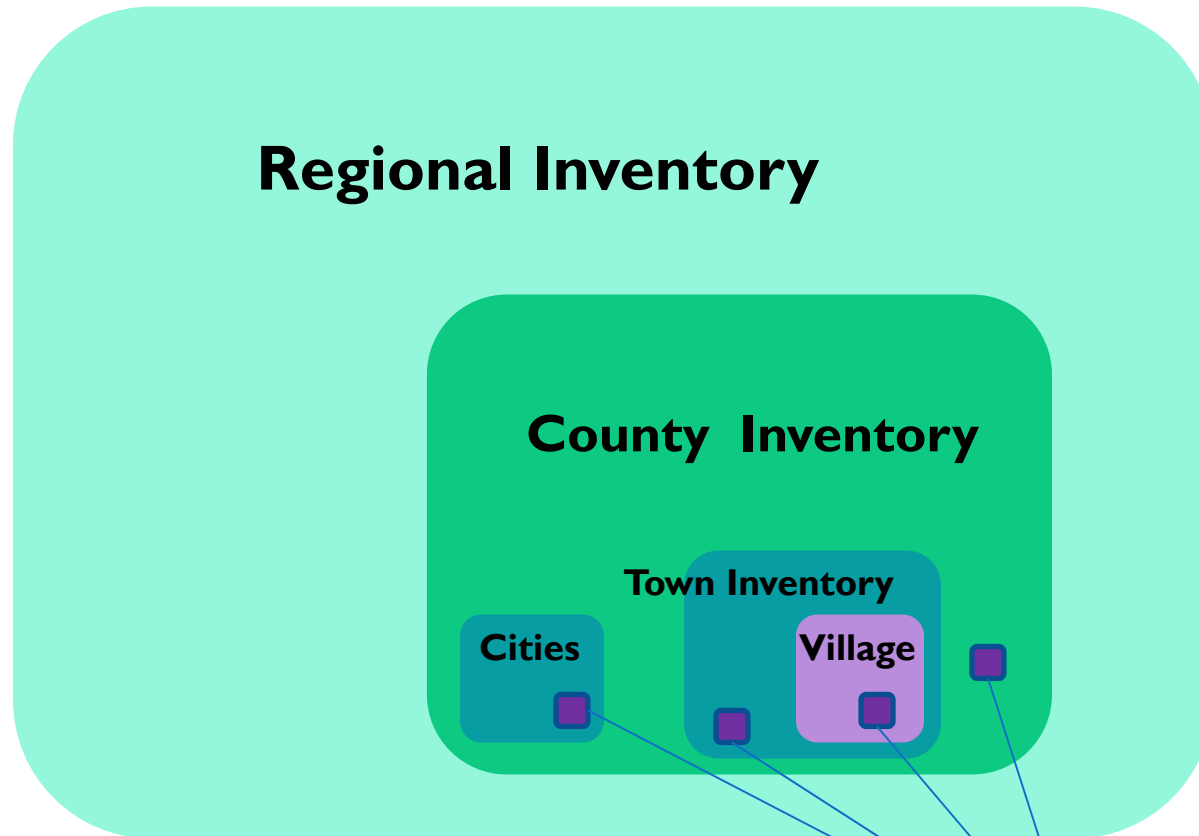
myserda
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Community vs Government Operations GHG Inventories

- Community and Regional inventories cover all sources from businesses and residents.
- Government Operations inventories includes buildings, facilities, vehicle fleets, waste water operations, etc.



Relationship Between Community and Government Operations GHG Inventories



Government Operations



Main GHG Sources

- **Stationary Energy (Fossil Fuels)**
 - Residential, Commercial, Industrial, Power Generation Sectors.
 - Direct fuel use and indirect emissions from electricity
- **Transportation Fuels**
 - Gasoline, Diesel, Natural Gas, LPG
 - Road, rail, air, marine, non-road
- **Process and Fugitive Emissions**
 - refrigerants, agriculture, industrial process- cement, paper, semiconductor manufacturing.
- **Waste Management**
 - Landfills, waste-to-energy plants, and wastewater treatment



Accounting Framework

Sector / Source	Description of the Source	Scope	Rolled Up?
Built Environment			
Residential Energy	Direct emissions from natural gas, fuel oils, wood, and propane consumed in boundary.	1	Yes
	Indirect emissions attributed to electricity consumption.	2	Yes
Commercial Energy	Direct emissions from natural gas, fuel oils, wood, and propane consumed in boundary.	1	Yes
	Indirect emissions attributed to electricity consumption.	2	Yes
Industrial Energy	Direct emissions from natural gas, fuel oils, wood, propane, coal, residual fuel oils, petroleum coke, and others consumed in boundary.	1	Yes
	Indirect emissions attributed to electricity consumption.	2	Yes
Power Generation	Direct emissions from grid-connected electric generating facilities of capacity 1 MW or greater in boundary.	1	No
Transmission Losses (T/D)	Direct fugitive emissions of natural gas that leaks from the gas distribution system.	1	Yes
	Indirect emissions associated with line losses when communities consume electricity.	2	Yes
	Direct fugitive well emissions from gas, oil, and coal production	1	Yes
Industrial Processes and Product Use	Direct chemical process emissions (non energy related) from the region's cement, paper, and other industries.	1	Yes
	Direct emissions of PFCs and HFCs (refrigerants) used in vehicles, buildings, and industry.	1	Yes
	Direct fugitive emissions of SF ₆ , a specialized coolant used in the utility industry.	1	Yes
Transportation			
On road	Direct emissions from on-road vehicles in boundary.	1	Yes
Off-road	Direct emission from off-road equipment (e.g., construction, agricultural, lawn care, etc.) in boundary.	1	Yes
Rail	Direct emissions from rail locomotives in boundary.	1	Yes
Marine	Direct emissions from boats. This includes private craft on lakes and rivers and commercial shipping on the Hudson and Mohawk Rivers.	1	Yes
Air	Indirect emissions attributed to regional domestic and international air travel demand caused by the region. (Not in community roll ups)	1	Yes
Waste			
Solid Waste	Direct emissions from regional landfills. Waste-to-energy facilities are reported under scope 1 in Power Generation.	1	No
	Indirect emissions attributed to communities based on the amount of solid waste they create in boundary.	3	Yes
Sewage Waste	Direct emissions from waste water treatment plants and septic systems.	1	Yes
Agriculture			
Livestock / Manure	Direct emissions from livestock (enteric fermentation and manure management).	1	Yes
Fertilizer and Soils	Direct emissions from cropland management and fertilizer application.	1	Yes



Data Sources

- Utility data from National Grid, Central Hudson, NYSEG, and GIPA.
- CDTC Provided detailed Vehicle-miles-traveled (VMT) data for all communities.
- NYSDEC and EPA reports for industrial and large commercial point sources.
- Used NYSDEC solid waste reports to estimate community waste generation.
- Many other sources.



CSC Utility Data Collaborative

- NYSERDA collaborates with utilities to secure annual energy consumption data for each community.
- Annual “Community Energy Reports”
 - Common format for aggregate consumption
 - Includes all communities, reported separately by municipal boundary and sectors.
 - Prevents communities from having to request this information themselves.



nationalgrid

People. Power. Possibilities.
Central Hudson
Gas & Electric Corporation



conEdison

Orange & Rockland

Annual Community Energy Report

- Produced by each utility separately
- Produced routinely (annually, biannual, etc) for electricity and natural gas consumption

Census Common Identifier					Electricity Consumption (MWh)			Natural Gas Consumption (MMBTU)		
Row	Community	Form	FIPS (county)	FIPS (place)	Residential	Commercial	Industrial	Residential	Commercial	Industrial
1	Albany	City	36001	01000	430,340	345,555	200,340	2,300,400	1,200,345	678,660
2	Amherst	Town	36065	32770	56,354	35,000	12,300	N/A	N/A	N/A
3	Ashton	Town	36040	87550	45,338	10,344	5,677	N/A	N/A	N/A
4	Bethlehem	Town	36001	06354	120,500	57,898	65,309	675,300	540,400	200,201
5	Brainard	Village	36039	15040	23,000	12,344	N/A	45,400	23,322	N/A
6	Catskill	Village	36039	13013	65,200	30,299	3,000	127,300	65,800	12,400
7	Columbia	County	36021		2,303,500	3,200,500	1,200,450	24,500,350	12,340,300	16,740,004
8	Dublin	Town	36021	23200	18,540	12,400	N/A	76,700	56,100	N/A
....
....
239	Victory	Town	36049	45440	132,899	234,400	235,300	1,400,500	1,130,870	1,340,000
240	Vista	Village	36049	45667	14,300	12,200	N/A	35,678	45,000	N/A
241	Watervliet	City	36001	78674	37,800	35,300	1,300,450	69,800	34,289	5,600
242	Weschester	County	36119		3,200,432	2,356,005	4,300,541	15,400,350	11,240,300	8,725,100



CDRPC is Home for Data



- Regional approach to data management.
- Economies of scale- data sources are the same for many communities.
- Resulting inventories are consistent with other communities enabling collaboration.
- Local efforts can be spent creating policy rather than building inventories from scratch.



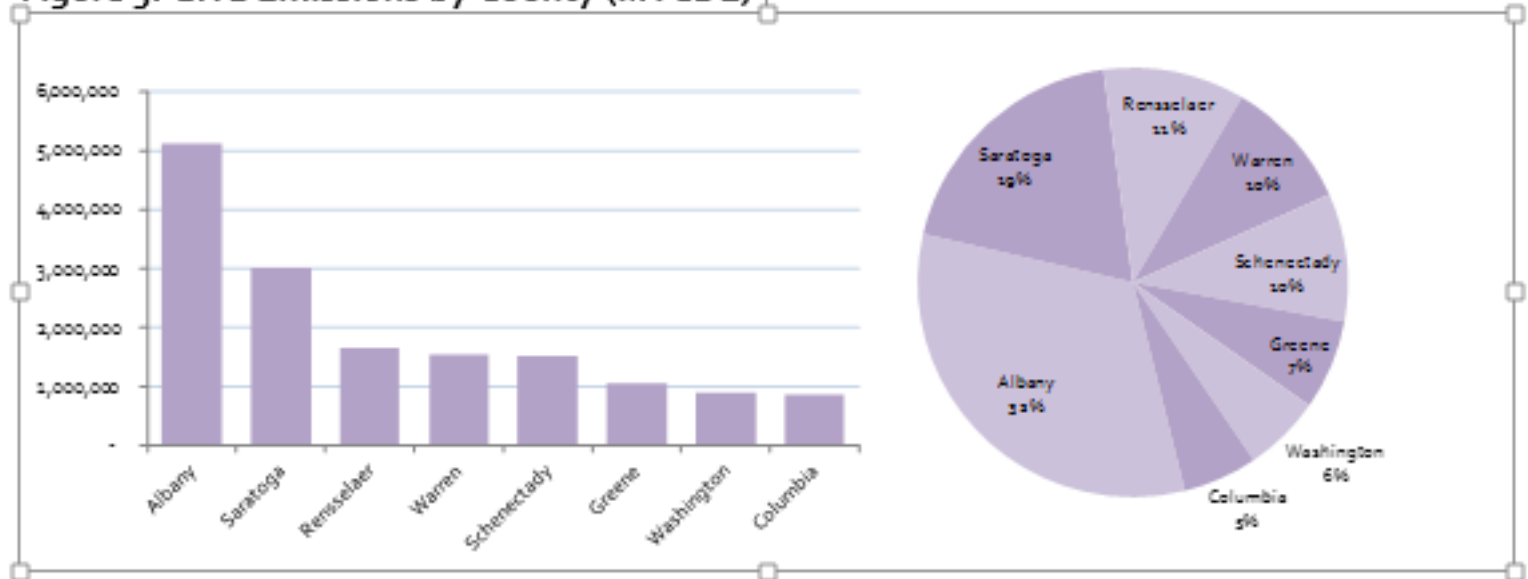


 **KEY FINDINGS**

GHG Emissions and Energy

- 15.8 Million Metrics Tons (MTCDE)
- 14.7 MTCDE per capita
- \$4.5 billion spent on energy

Figure 5. GHG Emissions by County (MTCDE)



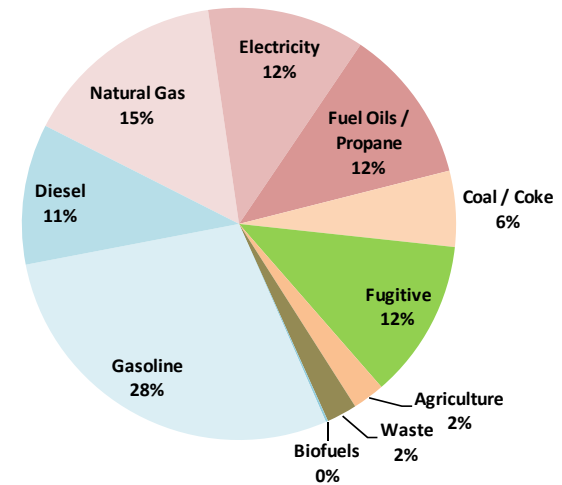
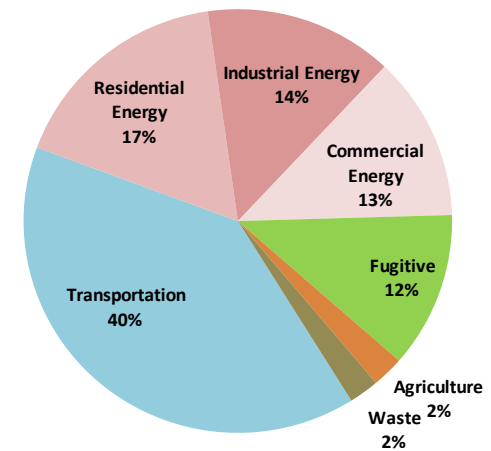
GHG Emissions by Sector

Table 1. Regional GHG Emissions By Sector and Source.

Sector	Energy (MMBTU*)	GHG (MTCDE)	Cost (\$)
Transportation	92,132,492	6,258,855	2,034,241,256
Residential Energy	50,545,185	2,707,593	1,253,684,694
Industrial Energy	36,851,803	2,258,018	426,936,148
Commercial Energy	32,956,047	1,984,986	839,997,242
Process and Fugitive		1,883,042	
Agriculture		379,096	
Waste		359,648	
Totals	212,485,527	15,831,238	4,554,859,339

Source	Energy (MMBTU)	GHG (MTCDE)	Cost (\$)
Natural Gas	45,417,113	2,410,377	499,434,373
Electricity	27,576,233	1,855,273	1,369,241,326
Fuel Oils / Propane	25,402,850	1,836,073	534,756,704
Coal / Coke	9,481,109	898,503	48,430,800
Biofuels	18,441,223	27,075	196,904,506
Gasoline	64,068,955	4,514,875	1,429,764,082
Diesel	22,098,044	1,667,275	476,327,547
Process and Fugitive		1,883,042	
Agriculture		379,096	
Waste		359,648	
Totals	212,485,527	15,831,238	4,554,859,339

*MMBTU is an energy unit equal to 1 million British thermal units



Counties are Diverse

Table 1. Per Capita GHG Emissions by County (MTCDE/person)

County	Emissions (MTCDE)	Emissions per Capita (MTCDE/person)			
		Total	res / com	Industrial*	Transport
Albany	5,146,057	16.9	4.8	5.5	6.1
Saratoga	3,035,995	13.8	4.3	2.4	6.5
Rensselaer	1,687,291	10.6	4.1	1.0	4.9
Warren	1,558,953	23.7	5.8	10.0	7.5
Schenectady	1,523,806	9.8	4.2	1.5	3.9
Greene	1,074,747	21.8	5.7	7.6	7.9
Washington	917,143	14.5	4.4	2.4	4.9
Columbia	887,247	14.1	5.3	1.2	6.2
REDC	15,831,238	14.7	4.6	3.6	5.8

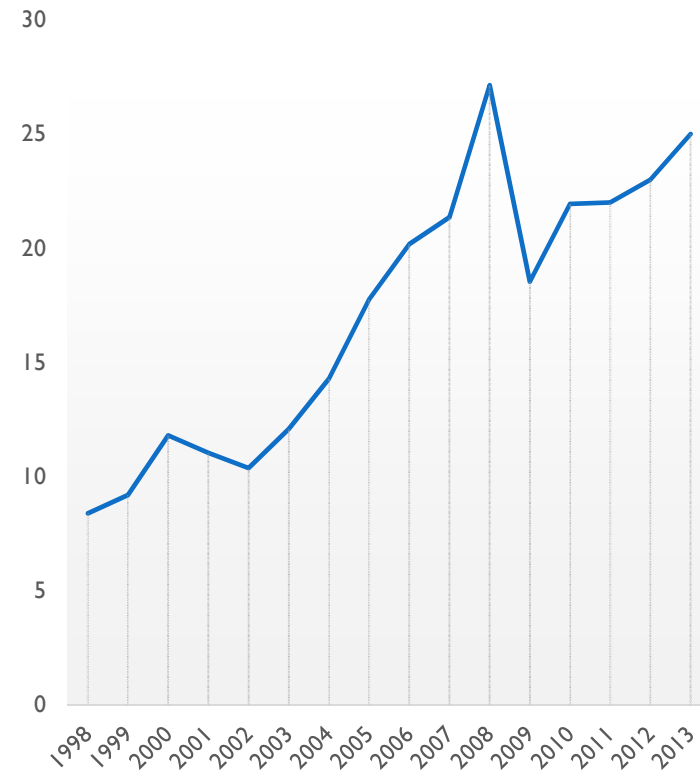
* Industrial includes process emissions



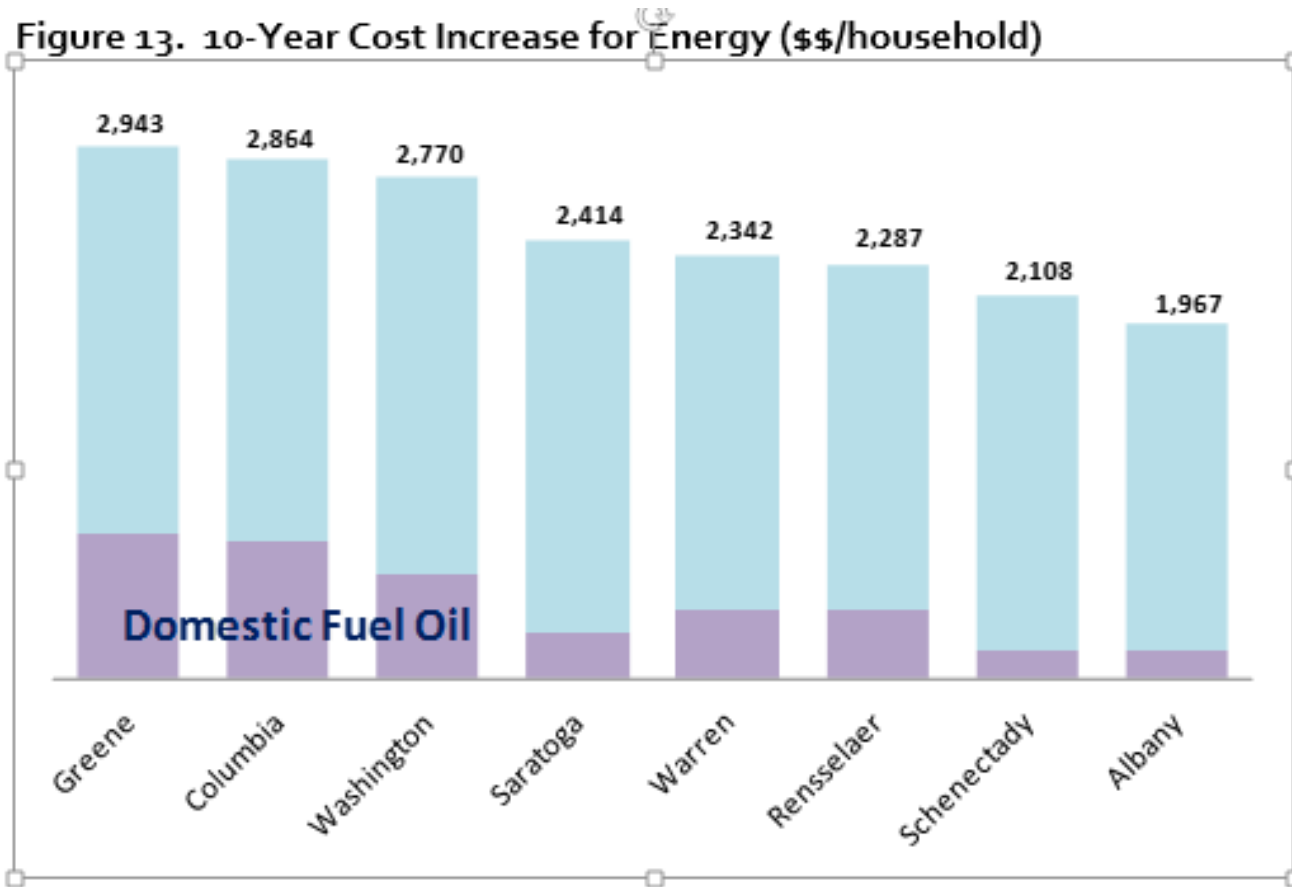
Petroleum Costs Are Skyrocketing

- Petroleum fuels are, by far, the greatest source of GHG emissions.
- The Capital District spent \$4.5 billion for energy (\$4100 / person), paying 60% more than it did 10 years ago after adjusting for inflation.
- Much of the increase was driven by rising petroleum fuel prices.
- \$2.9 billion purchased imported petroleum that takes money of our economy.

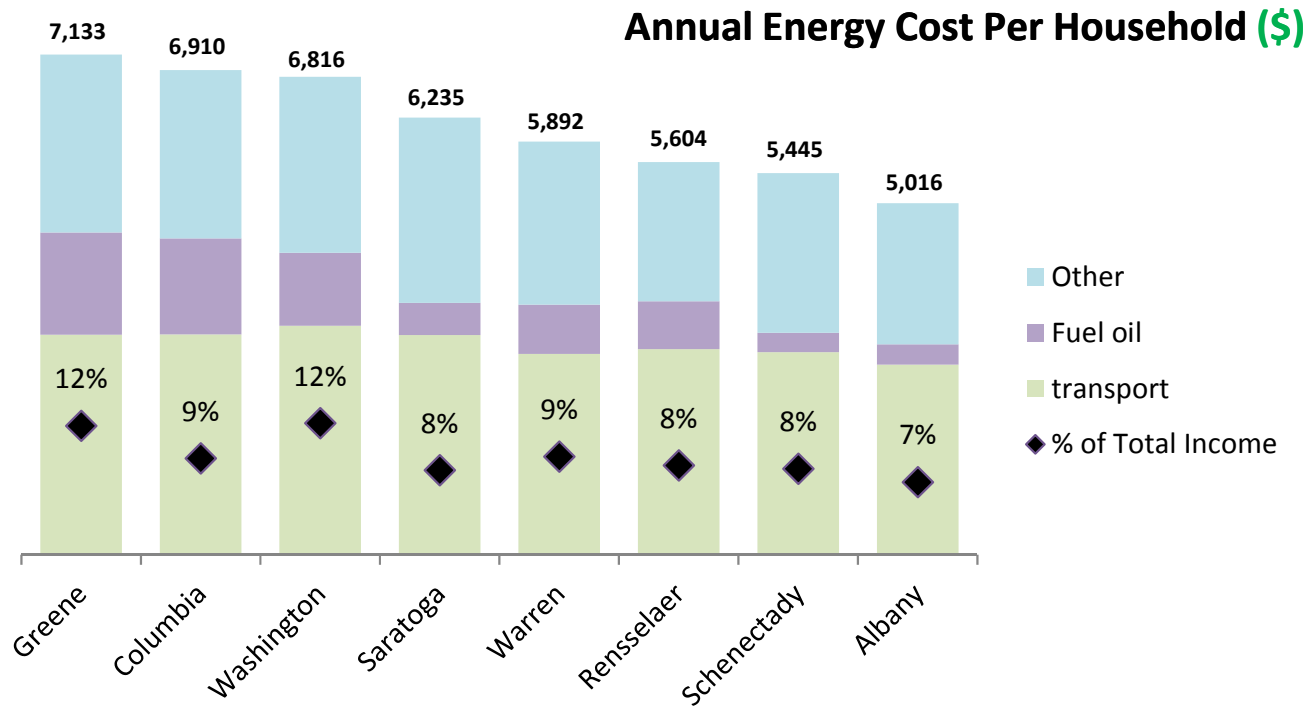
Gasoline and Diesel Price
(\$\$/MMBTU)



Per Household Energy Price Increase, by County (10 year increase)



Energy Cost Per Household

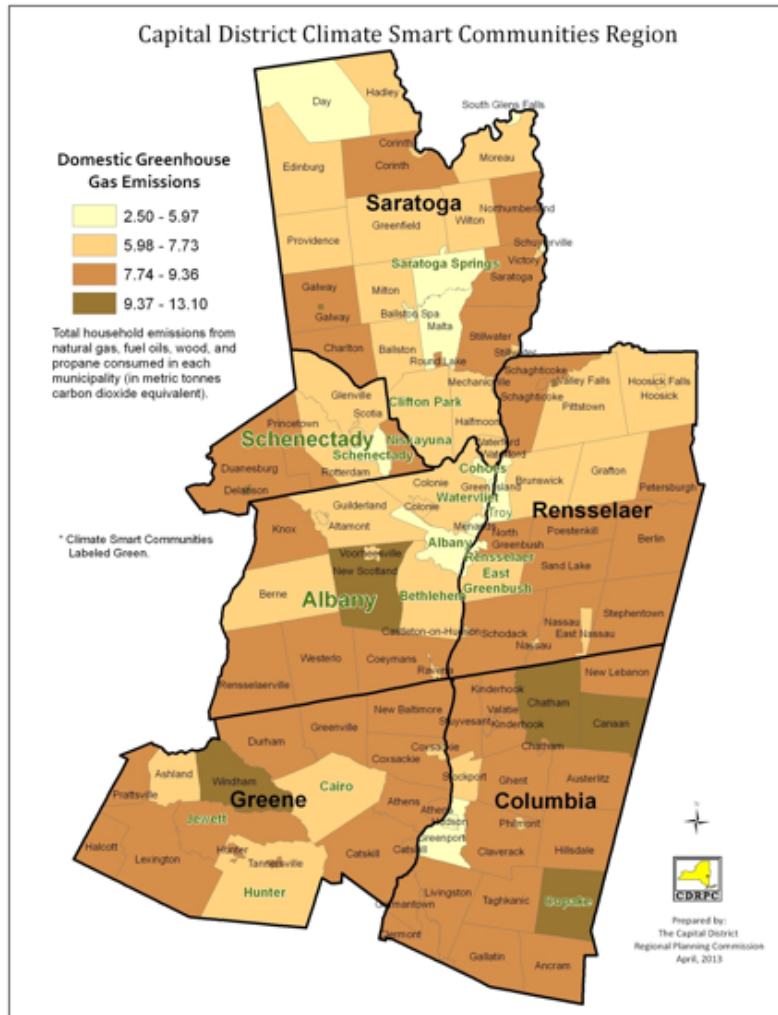




**HOUSEHOLD
EMISSIONS AND
COMMUNITY FORM**

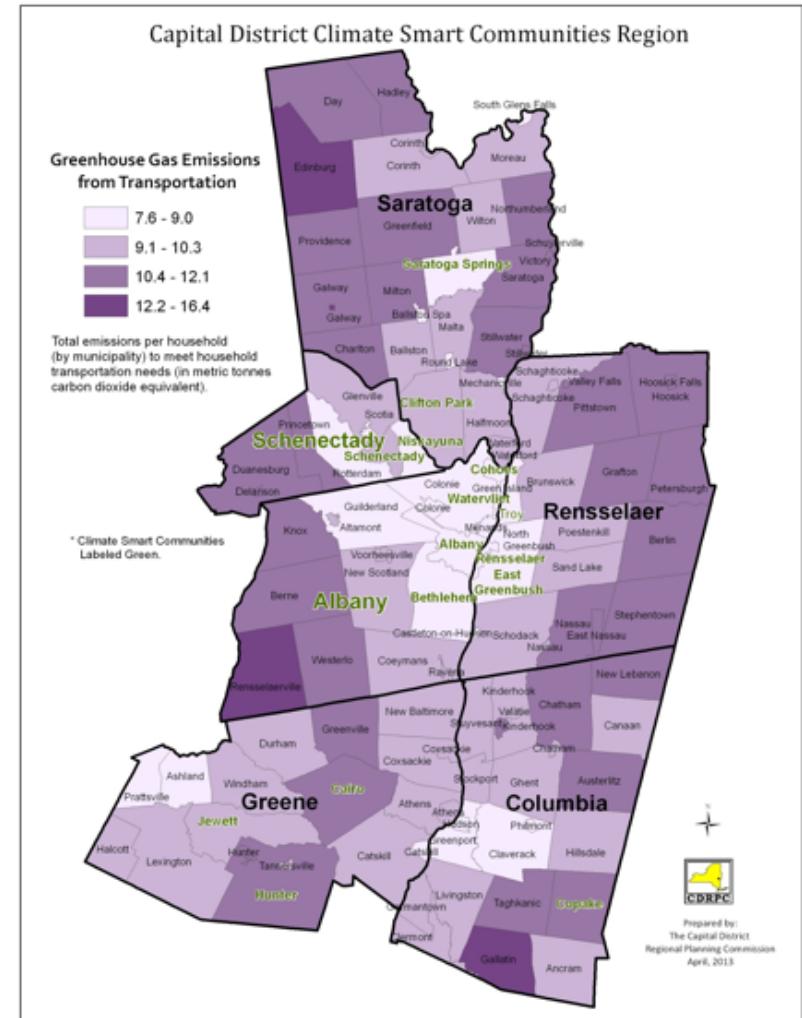
GHG Emissions from Energy Used in the Home

Figure 7. GHG Emissions per Household Attributed to Domestic Energy Use.



GHG Emissions from Energy Used for Transportation, by Household

Figure 8. GHG Emissions per Household Attributed to Transportation Demand

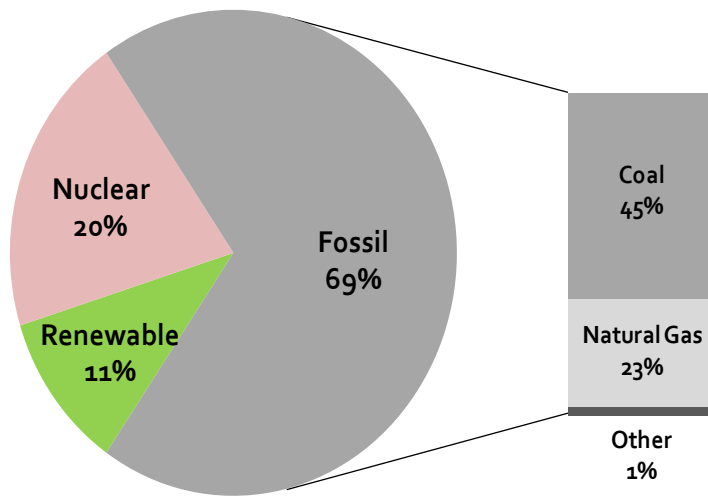




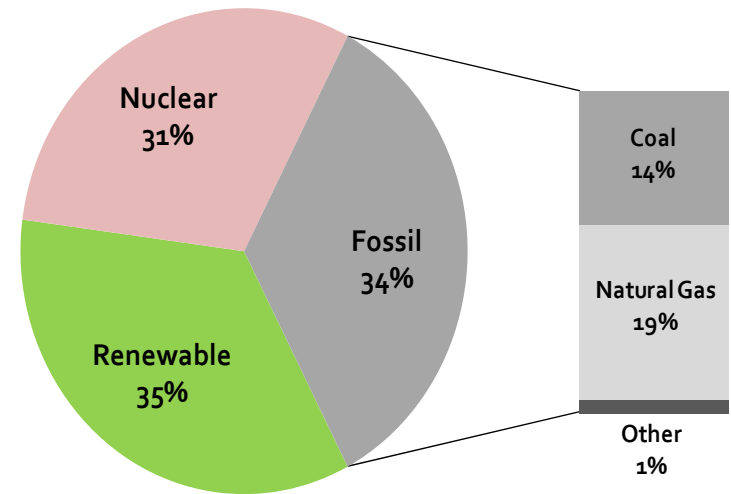
**EMISSION REDUCTION
OPTIONS FOR
TRANSPORTATION**

Upstate NY Clean Electricity Mix

US Average



Upstate New York



Electric vehicles create less than half of emissions per mile because New York has clean electricity.



Table 1. Reducing Transportation Emissions in the Capital District

Shift light duty gasoline cars and trucks to electricity¹

% Shift of VMT	GHG Savings			Fuel Cost Savings ²
	Emissions (MTCDE)	% transport	% of total baseline	
10	340,176	6.9%	2.2%	\$87,470,126
20	680,351	13.7%	4.4%	\$174,940,253
50	1,700,878	34.3%	10.9%	\$437,350,632
100	3,401,756	68.6%	21.8%	\$874,701,263

Reduce overall travel demand (VMT)

% Reduction of VMT	GHG Savings			Fuel Cost Savings
	Emissions (MTCDE)	% transport	% of total baseline	
2	99,217	2.0%	0.6%	\$38,939,276
5	248,042	5.0%	1.6%	\$97,348,191
10	496,085	10.0%	3.2%	\$194,696,381
20	992,170	20.0%	6.3%	\$389,392,762

Shift from gasoline to E-85 (cellulosic or advanced cornstarch)

% Shift	GHG Savings			Fuel Cost Savings
	Emissions (MTCDE)	% transport	% of total baseline	
2	51,281	1.0%	0.3%	--
5	128,202	2.6%	0.8%	--
10	256,404	5.2%	1.6%	--
20	512,809	10.3%	3.3%	--

¹ Electric vehicle efficiency set to 0.34 Kwh / mile (UCS, 2012), total cost of electricity \$0.17/KWh

² Presumed \$4.00/gallon for gasoline

³ Assumes sustainable ethanol has 60% lifecycle emissions reduction per gallon over gasoline





**° USING THE GHG
INVENTORY LOCALLY**

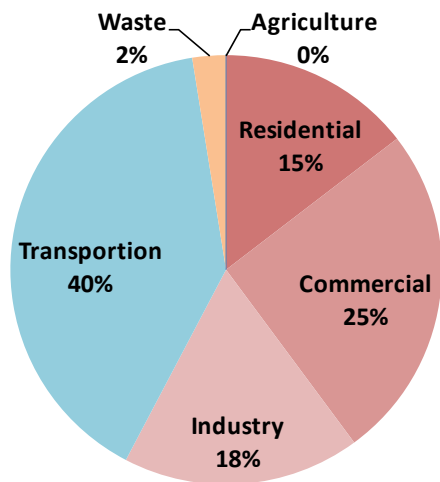
Planning Support

- **Climate Smart Communities**
 - Pledge element 2: Set goals, inventory emissions, plan for climate action
- **Planning Updates**
 - Climate Action Plans
 - Comprehensive Plan updates
 - Sustainability Plans
 - Energy Plans

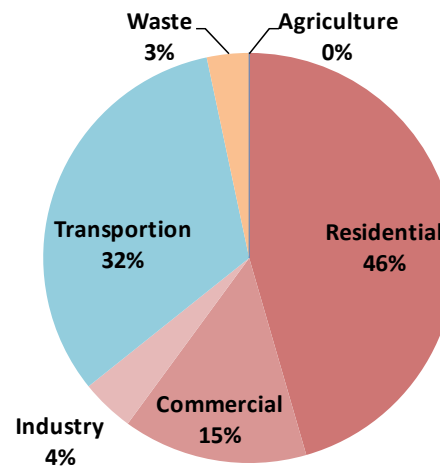


Community GHG Profile

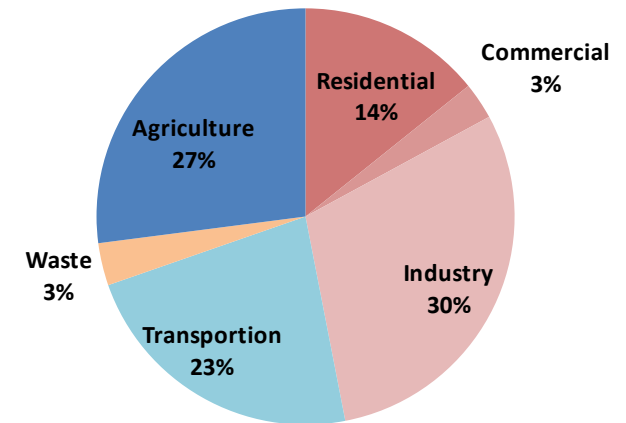
- Understand your GHG sources.
- Set goals and create a climate action plan.
- Implement measures and track progress.



City of Albany



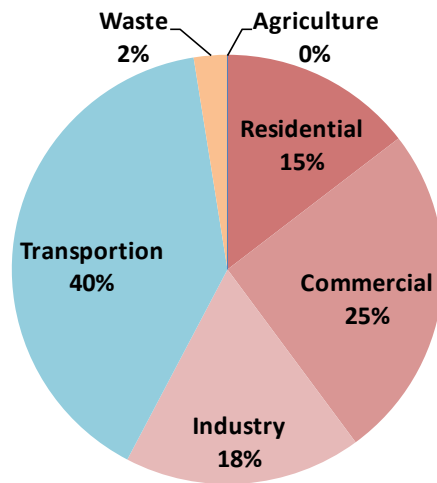
Town of Kinderhook



Town of Fort Anne

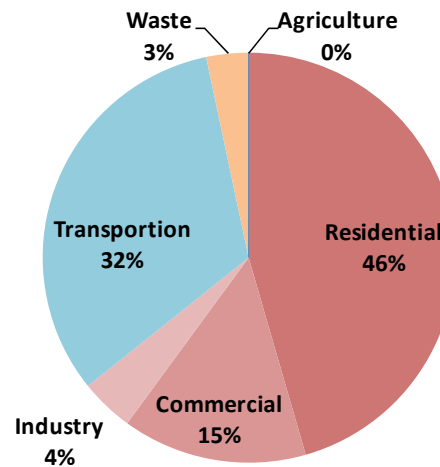


Identify Policy Priorities



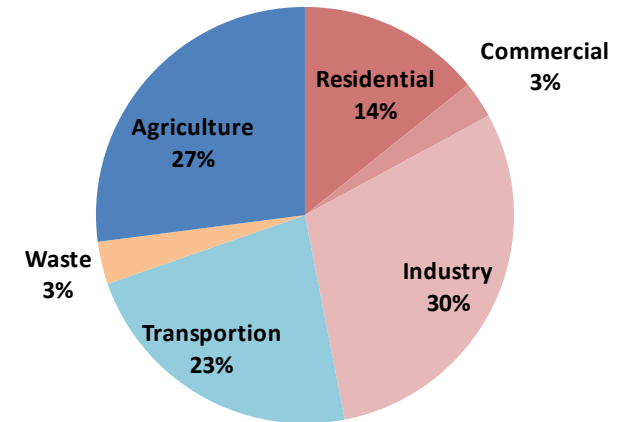
City of Albany

- Balanced residential, commercial, industrial policy
- Green business challenge
- Land use, complete Streets
- State and local partnership



Town of Kinderhook

- Residential energy and renewable policy
- Land use planning
- Alternative fuel vehicle market growth- electric charging



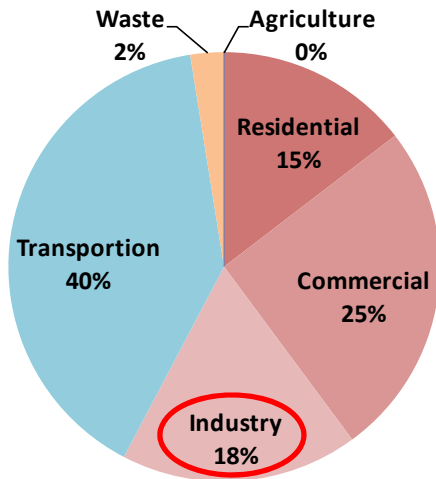
Town of Fort Anne

- Residential energy audits
- Biomass/wood market growth
- Industrial outreach
- Agricultural digesters
- Agricultural adaptation policy



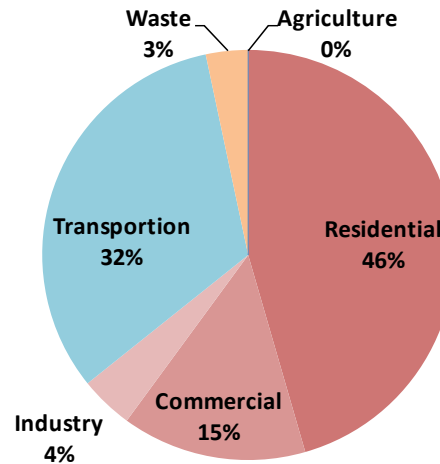
Identify Key Stakeholders

City of Albany

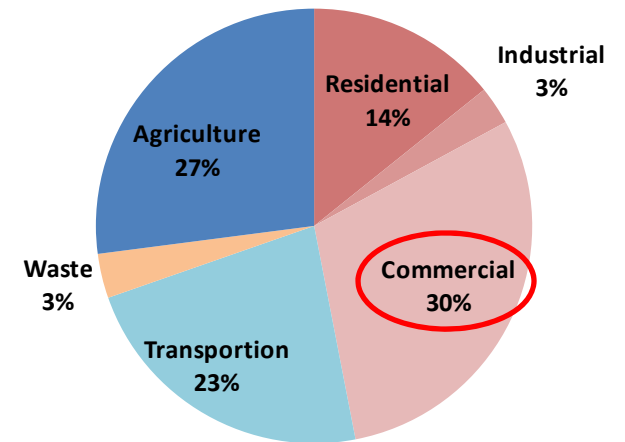


NYS Sheridan Steam Plant
(50% of entire sector)

Town of Kinderhook



Town of Fort Anne



NYS Great Meadows
Correctional Facility
(90% of entire sector)



Capital District Industry

find your largest GHG sources.

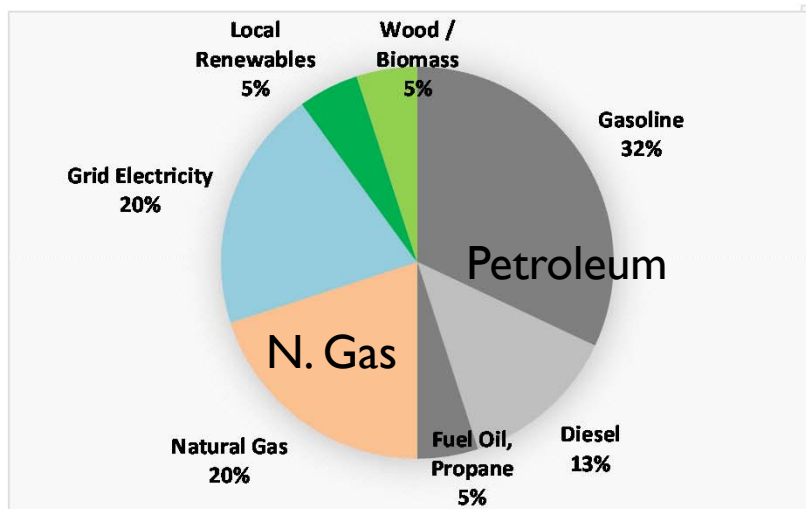
Facility Name	Industry	Municipality	County	Energy	Biogenic	Process	Total
Athens Generating Company	Power	Athens	Greene	2,319,226	0	0	2,319,226
PSEG Bethlehem Energy Cent.	Power	Glenmont	Albany	1,641,254	0	0	1,641,254
Lafarge Building Materials	Cement	Ravena	Albany	524,461	0	544,401	1,068,862
Selkirk Cogen Partners	Power	Selkirk	Albany	837,720	0	0	837,720
Lehigh Northeast Cement	Cement	Glens Falls	Warren	125,070	0	321,965	447,035
Empire Generating Co, LLC	Power	Rensselaer	Rensselaer	415,212	0	0	415,212
Holcim US Inc	Cement	Catskill	Greene	158,231	0	160,108	318,339
Indeck-Corinth Energy Center	Power	Corinth	Saratoga	263,921	0	0	263,921
Momentive Performance Mat.	Chemical	Waterford	Saratoga	133,893	0	0	133,893
Finch Paper LLC	Paper	Glens Falls	Warren	113,442	318,416	3,407	116,849
NYSOGS Sheridan Steam Plant	Power	Albany	Albany	72,962	0	0	72,962
Castleton Power, LLC	Power	Castleton On Hudson	Rensselaer	70,193	0	0	70,193
Wheelabrator Hudson Falls	Power	Hudson Falls	Washington	68,010	80,893	0	68,010
Albany Rapp Rd. Landfill	Landfill	Albany	Albany	78	9,748	67,190	67,268
Colonie Town Landfill	Landfill	Cohoes	Albany	95	19,598	55,209	55,304
Sabic Innovative Plastics US	Paper	Selkirk	Albany	53,332	0	0	53,332
SCA Tissue	Paper	South Glens Falls	Saratoga	38,433	0	0	38,433
SI Group, Inc.	Chemical	Rotterdam Junction	Schenectady	26,790	0	0	26,790
Iroquois Gas Transmission	Gas Distr.	Delanson	Schenectady	23,856	0	0	23,856
Owens-Corning Systems	Chemical	Feura Bush	Albany	23,655	0	0	23,655
GE Global Research Center	General Ind.	Niskayuna	Schenectady	22,427	0	0	22,427
General Electric Steam Turb.	Power	Schenectady	Schenectady	20,933	0	0	20,933
Compressor Station 254	Gas Distrib.	Riders Mills	Columbia	20,428	0	0	20,428
Hollingsworth & Vose Mill	Paper	Greenwich	Washington	20,419	0	0	20,419
NYS Washington Correctional	General Ind.	Comstock	Washington	16,167	0	0	16,167
Rensselaer Cogen	Power	Rensselaer	Rensselaer	13,307	0	0	13,307
Norlite Corp	Cement	Cohoes	Albany	10,724	0	0	10,724
Ball Metal Beverage Corp	Metals	Saratoga Springs	Saratoga	10,393	0	0	10,393
Buckeye Albany Terminal LLC	General Ind.	Albany	Albany	8,950	0	0	8,950
Quadgraphics	Printing	Saratoga Springs	Saratoga	8,757	0	0	8,757
Amri Rensselaer	Chemical	Rensselaer	Rensselaer	6,945	0	0	6,945
Hollingsworth & Vose Mill	Paper	Center Falls	Washington	6,265	0	0	6,265
Commonwealth Plywood Inc.	Paper	Whitehall	Washington	4,923	31,667	0	4,923
Von Roll Usa Inc	Industry	Schenectady	Schenectady	3,873	0	0	3,873
Hess Rensselaer Terminal	Energy Distr.	Rensselaer	Rensselaer	3,472	0	0	3,472
Saint Gobain Perf. Plastics	Chemical	Hoosick Falls	Rensselaer	2,696	0	0	2,696
Lehigh Northeast Cement	Cement	Catskill	Greene	933	0	0	933
Central Hudson, South Cairo	Power	Cairo	Greene	235	0	0	235
Central Hudson, Coxsackie	Power	Coxsackie	Greene	145	0	0	145
Manchester Wood Inc	Paper	Granville	Washington	143	7	0	143
Petroleum Fuel & Terminal Co	Energy Distr.	Rensselaer	Rensselaer	91	0	0	91
Global Companies LLC - Albany	General Ind.	Albany	Albany	58	0	0	58
Citgo Petroleum Glenmont	Energy Distr.	Glenmont	Albany	18	0	0	18



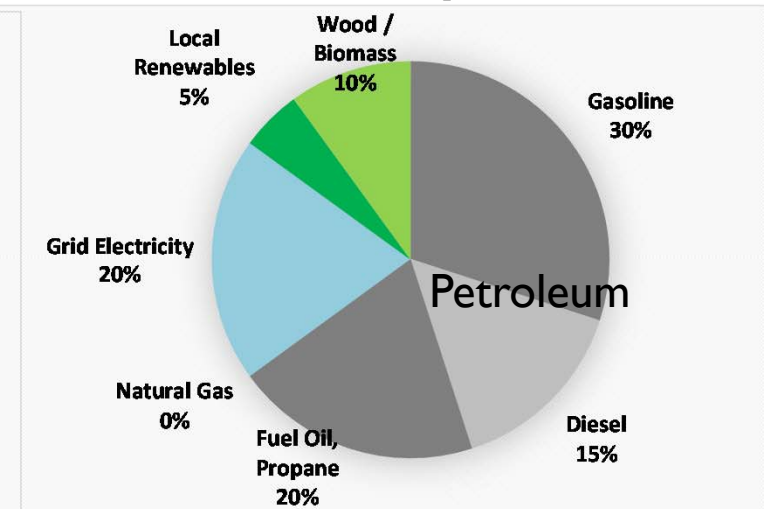
Create a Local Energy Profile

- Energy Source, Fossil vs Renewable
- Energy Cost to community
- Identify as Local to New York or Imported

Community A



Community B



“Buy Local” Energy Targets

Local Energy

New York Electricity

- Electric Vehicle Policies

Local Solar and Wind
Ground Source Heat
New York Biomass

Imported Energy

Gasoline
Diesel
Fuel Oil
Coal



Develop Many Planning Metrics

- Transportation patterns and use
- Waste Generation
- Related demographics
 - Emissions per capita
 - Land consumption per capita
 - VMT / Capita
 - Energy Spend / Capita



Develop Resources

- The Regional GHG Inventory is a good resources for grant writers.
- Proposals based on sound plans and metrics fare better.
- High Growth in Resources for Sustainability.



Sustainability is touching nearly all funding and policy tools.

- RGGI
- New York Draft Climate Plan
- Smart Growth Public Infrastructure Act
- NYSDOT, NYSDEC, EFC, NYSDOS funding, etc.
- NYSERDA
 - RPS, EEPS
 - Cleaner Greener Communities
 - Finance: Green Bank
 - Programs



Recap...

- GHG inventories for Capital District counties and most municipalities within the CSC pilot regions.
- Contact your CSC Coordinator for access to the data, and for assistance in using these products.
- Available at the CDRPC website.



Thank You.

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